The College of Education General Access Computer Lab Renovation: Creating a welcoming environment for all learners

Summer Hours

Bits-n-Bytes

EDUCAUSE in Orlando

Today's Cartoon

Don't forget our monthly Columns!

Supported Machine Counts

Denton & Dallas (MMS):

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<th>Asset Profile</th>
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The College of Education General Access Computer Lab Renovation: Creating a welcoming environment for all learners

By Dr. Elizabeth Hinkle-Turner, Student Computing Services Manager, with Dr. Charles Andrews, COE General Access Computer Lab Manager

Several years ago I did a series, Lab-of-the-Month, and I also do a regular 'What we did this summer' article in August about General Access Computer Lab updates but this year, the renovations in the College of Education (COE) General Access Computer Lab came early and are so terrific in my opinion that they needed to be featured right away. Much of this interest on my part stems from my membership on the IDEA (Inclusion, Diversity, Equity, Access) Team (Division of Equity and Diversity) as a Staff Council Representative. The IDEA team is a group striving to create a welcoming atmosphere for all at the university. When I got the renovation news and photos from Dr. Charles Andrews, manager of the COE lab I was amazed at how their design creates exactly that kind of welcome and access. This article is taken from his description of the lab's setup.

The COE lab now has a self-checkin setup which allows individual students to get on to their machines for work quickly rather than waiting at a checkin desk. It should be noted that the CHECKIN application, developed and housed in ACS Student Computing Services is releasing a self-checkin module in August so several of the computer labs on campus should be featuring such a service in the near future. COE also has a large screen monitor which shows what stations are in use and what special hardware and software the stations contain where applicable:
In their main room lab the individual stations have been switched to a 'carrel' environment to allow for maximum privacy and quiet during study time:

There is an adjoining lab especially made for collaborative group work and study. A pleasant atmosphere with plants and tables that comfortably house two students is provided:
Making special effort for our students with children, the COE lab has a large group work corner where parents can work while their children play - a great accommodation for our students with families:
Finally, like many of the other general access computer labs on campus, the College of Education is able to have self-service computer 'kiosks' in their hallway for students who just need to briefly stop and check their email or surf the web:
Like many of the other general access computer labs, the COE lab has outside kiosks for students who just need to check email or surf the web.

So with their lab renovation, the COE successfully coordinates an atmosphere which we should all look for on the UNT campuses: a place that accommodates students according to learning styles, study habits, assignments and even personal considerations like family time. Bravo COE - you have set up a great model for us all!

Originally published, July 2008 -- Please note that information published in Benchmarks Online is likely to degrade over time, especially links to various Websites. To make sure you have the most current information on a specific topic, it may be best to search the UNT Website - http://www.unt.edu. You can also search Benchmarks Online - http://www.unt.edu/benchmarks/archives/back.htm as well as consult the UNT Helpdesk - http://www.unt.edu/helpdesk/ Questions and comments should be directed to benchmarks@unt.edu
Summer Hours

By Claudia Lynch, Benchmarks Online Editor

The summer is almost over and soon we'll be heading into the fall. SUM, 3WK1, 8WK1 classes began on Monday, May 12. Following are the hours for Computing and Information Technology Center-managed facilities for the rest of the summer. The Helpdesk plans, at this point, to be open their normal hours. The University is officially closed for Independence Day, July 4.

- The ACS General Access/Adaptive Lab (ISB 110):

  **May 12 - August 8:**

  Sunday: 1 p.m. – 9:45 p.m.
  Monday – Thursday: 8 a.m. – 9:45 p.m.
  Friday: 8 a.m.– 8:45 p.m.
  Saturday: 10 a.m. – 8:45 p.m.

  **Exceptions:**

  Friday August 8: 8 a.m. – 5 p.m.
  Saturday, August 9: 10 a.m.– 5 p.m.

Hours for Other Campus Facilities

General Access Labs

- **WILLIS:**

  Open normal 24 hour schedule.

- **SLIS:**

  **May 12 - August 8:**

  Monday - Thursday: 10 a.m. 10 p.m.
  Friday: 10 a.m. - 6 p.m.
  Saturday: 10 a.m. - 6 p.m.
  Sunday : Noon - 8 p.m.

- **MUSIC:**

  **May 12 - August 8:**

  Monday - Thursday: 8 a.m. 9 p.m.
Summer Hours

Friday: 8 a.m. - 5 p.m.
Saturday: 10 a.m. - 5 p.m.
Sunday: 1 p.m. - 8 p.m.

- **PACS Computing Center** (Chilton Hall):

**May 12 - August 8:**

Sunday: Noon - 10 p.m.
Monday - Thursday: 8 a.m. - 10 p.m.
Friday - Saturday: 8 a.m. - 6 p.m.
August 9-August 24: **Closed**
Monday, August 25: Resume normal hours

- **SOVA:**

Hours currently unavailable.

- **COE:**

Open normal hours except:

August 9-August 24: **Closed**

- **COBA:**

Open normal hours.

- **CAS:**

**GAB 330**

**June 2 - August 8:**

Monday - Thursday: 8 a.m. - Midnight
Friday: 8 a.m. - 5 p.m.
Saturday: Noon - 8 p.m.
Sunday: Noon - Midnight

**Special Closings:**

Semester Break: August 9 - 24

**GAB 550 - Closed**

**Terrill 220**

**June 2 - August 8:**

Monday - Thursday: 8 a.m. - 8 p.m.
Friday: 8 a.m. - 5 p.m.
Saturday: **Closed**
Sunday: **Closed**

**Special Closings:**

Semester Break: August 9 - 24
Wooten 120

**June 2 - August 8:**
Monday - Thursday: 8 a.m. - 10 p.m.
Friday: 8 a.m. - 5 p.m.
Saturday: Closed
Sunday: Closed

**Special Closings:**
Semester Break: August 9 - 24

- UNT [Dallas Campus](http://www.unt.edu/dallas) - 155A

  Open normal hours.

- [Engineering General Access Lab](mailto:englab@unt.edu), Research Park, B129, 891-6733

  **June 2 - August 8:**
  Monday - Thursday: 8 a.m. - 10 p.m.

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* Terminology and schedules for classes offered in the summer has changed in recent years:

  **SUMmer**=Entire Summer Session, **3WK1** = 3-week 1, **8WK1**=8-week 1, **5WK1**= 5-week 1, **10WK1**= 10-week, **5WK2**= 5-week 2. All summer sessions will be over by August 8 this year.

  - Summer Session 3W1: formerly May Minimester
  - Summer Session 5W1: formerly Summer I
  - Summer Session 5W2: formerly Summer II.

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Questions and comments should be directed to benchmarks@unt.edu

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Listed below are some things we've published before but warrant a reminder:

Just in case you forgot or missed it the first time around:

- **Student SAS Distribution Policy Changed** - As of the end of the Spring 2008 semester, on May 12, 2008, Academic Computing and User Services will no longer distribute SAS to students via the UNT Bookstore. Students who wish to acquire SAS to complete class assignments are recommended to purchase the SAS Learning Edition which is available via [e-Academy](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm), where the SAS Learning Edition for Students is available for $60. More information can be found at the SAS Learning Edition [webpage](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm) and in the [April issue](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm) of *Benchmarks Online*.

- **Photoshop Express - Free Online 'Photoshop'** - If that sounds interesting, click [here](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm) to keep reading.

- **UNT, Microsoft partner to give students free access to top software development programs** -- Through its participation in DreamSpark, Microsoft’s program that provides free development software to students, UNT’s Computing and Information Technology Center is allowing students to download full professional versions of Visual Studio 2008, Expression Studio, Windows Server 2003 and XNA Game Studio 2.0. For further information, click [here](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm).

- **IT Help is Here** -- A new resource is available for those needing help with Information Technology at UNT. The Helpdesk Central page has been replaced with a new "IT Help Center" site which will make it even easier for customers (anyone with an EUID and password) to submit a request for IT support. The [IT Help Center](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm) is one-stop shopping for making requests for IT support. Click [here](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm) to read more about the IT Help Center.

- **Take A Tour of Student Computing Services at UNT** -- We've documented this in a number of places. It is good to check back now and then because information is always being updated. Take the tour: [http://www.unt.edu/helpdesk/studenttour/](http://www.unt.edu/helpdesk/studenttour/)
• **Computing Information for Faculty** -- When faced with an IT problem or question we all sometimes wonder, "where can I get help on this?" Often faculty have questions that are not typical of the day-to-day issues faced by the administrative staff at the University. [This article](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm) provides help in answering questions specific to faculty members.

• **Information Security Awareness** -- If you are a faculty or staff member who comes into contact with University data (e.g., student records, personnel information, financial data, etc.), you should read [this article](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm).

• **Links of the Month worth a second (or more) look:**
  - [The University Union Information Center](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm)
  - [The Center for Achievement and Livelong Learning](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm)
  - [Lost and Found at UNT has [virtually] re-located to Facebook](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm)
  - [The CITC Helpdesk](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm)
  - [CITC Messaging Systems Group](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm)

• **Do you need to configure a Debian PXE server to automate installs?** If so, then you're in luck! Details [here](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm).

• **Are you a staff or faculty member who owns a cell phone?** Click [here](http://www.unt.edu/benchmarks/archives/2008/july08/bitsbytes.htm) to find out all about "Discounts for UNT employee personal cell phones."

Now for some "new news," the latest EIS Status Report is available:

![Enterprise Information Systems Status Update](http://eis.unt.edu/enterprise)

To see previous reports, go to [http://eis.unt.edu/enterprise](http://eis.unt.edu/enterprise).

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EDUCAUSE in Orlando

By Claudia Lynch, Benchmarks Online Editor

If October in Orlando, Florida sounds good to you, you might want to consider attending the National EDUCAUSE conference there this year. If you register before Friday September 30, 2008 you will receive a "low early-bird rate." General session speakers are:

Click on the link below for further details:

http://net.educause.edu/e08/

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Questions and comments should be directed to benchmarks@unt.edu
“Should I include this on my resumé? In high school I was voted Most Likely To Marry His Computer.”

From "Today's Cartoon by Randy Glasbergen", posted with special permission. For many more cartoons, please visit www.glasbergen.com.
Don't Forget Our Monthly Columns!

By Claudia Lynch, *Benchmarks Online* Editor

In addition to our feature articles, *Benchmarks Online* publishes monthly columns that are focused on specific aspects of computing here at UNT (and beyond, in some cases). Check out what is waiting for you this month:

- **By the Numbers** - Not really a column, but a new feature, giving you a glimpse behind the scenes of the volumes of data, spam, etc. processed, managed, and otherwise handled here at UNT.

- **RSS Matters** - "RSS Matters" is the monthly column written by the Research and Statistical Support Group in Academic Computing Services. Their articles focus on topics of a statistical and/or research methods nature. This month, we have an encore presentation of the article "How Long Should My Data Analysis Take?" Check it out!

- **The Network Connection** - "The Network Connection" may well be the longest running column in computer publishing history. Certainly in University of North Texas computer publishing history. This month, Dr. Baczewski talks about "A Bit of History." Can you believe it's been 50 years since ARPANET was established? Click on the Network Connection link above to find how UNT fits into Internet history, and more.

- **Link of the Month** - As it says on the top of the "Link of the Month" page, "Each month we highlight an online mailing list or website. Frequently the link is associated with UNT." This month we show you how you can follow the UNT One O'clock jazz band's invasion of European festivals. Click on the link above and check it out.

- **Helpdesk FYI** - A new monthly feature from the CITC Helpdesk. Each month they will tackle a topic that has been of particular interest to callers/visitors to the Helpdesk. This month Richard Sanzone discusses "Preferred UNT Email Address." Check it out!

- **Short Courses** - Every semester, Academic Computing Services (ACS) offers short courses on computer-related topics, many of them having to do with statistical research. This column keeps you up-to-date on what is being offered and when as well as other training opportunities.

For the first time in our history of offering Short Courses, we were not able to have any this summer. Due to a variety of reasons including the closing of the ISB 203 computer lab...
classroom, it became obvious that we weren't going to be able to offer the classes. That said, special classes can still be arranged with the RSS staff. Click on the Short Courses link above for more information.

- **IRC News** - As their Webpage says, "the IRC is an advisory and oversight body created to foster communication and cooperation between and among UNT information resources providers and users." We publish the minutes of the IRC meetings each month, when they are available. **No minutes were available for publication this month.**

- **Staff Activities** - This column focuses on new employees, people who are no longer employed at the Computing and Information Technology Center, awards and recognitions and other items of interest are featured here.

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Vanity Fair magazine recently published an interesting article entitled *An Oral History of the Internet* in which they featured interviews with some of the major figures in the development of the Internet and the Internet services which we take so much for granted today. They point out that 50 years ago, the U.S. Department of Defense established the Advanced Research Projects Agency (ARPA). One of the big ideas to come out of ARPA was a network that could survive a nuclear attack (that being a major concern of the times.) The telephone system of that time was highly centralized and vulnerable to "collateral damage" (this was well before the Bell System breakup.) What was needed was a network that could use multiple paths so that if one path was unavailable, communication traffic could be switched to an alternate route. From this idea, the ARPANET was born, eventually.

Richard Nixon was elected President, Neil Armstrong walked on the moon, Woodstock happened and ...  

1969 saw the first real implementation of the network, with communication initially sent between researchers at UCLA and Stanford University. This was the "Kitty Hawk" of the Internet with many more development and expansions to come. One of the early inventions of this new network was the use of the at sign (@) to designate a particular user on a particular connected computer. In the 1970's Vinton Cerf, often called the "Father of the Internet" (no relation to Al Gore), developed the Transmission Control Protocol (TCP) that is still used for Internet communication today as part of the TCP/IP standards that may be familiar to some.

Even though the late 1970's and early 1980's saw the development of the commercially-available microcomputer (with much credit to the Apple II for that), the Internet remained the domain of the larger multi-user computers, but not mainframes built by IBM. While personal microcomputers provided access to Bulletin Board Systems and store and forward networks like FIDONet, the Internet was developed around the UNIX operating system favored by researchers and computer scientists. Early Internet software staples such as telnet (for remote terminal access), FTP (for file transfer), and electronic mail routed via the Internet were only available on UNIX systems.

**NTSU makes the connection**

UNT (then NTSU) first connected to the Internet in 1987 via TEX-Net, later named THE-Net for "Texas Higher Education Network." TEX-Net started as a network of Digital Equipment Corporation (DEC) VAX systems using the networking protocols native to the VAX...
operating system. DEC produced what were called minicomputers (as opposed to the monolithic IBM mainframes) and ran UNIX as well as the proprietary DEC VAX operating system. Sometime in 1987 ARPANET traffic began to be routed over TEX-Net and UNT (well, NTSU at the time) joined this still exclusive Internet club (well, ARPANET club at the time.) UNT's Internet domain registration record dates back to September of 1986, however, my personal recollection is that we didn't achieve general availability of the Internet on our Computing Center VAX cluster until 1987.

In October of 1988, the Computing Center announced the availability of TCP/IP and the "ARPA Internet" on (now newly renamed) UNT's VAX cluster system via an article in the then-printed Benchmarks newsletter. The article was heralded by a banner proclaiming "UNT CONNECTED TO ARPANET" pulled, ironically enough, by what appears to be a World War I-vintage biplane. This seems ironic now because just as barnstormers advanced the development of aviation, the Internet was about to go through a rapid development period which saw many new Internet usage ideas come and sometimes go as better ideas replaced them. In the barnstorming days, thousands of people had the chance to experience aviation first hand. In our 1988 Benchmarks issue, we announced that UNT had been featured in an InfoWorld article entitled, Network Brings Academic Computing to Thousands.

Time marches on

It's not my intention to recount the entire history of the Internet here, but a couple of additional anniversaries are worth mentioning. It's been 15 years since the release of the first graphical World Wide Web browser, named Mosaic. The World Wide Web protocols had been developed by 1991. But Mosaic, written in their spare time by some students working at the University of Illinois' National Center for Supercomputing Applications, was first available in 1993. One of those students, Marc Andreessen, later used Mosaic as the basis for a commercial Web browser called "Netscape". It was the predominant web browser until Microsoft discovered the Internet and "bundled" Internet Explorer with its Windows OS. But Mosaic did something that showed the potential of the World Wide Web. It could display pages of information, transmitted over the Internet, that had pictures mixed in with the text. All Internet browsers can trace their roots back to Mosaic, and since it was open source, I'd bet that some remnants of Mosaic code still exist in the modern versions of Internet Explorer and Netscape's progeny, Firefox.

One more anniversary is worth noting. 10 years ago, Benchmarks Online first appeared on the World Wide Web. Volume 1, number 1 of Benchmarks Online was published in April of 1998. I guess we weren't fooling since here we're still publishing today. The topics of the day were SPAM and misuse of "Everyone" mail. Some things don't change.

So, we can thank a bit of 20th-century nuclear paranoia for one of the most dramatic social changes here in the 21st century. The Internet has changed the way in which we shop, sell, socialize, date, publish, subscribe, and do business, among other things. We've moved from reaching thousands 20 year ago to reaching billions today. These 50, 40, 20, 15, and 10 year anniversaries highlight just how far we've come. Having seen the transformation, it seems quite remarkable to me. However, our incoming freshmen have never known a period in their life where the Internet didn't exist. Here we are barely 40-years into the age of the Internet. By the aviation timeline, we're still flying in propeller planes, but about to enter the age of jet travel. Hang on. It may be a bumpy ride.

* #66 in last fall's BELOIT COLLEGE'S MINDSET LIST® FOR THE CLASS OF 2011 was:
The World Wide Web has been an online tool since they were born.
Link of the Month

Each month we highlight an online mailing list or website. Frequently the link is associated with UNT.

UNT jazz band invades European festivals

UNT's famed One O'Clock Lab Band will perform at major European jazz festivals July 3 - 23. The tour marks acclaimed director Neil Slater's final performances before his UNT retirement in August.

Find out what the One O'Clock Lab band has been doing this month. You can follow the band's progress through Europe from this website:

http://www.unt.edu/jazzeurope/

View photos, video coverage, blog postings, Twitter messages and more.

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Questions and comments should be directed to benchmarks@unt.edu
Preferred UNT Email Address

Your "preferred email address" is the address that appears in the UNT Campus Directory at http://info.unt.edu. You should set your preferred email address to whatever address you would like people to find when they search for your contact information.

Setting your Preferred UNT Email Address

You can set your Preferred UNT Email Address by following these steps:

1. Login to the Account Management System
2. Click the "Email" link on the left
   
   Your preferred email address will be displayed in the table.

3. Click the "change" link in the Preferred Email Address row to change your preferred email address
4. Click "Select Another Address"

   A list of your registered UNT email addresses will appear.
5. Select an address from the list or click the "register" link to add another UNT email address to the list
6. Submit and confirm your changes

That's it! Your Preferred UNT Email Address will be now appear in the directory as your newly selected address.
No IRC minutes were available for publication this month.

* For a list of IRC Regular and Ex-officio Members click here (last updated 3/14/08).

**DCSMT Minutes can be found here.

IRC Meeting Schedule

The IRC generally meets on the third Tuesday of each month, from 2-4 p.m., in the Administration Building Board Room. From time to time there are planned exceptions to this schedule. The schedule can be found here. All meetings of the IRC, its program groups, and other committees, are open to all faculty, staff, and students.
How Long Should My Data Analysis Take?

By Dr. Rich Herrington, Academic Computing and User Services, CITC

These thoughts (disclaimer at the bottom of this column*) are motivated by the "quick-fix", "take the shortcut" mentality that I am seemingly surrounded with on a day-to-day basis....this was a real question posed to me:

The comment:

I was told by 'so-and-so' that it should take no more than two hours to clean, and 'run' my data. What do you think?

My long reply to the student:

Yes, two hours is a reasonable estimate of how long it might take to finish your data modeling/analysis project IF ONE WERE TO:

1) IGNORE checking assumptions of the parametric model(s) being generated, and ignore any steps necessary to "correct" for those problems found (e.g. normality of residuals, issues of heteroscedasticity, lack of independence in observations - most people completely ignore this last item (independence)...that is looking for the presence of clustering (e.g. presence of a "significant" intra-class correlation)....in other words, effects due to undetected or unrecognized clustering (lack of random samples). While some may feel this is unnecessary, it is completely clear that violations of this assumption are devastating for model validity (one might even think of this lack of independence as a model mis-specification).

2) Along the lines of 1), IGNORE any issues with bias generated due to missing values and the pattern of missingness that might be present. Many people incorrectly model missing values because they assume (in an unthinking way) "missing completely at random" (MCAR). MCAR is not usually a reasonable condition that can be met with confidence.
Even so, one would like to know how that missing-ness is presenting itself in the observed data (e.g. numeric or graphical displays that depict patterns of missing-ness are very helpful here).

3) NOT validate any of the fitted models after estimation (e.g. cross-validation; bootstrap-validation, etc).

4) NOT produce a calibrated model (with calibrated beta coefficients) after validation, that takes into account the optimism (bias) of the originally fitted model (e.g. optimism in \( R^2 \))...additionally, do not estimate the predictive validity of the model after calibration for bias.

5) NOT produce revised p-values or CI's for the significance tests of model fit that take into account the potential bias in R squared (numerical index of model fit that, in small sample sizes, is a biased estimate of the population estimate of R squared).

6) NOT generate confidence intervals for effect sizes and not generate graphical based displays of those intervals for communicating succinctly the main information concerning the parameter estimates (e.g. CI's for R-squared or Cohen's \( f \) effect size).

7) IGNORE any issues concerning uncertainty in the "model selection" stage - e.g. using variable subsets from the original set of variables. That is, ignoring any adjustment methods that would take into account over-fitting and account for inflation of error rates when searching through potential models - either type I, II, or some false detection rate (FDR) error rate.

8) IGNORE the power (sensitivity) of the statistical test. If one's data is a LARGE data set, then it is likely that the sensitivity for statistical tests (power) will not be an issue for effects sizes that one cares about. But, if it were, how would we deal with the fact that your data is observational? - in these situations it is not uncommon to have low a-posteriori power (not that this is a meaningful concept anyway) given a small sample size. This issue is problematic with a lot of folks. Many people just don't accept that "power" (within the Neyman-Pearson framework) was and has always been a design parameter that predetermines the expected operating characteristics of the hypothesis(s) test; and that this a-priori probability (if design procedures are followed appropriately) is more meaningful and useful if predetermined before sampling occurs (along with sample size, test threshold "alpha", and the expected difference - the "effect size"). It is clear that after data have been collected (with a predetermined critical threshold, and sample size), that the observed p-value for the data and the power are completely co-determined. For the observed effects size and observed sample size, the power will be small when the p-value is large, and vice-versa. Power is for the most part a useless concept after data collection (within the inferential framework of Neyman-Pearson). So, again, for a fixed sample size and low power with observational data - what valid conclusions can one draw? How can one use all of the available evidence, in hand or otherwise, to maximize the utility of the study?

9) NOT appreciate that classical inference based on thresholds (or critical values) and error rates (Type I and Type II) was not designed to provide "evidence" in a single study toward the hypotheses under consideration. Classical inference as taught in introductory statistics courses has been considered by some to be a contentious synthesis of two (arguably irreconcilable) inferential paradigms:

a) Fisherian p-values under the NULL hypothesis designed to provide evidence of the discrepancy of the current data from the null hypothesis (assumed in the current single study),
and the;

b) Neyman-Pearson behavioral approach which is based on the minimization of decision errors
   across the domain of all such equivalent tests. That is, the rejection of an observed p-value in
   comparison to a threshold p-value provides information about the collection of all potential,
   similar tests. It was not intended to provide information about the single, current test, that is
   under scrutiny.

This is all to say that drawing conclusions about how the data "in hand" informs the hypotheses under consideration is tricky business at best and is certainly NOT automatic - this process takes time and careful thinking! An approach that some folks advocate is to take the observed p-values under the null sampling distribution (and under appropriate conditions), generate "bayes factors" to supplement the information that is obtained using the hybrid logic of the Fisher and Neyman-Pearson framework. Note that there are many readable accounts that inform one of these methodological considerations...it seems that most folks just don't want to take the time.

What Researchers Could Be About

Probably the most important task for the data modeler is to make sense out of what the fitted model(s) communicates, in light of the semantic, theoretical framework that one has provisionally adopted prior to the model development stage. With an eye toward our best inferential model, we should be attempting to reduce bias, optimize predictive validity, and (when realistically possible) increase the interpretability of the fitted model - the "bottom line" so to speak. No personal offense is intended toward anyone in these next statements: it is clear (to me at least) that it doesn't matter:

1) How long one has been teaching or applying disciplinary specific methodologies to model data;

2) It doesn't matter how much credentialing one has behind their name;

3) And it doesn't matter how many other esteemed people are willing to line up and tell you how gloriously gifted and intelligent you are as a data modeler - if one ignores current methodological practice. This seems clear to me because:

Data Modeling as an Evolving Body of Practices

Data modeling (as a science or an art) is an evolving body of practices - much critical debate gives rise to new practices; that all conscientious researchers (modelers) contribute to by thinking thoughtfully about their data; and hopefully, subsequently share those thoughts with the WIDER community of practitioners and theoreticians. Hopefully, a truly WIDER community: ecology, epidemiology, biology, psychology, education, sociology, political science, economics, business, medical informatics, etc. To be out of touch with that changing body of practices is to be going against the grain of the current learned experiences of that wider consensus. While this is NOT NECESSARILY a bad practice, I would think that ignoring consensus should NOT be done lightly; it should NOT be done without awareness or without a worthy purpose in mind. When ignoring the experience of others, it probably goes without saying that it should not be done out of "laziness". Here are what I
think are some good indicators of how one might compare in relation to that WIDER community:

How A Researcher Might Compare to the Wider Methodological Community

IF, one is "of the mind" or "practicing" the following:

1) REFLEXIVELY utilizing standard fare null hypothesis significance tests as presented by the bulk of introductory applied statistics textbooks. That is, focusing on classical-frequentist observed p-values under assumed, random influence, hypotheses (i.e. null hypothesis), as the main evidence in drawing conclusions about the data;

2) Believe that using data imputation methods for missing data is somehow "cheating";

3) NEVER use non-parametric, semi-parametric, and robustly estimated models;

4) Stick RIGIDLY to confirmatory practices while ignoring the importance of "exploratory practices" in the initial stages of model development (and I mean exploratory in: after data has been collected);

5) Think that "Data Mining", "Knowledge Discovery", etc, is somehow "beneath" serious data modelers;

6) NOT APPRECIATE how re-sampling and simulation based methods have revolutionized the practice of statistics (e.g. applications of the Bootstrap and Monte Carlo Markov Chain estimated modeling);

7) NOT APPRECIATE that a multivariate (or multi-variable) approach should be a "first choice" modeling framework that is utilized (that is only to say that it should be adopted more often) - not a univariate framework; And that a univariate framework should be the exception to the practice. Statistical models in non-experimental settings (and arguably in experimental settings as well) are only going to have external or ecological validity to the extent that complexity in the "real world" (as reflected in the data relations) is realistically taken into account. Singular T-tests and ANOVA's used in non-experimental settings, are in various ways, deficient. In other words, using univariate, mean-difference testing approaches on observational data, is a good recipe to MISS consistent, valuable patterns in one's data.

8) OVER UTILIZE (OR ONLY utilize) Classical frequentist approaches in model estimation, model comparison, and model validation (e.g. relying on BLUE theory that uses MLE estimation for models). NOT appreciate that in evaluating statistical models, that estimated "believability values" (I stop short of calling them "truth-values", can be usefully assigned to models or parameters (e.g. using probability or information-theoretic based measures to rank order or average models or model parameters parameters - e.g. Bayesian Model Averaging). From one view, one can permute the data space (create a sampling distribution), but from another view it is also useful to look at permutations of the parameter space as well - in other words, one may NOT be close to the actual "best" model, and in assuming the wrong model there can be quite a cost associated with using BLUE theory and MLE estimation to arrive at one's predictive model (bias and lack of efficiency).

9) NOT APPRECIATE the importance of Bayesian inferential logic (and other alternatives) as complimentary to, or as a replacement for classical frequentist inferential logic (e.g. using "Bayes Factors" in lieu of, or as a compliment to observed p-values under and assumed sampling distribution; and/or using Bayesian "credible intervals" from a posterior
distribution, rather than confidence intervals based on NULL sampling distributions, whenever the statistical models are based on medium to small sample sizes, and/or the possibility of choosing reasonable priors for parameters exist.

**THEN:**

I would suggest that one is out of touch with emerging methodological trends that are becoming evident in a number of disciplines. Methodological wisdom evolves, so must the basic pedagogical practices that communicate those evolving methods.

**A Common Sentiment**

Examples of a common sentiment that reflect this lack of evolution in thinking, in my experience (more often than NOT), are demonstrated by variations on the following statement:

"I just want to make sure that students can interpret a t-test, a correlation and a probability value, and get the interpretation of the null hypothesis correct...to be able to use confidence intervals and effect sizes correctly..."

A seemingly well informed position to have - at least an optimistic position. However, from one perspective, this position is short-sighted when judged from an awareness of the history of science, education, public policy, and the relationship amongst them. These methods are but one small part of a number of limited tools, in a larger set of decision science tools that contribute to lowering decision uncertainty, for potential actions of individuals in both a private and public arena (e.g. "Do I use drug XYZ for myself or for my family? Is genetic engineering safe - what do we mean by safe?, and safe for whom?, How can we model and predict the next pandemic outbreak?, Is global warming a real phenomenon?, how do we take measures to reverse the potentially ongoing negative impact that humans have on worldwide climatological and ecological changes?").

Our problems are complex; Our interactions with ourselves and our world are complex, so why should the decision tools that we use to deal with this complexity be neatly and narrowly circumscribed? Now for the global, cynical generality - Seems to me that for the most part, introductory statistics courses, for your generic institution, do students a disservice - we train students to expect "neatness", and "tidiness" for the sake of pedagogical closure. Student's come out of these methods courses looking for the correct formula to "turn the crank on"; look for that software button to push to provide the expected answer. We inspire algorithmic thinking in the pursuit of credentialing...so that nowadays, it seems that critical thinking is one of those obvious decision science tools that has NOT been taught and is in sparing use.

**An Alternative Sentiment**

Consider the following statement as a potential alternative sentiment:

"I want students to be able to think critically, creatively, and substantially about data in a way where their understanding is not led astray by the singular inferential framework and methodology that happened to be adopted. To understand that in the end, what is wanted by most, are helpful suggestions as to which optimal decisions can be made about important, uncertain, future, events that occur in each of our lives. That, at the end of the data modeling process, the specifics of certain, select statistical models, are mostly beside the point. Whereas, the generalities of the statistical models, taken as a whole, can and often do provide a larger range of useful solutions for resolving decision uncertainty. Furthermore, I
want students to appreciate that a pluralistic approach to inference is a real strength, bordering on mandatory, and that picking only one inferential framework as a "lens" to the data is an impoverished strategy (possible lenses: Classical Frequentist based inference, Information Theoretic and Likelihood based inference; Bayesian inference; Algorithmic and Set-theoretic based approaches - e.g. Data Mining, Machine Learning and AI approaches). In other words, I want students to recognize the potential danger in allowing the modeling technique, by its very epistemological nature, to create a narrow (possibly biased) view of the data. Similarly, I want students to understand that it is important to NOT pick the question just so as to allow for the convenience of using, in an unthinking way, a singular, default inferential framework - I suppose one could put this more colorfully as: 'There is a real danger in letting the tail wag the dog'.

**Side note:** I offer the following, much seen example, as evidence of the "tail wagging the dog" phenomenon: using the median to create groups from continuous data whereby mean differences are statistically tested using hypothesis tests using the classical frequentist logic - forcing what is regression with continuous data to be data that is convenient for an ANOVA framework.

**In the End, There Are Just More Questions**

"Lastly, I want students appreciate that truth lies in paradox, and that one way to get to the heart of paradox is to critically examine assumptions - one doesn't do this by avoiding questioning for the sake of neatness - for the sake of pedagogy - for the sake of progress. In the end, we (researchers, citizens of our respective countries, one species among many on planet Earth) have NOT fulfilled our better 'nature', if we are not left with a sense of awe, mystery and curiosity - if we are not left with more questions."

**My Short Reply To The Student**

All in all, my short reply to the student's question was:

"No, two hours is not enough time to finish your data modeling/analysis project. How about a day?"  (note that I am being somewhat sarcastic here....I really believe it takes much longer; a day is really rushing the process, in my opinion :-)

I would love to hear other views on these research and statistical matters. This current column is a "cleaned-up" or revised version (hopefully for the better!), of a previously published entry in the web blog for the RSS group. Comments on this current column can be posted at:

https://web2survey.unt.edu/RSS-Blogs/7#comments

* Please note that the **opinions and information** expressed **herein** do not necessarily reflect those of UNT or my colleagues within the RSS group!

**References**

**Note:** I do not consider this reference list necessarily representative or complete; this list is composed of references that I found motivating, enlightening, informative, or just plain entertaining to read. I have made no attempt to organize this list thematically or by importance. I provide this list so that readers have access to some of the influences on my thinking.


A Bayesian Perspective on the Bonferroni Adjustment, Peter H. Westfall; Wesley O. Johnson; Jessica M. Utts, Biometrika, Vol. 84, No. 2 (Jun., 1997), pp. 419-427.


The Bootstrap and Modern Statistics, Bradley Efron, Journal of the


For the first time in our history of offering Short Courses, we were not able to have any this summer. Due to a variety of reasons including the closing of the ISB 203 computer classroom, it became obvious that we weren't going to be able to offer the classes. That said, special classes can still be arranged with the RSS staff. See "Customized Short Courses" below for further information. Also, you can always contact the RSS staff for one-on-one consultation. Please read the FAQ before requesting an appointment though.

Customized Short Courses

Faculty members can request customized short courses geared to their class needs from ACS. Other groups can request special courses also. Contact ACS for more information (ISB 119, 565-4068, lynch@unt.edu).

Especially for Faculty and Staff Members

In addition to the ACS Short Courses, which are available to students, faculty and staff, staff and faculty members can take courses offered through the Human Resources Department, and the Center for Distributed Learning. Additionally, the Center for Achievement and Lifelong Learning offers a variety of courses, usually for a small fee.

EIS training is available. Questions or comments relating to EIS training should be sent to EIStrn@unt.edu.

Microsoft Outlook Training and more

The GroupWise to Microsoft Exchange Migration is complete. The Messaging Systems Group has all sorts of useful information on their website, including training information.

Central Web Support

Consult Central Web Support for assistance in acquiring “Internet services and support.” As described on their newly re-designed website:

- CWS provides Internet services and support to UNT faculty, staff and students. Services include allocating and assisting departments, campus organizations and faculty with web space and associated applications. Additionally, CWS assists web developers with
Tutorials are available from CWS on a variety of topics.

**Center for Distributed Learning**

The Center for Distributed Learning offers courses especially for Faculty Members. A list of topics and further information can be found here.

The center also offers a "Brown Bag" series which meets for lunch the first Thursday of each month at Noon in Chilton 245. The purpose of this group is to bring faculty members together to share their experiences with distributed learning. One demonstration will be made at each meeting by a faculty member with experience in distributed learning. More information on these activities can be found at the Center for Distributed Learning Website.

**UNT Mini-Courses**

There are a variety of courses offered, for a fee, to UNT faculty, staff and students as well as the general public. For additional information surf over to http://www.unt.edu/minicourses/

**Information Security Awareness**

- Wednesday, July 23rd - 2:00 - 3:30 PM ESSC 152

The UNT Information Security team is currently offering Information Security Awareness courses to all UNT faculty and staff. Topics to be covered will include workstation security, sensitive data handling, copyright infringement issues, identity theft, email security, and more. For more information, or if you would like to request a customized course to be taught for your department, contact Gabe Marshall at x4062, or at security@unt.edu.

Also, Information Security Training is now available through WebCT Vista.

**Alternate Forms of Training**

Many of the General Access Labs around campus have tutorials installed on their computers. See http://www.gal.unt.edu/ for a list of labs and their locations. The Willis Library, for example, has a list of Tutorials and Software Support.

The Training Website has all sorts of information about alternate forms of training. Computer Based Training (CBT) and Web-based training are some of the alternatives offered.

For further information on CBT at UNT, see the CBT website. Note, also, some Benchmarks Online articles that have been published in the recent past:

- Get it while it lasts! UNT Support of SkillPort Computer-Based Training
Ends November 2008

- Computer-Based Training for Microsoft Project 2007 is Now Available
- More Windows Vista and Microsoft 2007 Server Courseware Added
- SkillPort Training Site Update
- Free and Legal: Copyright Advice and Training Online
- The Gift that Keeps on Giving: Even More Outlook and Office 2007 Training Posted on the CBT Website
- New Titles Added in SharePoint Server 2007, Publisher, Project, and Office 2007

State of Texas Department of Information Resources

Another possible source of training for staff and, perhaps, faculty members is the Texas Department of Information Resources. A look at their Education and Training website reveals some interesting possibilities. For example, under Conferences, Briefings, and Events is a "Microsoft Training Series" described as "free training classes ... delivered by Microsoft and hosted by DIR as part of the Technology Today Series (TTS)."

Originally published, July 2008 -- Please note that information published in Benchmarks Online is likely to degrade over time, especially links to various Websites. To make sure you have the most current information on a specific topic, it may be best to search the UNT Website - http://www.unt.edu. You can also search Benchmarks Online - http://www.unt.edu/benchmarks/archives/back.htm as well as consult the UNT Helpdesk - http://www.unt.edu/helpdesk. Questions and comments should be directed to benchmarks@unt.edu
Staff Activities

Transitions

New Employees:

- **Luis A. Angulo**, Computer Systems Manager, Distributed Learning Support (ESTS).
- **James Journey**, Desktop Support Assistant (ESTS) (part-time).
- **Yonathan Khoe**, Helpdesk Consultant (part-time).
- **David Heflin**, Helpdesk Consultant (part-time).
- **Ashley Keith**, Classroom Support Coordinator, Classroom Support Services.

No longer working in the Computing and Information Technology Center:

- **Andrew Babb**, Desktop Support Assistant (ESTS) (part-time).
- **Chris Sipriano**, Data Communications Field Technician (part-time).
- **Bailee Ashford**, Student Assistant, Data Communications (part-time).

Changes, Awards, Recognition, Publications, etc.

Congratulations to **Hsiao-Shan (Sharon) Huang**, a Student Assistant in the Messaging Services Group who will receive her Ph.D. in Educational Computing on August 8. The title of her dissertation is *The relationship between computer use and academic achievements*.

Soaring Eagles

Congratulations to the following people who were recognized in the June/July 2008 Human Resources Newsletter:

- **Kory Booth**, Computer Operations (AIS)
- **Chris Canuteson**, Classroom Support Coordinator, Classroom Support Services
• **Ronda Johnson**, Computer Support Specialist, Classroom Support Services.

• **Jay Maxwell**, Student Records Systems Development (AIS).

• **Don McClure**, Support Database Analyst, Call Tracking Administration (ACUS).

• **Stephen Moran**, Classroom Support Manager, Classroom Support Services.

• **Rob Robison**, Classroom Support Coordinator, Classroom Support Services.

• **Mike Wright**, Computer Systems Manager, Disaster Recovery and Contract Management.

• **Yancey Yeargan**, Computer Systems Manager, Directory Services (ESTS).

### Service to UNT

The following people were recognized for their service to UNT in *InHouse* recently:

#### 20 years of service

• **Brenda Sue Kirk**, Computer Systems Manager, Desktop Support (ESTS).

• **Linda Finlay Wallace**, Administrative Computing Team Manager, Student Records Systems Development (AIS).

#### 15 years of service

• **Rebecca L. Padia**, Computer Support Specialist, EIS Security Administration (AIS).

• **Charlotte Russell**, Director, Administration and Compliance.

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**Stay informed!**

Faculty/Staff Announcements

[announce.unt.edu](http://announce.unt.edu)