Campus Computing News

FAQ about the Personal and Tablet Computer System Regulation

By John Hooper, Chief Information Officer, University Information Technology

Last month ITSS announced new standards for personal and laptop computers. Below you will find an FAQ to help you better understand these new regulations.

Faculty: Before you Leave for the Summer...

By Dr. Philip Baczewski, Senior Director of Academic Computing and User Services and Deputy Chief Information Officer for University Information Technology

With the successful completion of the Spring semester we can all look forward to various activities this summer. Faculty members may have the opportunity to travel and pursue research or other academic activities. If you fall into this category and will need to have access to research software while you are off campus, Academic Computing and User Services may be able to help.

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Summer Hours

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Summer is here, at least as far as the UNT schedule of classes is concerned. Summer 2014 consists of six sessions and not all campus facilities are open during all the sessions.*

EDUCAUSE Opportunities

By Claudia Lynch, Benchmarks Online Editor

Registration is open for the EDUCAUSE 2014 Annual Conference, coming up in September. There is also a virtual Annual Conference, and EDUCAUSE Live! webinars remain free and available for viewing at a time of your choosing.

Click on the link above for an information age laugh.
FAQ about the Personal and Tablet Computer System Regulation

By John Hooper, Chief Information Officer, University Information Technology

Last month ITSS announced new standards for personal and laptop computers. Below you will find an FAQ to help you better understand these new regulations.

What is the purpose of this regulation?

The InHouse announcement from ITSS details the benefits of this regulation.

How do I order a standard PC?

Any employee can create a standard configuration quote. It is best to involve your local IT staff in the generation of the quote since they can help you determine the appropriate standard configuration and accessories for your needs. This will also prepare them to configure and install the machine when it arrives. Please go to the ITSS Standard Configurations page and follow the instructions there: http://itss.untsystem.edu/PCTabletStandards

How can I buy peripherals and ancillary items needed for my device at the time of purchase (cases, cables, docking stations, mice, keyboards, etc.)?

There are some accessories on the standards page. There is a keyboard, mouse, docking station, cables and some other items. You may also select any accessories from the regular Dell website and send it through with the requisition.

Can I ever buy a personal or tablet computer using a Pcard?

No, a Pcard should never be used to purchase a personal or tablet computer.

Can I use a Pcards to purchase ancillary items later?

Yes, just not from the Dell or Apple Store.

What sites can I buy ancillary items from with my Pcards?

Any site except Dell or Apple. To purchase ancillary items from Dell or Apple directly requires a requisition.

Are certain sites totally blocked from Pcards or are they only blocked over a certain amount?

Only the Dell and Apple sites are blocked.

Will purchasing convert the Dell quote I generate on the Dell site to a Summus (our preferred Dell reseller) quote?

When you create your requisition select Summus as the vendor and attach the Dell quote generated from the Dell site. If you don’t, the BSC will change the vendor to Summus.

How should I get a quote for a non-standard device (dell, Apple, or another vendor), whether an allowable variance or exception? How is the requirement to involve local IT (the college IT support groups or AITS for administrative units) in the purchasing decision for variances and exceptions
implemented?

For Dell products, the local IT managers have access to a special Dell site that allows them to configure non-standard Dell configurations. Any variance or exception requests with a quote generated from this Dell site will be presumed to have been reviewed with local IT.

For Apple products, your local IT staff can work with you to develop a non-standard configuration with Apple inside sales. The requisition should document in the comment that it was reviewed by local IT.

For other vendors, your local IT staff can work with you to develop a non-standard configuration. The requisition should document in the comment that it was reviewed by local IT.

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With the successful completion of the Spring semester we can all look forward to various activities this summer. Faculty members may have the opportunity to travel and pursue research or other academic activities. If you fall into this category and will need to have access to research software while you are off campus, Academic Computing and User Services may be able to help.

Many of the research and data analysis software packages ACUS supports for enterprise use include an option for faculty home use on a home desktop or laptop computer. Included in this list are:

- STATA
- SAS
- SPSS
- Matlab
- Mathematica

If you frequently use one of these applications and will be off campus this summer, now is the time to arrange for getting access on your home computer.

To request home use of one of these software packages, go to the RSS Consulting page, and click on the RSS Software Request link. You will then need to log in to the IT Service Portal with your EUID and Password, and make a Research and Statistical Support "Request for Software" by following the on-screen directions. An ACUS staff member will be in touch to provide instructions as to how you can install the particular application you need. Some applications, like SAS and SPSS will require that you borrow install media from our offices. Others, including Matlab and Mathematica, can be downloaded from the vendor web portal once access has been set up. With a little communication and planning, however, we can ensure that these applications are available when you need them.

For more information about software supported by ACUS Research and Statistical Support Services, see the RSS applications web page.

*This is a reprint of an article that was originally published in May of 2013. It has been edited to reflect changing website addresses.

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Information Technology Service Provision Document Available

By Claudia Lynch, Benchmarks Online Editor

A document is now available that identifies the providers for various IT services at the University of North Texas. The document is available as an attachment here and also from the UIT website: http://it.unt.edu/. A snapshot of the final page of the document appears below:

Originally published May 2014 -- Please note that information published in Benchmarks Online 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 consult the UNT Helpdesk - http://www.unt.edu/helpdesk/. Questions and comments should be directed to benchmarks@unt.edu.
Summer is here, at least as far as the UNT schedule of classes is concerned. Summer 2014 consists of six sessions and not all campus facilities are open during all the sessions.

Following are the hours for University Information Technology-managed facilities over the summer. The University is officially closed on Monday, May 26 (Memorial Day) and Friday, July 4 (Independence Day).

- The Helpdesk will be open on Monday, May 26 from 8 a.m. to Midnight, closed to walk-in traffic; phone and email only. They will also be open on Friday, July 4 from 8 a.m. to 5 p.m. but will be closed to walk-in traffic; phone and email only. Otherwise they will maintain their normal operating hours.

- Data Management Services will be closed Monday, May 26 and Friday, July 4, otherwise they will maintain their normal operating hours.

- The ACUS General Access/Adaptive Lab (SYMR 104) will be closed Monday, May 27 and Thursday, July 4, otherwise they will maintain the following hours during the summer:

  Monday - Friday: 8 a.m. - 9 p.m.
  Saturday & Sunday: 9 a.m. - 5 p.m.

Hours for Other Campus Facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Hours</th>
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<tbody>
<tr>
<td>24 Center (formerly known as WILLIS)</td>
<td>Maintaining a normal schedule through the summer except as noted.</td>
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<tr>
<td><a href="http://www.library.unt.edu/location-hours/willis-library">http://www.library.unt.edu/location-hours/willis-library</a></td>
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</tbody>
</table>
**College of Information General Access Computer Lab (CI-GACLab) (B205)**

**CLOSED**: Monday, May 26 (Memorial Day); Friday, July 4 (Independence Day); August 10-24 (semester break).

**MUSIC**

**CLOSED**: Monday, May 26 (Memorial Day); Friday, July 4 (Independence Day); August 10-24 (semester break).

**PACS Computing Center** (College of Public Affairs and Community Service, Chilton Hall)

**CLOSED**: Monday, May 26 (Memorial Day); Friday, July 4 (Independence Day); August 10-24 (semester break).

**CVAD**

**CLOSED**: Monday, May 27 (Memorial Day); Thursday, July 4 (Independence Day); August 10-27 (semester break).

3W1: Summer Hours unavailable at this time.

5W1 and 5W2: Summer Hours unavailable at this time.

**COE**

**CLOSED**: Monday, May 26 (Memorial Day); Friday, July 4 (Independence Day); August 10-24 (semester break).

May 12 - August 9, 2014:

Monday - Friday: 8 a.m. - 6 p.m.
Saturday & Sunday: Closed

May 12 - August 9, 2014:

Monday - Thursday: 8 a.m. - 9 p.m.
Friday: 8 a.m. - 5 p.m.
Saturday: 10 a.m. - 5 p.m.
Sunday: 1 p.m. - 8 p.m.
<table>
<thead>
<tr>
<th></th>
<th>Monday - Thursday: 7 a.m. - 9 p.m.</th>
<th>Friday: 7 a.m. - 5 p.m.</th>
<th>Saturday: Noon - 8 p.m.</th>
<th>Sunday: Closed</th>
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<tbody>
<tr>
<td><strong>COB (BLB 190)</strong></td>
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<td><strong>CLOSED</strong>: Monday, May 26 (Memorial Day); Friday, July 4 (Independence Day); August 10-24 (semester break).</td>
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<td><strong>CAS</strong> - All labs will be closed Monday, May 26 (Memorial Day); Saturday, May 31 &amp; Sunday, June 1; Friday, July 4 (Independence Day); August 10-24 (semester break). <strong>TT220 and WH 120 will close at 5 p.m. on Thursday, July 3. GAB 330 will close at their normal time.</strong></td>
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<tr>
<td><strong>Lab Hours for May 12 – August 9, excluding closings</strong></td>
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<td><strong>GAB 330:</strong></td>
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<td>Monday - Thursday: 8 a.m. – Midnight</td>
<td>Friday: 8 a.m. - 5 p.m.</td>
<td>Saturday: Noon - 8 p.m.</td>
<td>Sunday: Noon – Midnight</td>
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<tr>
<td><strong>Closed May 31 &amp; June 1.</strong></td>
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<td><strong>GAB 550:</strong></td>
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<td>Monday - Friday: 8 a.m. – 5 p.m.</td>
<td>Saturday: Noon - 8 p.m.</td>
<td>Sunday: Noon – Midnight</td>
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<td><strong>Closed May 31 &amp; June 1.</strong></td>
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<td><strong>Terrill 220</strong>: Closed</td>
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<td><strong>Wooten 120:</strong></td>
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<tr>
<td>Monday - Thursday: 8 a.m. – 10 p.m.</td>
<td>Friday: 8 a.m. – 5 p.m.</td>
<td>Saturday - Sunday: <strong>Closed</strong></td>
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</tbody>
</table>
Closed May 31 & June 1.

5W1 and 5W2:

GAB 330:
Monday - Thursday: 8 a.m. – Midnight
Friday: 8 a.m. - 5 p.m.
Saturday: Noon - 8 p.m.
Sunday: Noon – Midnight

GAB 550:
Monday - Friday: 8 a.m. – 5 p.m.
Saturday - Sunday: Closed

Closed July 5 & 6

Terrill 220:
Monday – Thursday: 8 a.m. – 8 p.m.
Friday: 8 a.m. – 5 p.m.
Saturday - Sunday: Closed

Closed July 5 & 6

Wooten 120:
Monday – Thursday: 8 a.m. – 10 p.m.
Friday: 8 a.m. – 5 p.m.
Saturday - Sunday: Closed

Closed July 5 & 6

Engineering General Access Lab (CENGAL, englab@unt.edu, Discovery Park, B129, 891-6733)

CLOSED: Monday, May 26 (Memorial Day); Friday, July 4 (Independence Day); August 10-24 (semester break).

UNT Shuttle Service

Check out the transit website to keep up with the shuttle schedule throughout the summer. A 2013-2014 calendar is available here: http://www.unt.edu/transit/pdf/2013-2014_calendar.pdf.

*According to the Registrar’s Office, the terms this year are:

1. 3W1 (3 week 1) May 12 - May 29, 2014
2. **8W1** (8 week 1) May 12 - July 3, 2014
3. **SUM** (summer) May 12 - August 8, 2014
4. **5W1** (5 week 1) June 2 - July 3, 2014
5. **10W** (10 week) June 2 - August 8, 2014
6. **5W2** (5 week 2) July 7 - August 8, 2014

Remember:

Get your alerts fast in case of inclement weather

Visit the Emergency Management [website](http://it.unt.edu/benchmarks/)

City of Denton Residents, sign up for the CodeRED Emergency Notification System

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Email us:
Have questions on content or technical issues? Please contact us.
[unt.uit@unt.edu](mailto:unt.uit@unt.edu)

UNT System:
- UNT Home
- UNT System
- UNT Dallas
- UNT Health Science Center

Site last updated on April 22, 2016
Network Connection

By Dr. Philip Baczewski, Senior Director of Academic Computing and User Services and Deputy Chief Information Officer for University Information Technology

Lest We Forget

One of the great things about the Internet is that the amount of available information just keeps growing. Whether it's new or historical information, being able to search and find meaningful results has made the Internet a valuable tool that drives a new information economy. However, preservation of information is not without some potential downsides as well. Recent news includes a ruling by the European Union Court of Justice that stated that links to outdated data should be erased on request. This has been labeled the "right to be forgotten." The target of this case was Google, and while Google may not have been the source of the outdated information, it is a conduit and in some cases an archive for such.

As our information economy grows, the value of information changes. Google's business model, among many other Internet businesses, is built on gaining economic intelligence from the aggregation of individual information. Perhaps an old debt would seem to be innocuous information if that debt has been satisfied. However, if outdated information can affect your employment status or reputation or identify you as a target for marketing, then perhaps it's important to have a mechanism to allow individuals to reasonably control the information that makes up their online and very public identity.

Over the years, this column has highlighted a number of issues related to personal privacy versus Internet technology. As the Internet became more widespread and commercial, issues of privacy and security have seemed to increase in importance, especially as we become more dependent on online services to support our daily activities. I though I’d highlight some of these articles as a perspective on how things have changed (or not) in the past fifteen years.

Cue the Cat

In October of 2000, a device called the ":CueCat" was the topic. The device was "a souped up barcode reader that sits between your PC keyboard and the keyboard input port and reads barcodes printed in newspapers, magazines, or on packaging and then searches a database of those bar code numbers to find an associated Web page or the associated company's Web page." This sounds a lot like the QR codes of today, but being a proprietary and single-purpose device, the :CueCat never caught on and has since receded into Internet history.

The :CueCat seemed to be ahead of its time in another way as well. As I said at the time, "The real money maker ... is information: information about the interests, browsing, and buying habits of different demographics of American consumers." That came with this question: "If we are willing to cede to commercial entities our ability to manage our own sources of information, are we giving up a bit of hard-won freedom that is unequaled by any other time in human history? In other words, who will be controlling our lives? Do we let convenience drive the influences of our daily activities or do we maintain at least a measure of control?" Perhaps this seemed like idle speculation in the year 2000.

Only in America

August of 2001 was so much more of an innocent time. In the news was the case of Dymitry Sklyorov, a Russian student who was arrested in the U.S. after presenting at a computer security and cryptography conference. He was charged with violating a provision of the Digital Millennium Copyright Act (DMCA) because he worked for a Russian company that created software to copy Adobe eBooks (illegal under the DCMA, but legal in Russia.) In relating this incident, I wrote, "The DMCA provides corporations with the legal right to stifle speech in regard to technologies that
they consider to be protective of their electronic intellectual property. How soon will it be before the FBI has wire taps in Computer Science departments around the country?"

**Eavesdropping**

Moving forward to 2005, the concern was the FCC's implementation of a law passed in the Clinton Administration. The effort was to grant federal law enforcement agencies the power to monitor Internet traffic the same way that phone calls were subject to court-approved wiretapping. The FCC's interpretation was subsequently ruled unconstitutional in 2006. However, in 2005, it appeared that the FCC ruling could have a major impact on the operation and use of Internet services. I noted at the time that a Washington Post story pointed out that even if direct eavesdropping was not going on, access to Internet usage information could "describe where a person makes and spends money, with whom he lives and lived before, how much he gambles, what he buys online, what he pawns and borrows, where he travels, how he invests, what he searches for and reads on the Web, and who telephones or e-mails him at home and at work."

**Increasingly Social**

Social networking was just becoming popular in 2006. While Facebook is now a multi-billion dollar business, at that time it was just one of a number of sites that organized online communities. Also at that time was some of the first indications of the need to balance online presence with the preservation of privacy. As I said at the time, "Young people (and many old people as well) need to be educated in online etiquette privacy protection. ... It's important for them to know the basic fact that anything they post online can be potentially viewable by teachers, parents, friends, law enforcement, and future employers. In other words, they need to behave online, because it will go on their permanent record."

**Expectations of Privacy**

2008 brought the advent of Google Street View and a proliferation of Webcams. In February of that year, this column raised the question as to what extent we could still maintain our privacy in public and whether we'd have to retreat to our homes preserve such a right. I observed that, "It might not be too long before you will have no reasonable expectation of privacy, at least if you live an urban and on-line existence. You can hide in your home, but be sure to draw the curtains lest the Google street-view-mobile comes by. You can hide in the wilderness, but it's only a matter of time -- Google will find you."

**Old News?**

It seems that these past observations are still issues in our current times. Allegations of warrantless surveillance by NSA have been news for many months now. The U.S. Supreme Court recently heard arguments regarding the circumstances in which police may search an arrestee's cell phone. And issues of privacy on Facebook continue to be a challenge to balancing online social connections with reasonable privacy expectations.

Obviously, we did not get to our current state of affairs over night. But we do face some hard decisions regarding how much we will trade privacy for convenience and the battle ground is moving to our smart phones. Smart phones reflect many aspects of our lives, and apps on those phones are increasingly making incursions into the information on our phones. A recent update to the Facebook app for Android requires access to read your SMS and MMS messages. Perhaps there is a valid operational reason to do so, but is there also a potential threat to your privacy? It appears that there are still many questions to be answered.

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Link of the Month

Mean Green Pride

Friday is Mean Green Pride Day. Visit the link below and find out all the benefits of wearing green, including:

- Discounts and special offers from local businesses.
- Winning via social media interactions.

http://meangreenpride.unt.edu/
Network Connection

Link of the Month

Helpdesk FYI

RSS Matters

Training

Staff Activities

Columns, May 2014

Home » issues » 2014-05 » helpdesk-fyi

Helpdesk FYI

By Jacob Flores, UIT Support Services Manager

UNT wireless network connection

Are you tired of having to log in every time you want to use the EagleNet wireless? You can use the UNT wireless network instead and automatically connect without having to type your username and password. The UNT network offers two main benefits over Eaglenet. First, the UNT network has increased security providing encryption. Second, it avoids going through a log-in portal to access the wireless network.

Instructions for connecting provided by Datacomm:

- [Windows 7 Configuration for Secure Wireless Networks](#)
- [Windows 8 Configuration for Secure Wireless Networks](#)
- [iPhone / iPod / iPad Configuration for Secure Wireless Networks](#)
- [Mac Configuration for Secure Wireless Networks](#)

For more information on the available wireless network options at UNT please visit [http://itss.untsystem.edu/untsystem-wireless-networking](http://itss.untsystem.edu/untsystem-wireless-networking)

*This is an updated article that was originally published in May of 2013. It has been edited to reflect changing website addresses.

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RSS Matters

Know where you are going before you get there: Statistical Plans work.

Link to the last RSS article here: RSS’s Top R Package and Software List -- Ed.

By Dr. Jon Starkweather, Research and Statistical Support Consultant

Clients often come to RSS wondering what analysis they should do or what analysis they should do next. Clients are often looking for some remedy, fix, or contingency because they have realized their data, for one reason or another, do not meet the assumptions of the analysis they were expecting to conduct. Many of these clients have successfully proposed the research to grant committees, colleagues, or dissertation / thesis committees. However, the proposed analysis or analyses were chosen based on what the researcher or student knew at the time (prior to proposing the study). Often those analyses contain assumptions which are not carefully considered and upon collection of data it is realized the data do not meet those assumptions. The problem becomes apparent only after data has been collected and the researcher realizes they are going to need to learn an analysis unfamiliar to them while under some publication or dissertation / thesis defense deadline.

It is for these reasons and occasions that we (RSS) generally recommend creating a Statistical Action Plan (SAP) prior to proposal of the study. The current article describes the SAP general format and offers suggestions for why it can be helpful. The SAP is nothing more than a document which contains the planned analyses and the order in which they are likely to be conducted. It should also contain alternative analysis in case the data is discovered to violate the assumptions of a planned traditional analysis. It is both a reference to turn to for the analyses to answer the research questions (i.e. hypotheses) and a way to plan contingencies in case the data do not meet standard parametric assumptions. Furthermore, it offers student researchers a guide to analyses they may not be familiar with and need to familiarize themselves with prior to proposal or data collection. Along those same lines, the SAP should include which software will be used to conduct the planned analyses; especially considering the limitations of some software packages (Starkweather, 2013a).

SAP Format

Generally speaking, quantitative data analysis follows a four stage process. The first stage in the process is Initial Data Analysis (IDA). During this stage it is critical to know thy data, become intimately familiar with it; so decisions about subsequent analysis can be made appropriately. Generally the focus of this stage is on univariate descriptive statistics and associated plots. Some of the most important operations during IDA include some of the most mundane tasks of a data analyst. Simple operations such as creating a frequency distribution and the appropriate graph for every variable (e.g. bar charts for categorical variables, histograms for continuous or nearly continuous variables). Here the focus should be on the shape of the distributions of each variable (e.g. Are the continuous variables normally distributed? Are the categorical variables evenly balanced, or do you have severely unbalanced categories? Do your survey items display floor or ceiling effects?). Other necessary steps in this process follow from those simple charts and graphs. Inspection of data entry errors, missing values, and outliers will need to be completed – and these should be easy to identify from these simple charts and graphs. Data entry errors need to be corrected by reviewing and comparing the actual data collection materials (e.g. recording devices, surveys and responses, etc.) to the electronic data file values. For example, if your dataset contains a gender or sex variable and you create a bar chart
with the bars representing the gender of each participant (male and female), then if one participant has a value other than those two you know you have some sort of data entry error, coding error, or a missing value. Missing values need to be investigated further when identified (Little & Rubin, 1987). What percentage of the data matrix (i.e., number of rows multiplied times number of columns) is missing? A determination must be made as to whether the missing values are missing at random (MAR) or not missing at random. In other words, MAR means; given the observed data, the missingness mechanism does not depend on the unobserved data. Once that determination has been made, an imputation strategy can be decided upon. If the values are missing at random, then there are multitudes of missing value imputation procedures available for single or multiple imputation (e.g., random recursive partitioning, maximum likelihood imputation, sequential nearest neighbors’ imputation, etc.; see Starkweather, 2014 and Starkweather, 2010). If the values are not missing at random, then some strategy must be devised to account for the pattern of missing while imputing those values; in other words, there must be a model estimated which controls for the relationships among the variables and imputes values estimated to contain the least bias.

The second stage generally involves preliminary data analysis. This stage is primarily concerned with assumption checking and making sure you measured what you think you measured. Bivariate linearity, multivariate normality, and multivariate outliers should be assessed. Again, a good place to start is with relatively simple tables and graphs, such as scatterplots and scatterplot matrices along with associated correlations and correlation matrices. Keep in mind, there is more than one type of correlation and the type used is largely determined by the type of variables being correlated (e.g., Pearson product moment correlation, Spearman’s rho, Kendall’s tau, point biserial correlation, polychoric correlation, tetrachoric correlation, etc.). One goal at this stage is to understand the nature of the relationships among the variables — not just the variables of most interest to the hypotheses, but also the auxiliary, confounding, demographic and any other type of variables as well. It is important to realize there are three key aspects of any relationship among two (or more) variables: significance (which can be meaningless with large sample sizes), direction (i.e., positive, negative), and magnitude. The level of magnitude which indicates importance varies with each study and/or field, as does the effect size (e.g., $R^2$ or percentage of variance shared/accounted for). Obviously, this highlights the importance of a thorough literature review and becoming familiar with acceptable effect sizes within the field or subject of study. Similarly, different fields often use (or are only familiar with) different metrics; for example, some fields rely upon (and expect) Mahalanobis’ distance for assessing multivariate normality and multivariate outliers (Starkweather, 2013b); others might choose Cook’s distance or some other measure of multivariate distance or leverage (also called influence).

As mentioned briefly at the beginning of the previous paragraph, this stage (second stage) may also involve more complex analysis such as Item Response Theory (IRT) or factor analysis to make sure you measured the variables of interest appropriately. This step is required if you are using a survey to assess the primary variables of interest. Does the factor structure (or item difficulty, item discrimination, etc.) of your sample conform to what has been established of the items as reported in the literature? Also, in regards to surveys; do not use Cronbach’s Alpha unless your data meet the assumptions associated with it, most survey data does not and there are more appropriate statistics to use for reliability (Starkweather, 2012b). Another goal of the second stage in complex research designs might be variable or model selection analysis. For example, if the study is primarily exploratory and involves collection of extremely large data (e.g., genetics); then a variable or model selection technique might be used to reduce the variables down to a set containing the most important variables (e.g., Relative Importance, Bayesian Model Selection; see Starkweather, 2011). This second stage might also contain strategies for developing weights in order to correct for imbalances in the data or to statistically control confounding variables. Weighting strategies (e.g., propensity scores) should not be avoided, they are often very effective (see Kish, 1990); but choosing the right weights is essential.

The third stage of the data analysis process generally involves the primary data analysis; this is the stage in which the major analyses required to answer the hypothesis or hypotheses of the study are conducted. This is the stage in which the theoretical model is fit to the data — that model may be something as simple as a factorial Analysis of Variance (ANOVA) or it may be very complex, such as a Structural Equation Model (SEM). The main goal of this stage is to determine if the data and model fit well. There are often many measures of model fit (e.g., Root Mean Square Error of Approximation [RMSEA], Normed Fit Index [NFI], Non-Normed Fit Index [NNFI], Akai Information Criterion [AIC], Bayesian Information Criterion [BIC], etc.). Therefore, it is again important to have completed a thorough literature review in order to understand what represents appropriate fit in your discipline. Keep in mind; whenever fitting a model is required or hypothesized, it is generally a good idea to fit some competing models in order to give goodness-of-fit metrics some context. In other words, if you are hypothesizing one model, you had better fit at least one (and probably two) more models in order to have some empirical evidence for the model you hypothesized (being the best model). Something else to keep in mind at this stage — with respect to goodness-of-fit measures — a chi-square statistic is virtually meaningless when fitting an even moderately complex model. This is because even moderately complex models require large sample sizes and as everyone knows, chi-square becomes less and less meaningful as sample size increases. Last, but not least, this stage should include extensive evaluation of residual values. All models are capable of producing residuals — the difference between the actual values of the data and the predicted values of the model (e.g., $Y$ minus $\hat{Y}$ or predicted $Y$ [$\hat{Y}$]) in regression, matrix of association minus the reproduced matrix or predicted matrix in many multivariate analyses, etc.). One assumption of common parametric analyses is normally distributed residual values — obviously this cannot be checked until the model has been fit; and should be checked carefully.

The fourth stage of the process involves secondary or subsequent data analysis. This stage involves analyses for testing secondary hypotheses or individual hypotheses nested within, or of lesser importance than, the larger goal (hypothesis) of the study. Consider something as simple as a one-way ANOVA. The model would consist of two variables: one categorical variable with more than two categories (often called an independent variable), predicting
one continuous or nearly continuous outcome variable (often called a dependent variable). Evaluating the effect of the independent variable on the dependent variable would entail interpretation of the omnibus $F$ (the main effect) which would inform whether or not the model fit well and a main effect was present. However, the $F$ test does not inform where the significant differences lie. In order to identify which group or groups were significantly (and meaningfully – with effect sizes) different from which other group or groups, planned contrasts or post hoc testing would be necessary. These planned contrasts or post hoc tests would be done as the fourth stage of the process or SAP. In a regression setting, the model fit is evaluated with a combination of $R^2$ type of statistics (and often an ANOVA summary type table with an $F$ test) while the simple effects or fourth stage is done with the individual predictor coefficients’ (often with $t$ tests for each predictor’s standardized coefficient). In more complex settings, such as path models or SEM, the fit of the model is evaluated in the third stage and the individual path coefficients or structure coefficients are evaluated in the fourth stage (often with $t$-tests of the standardized coefficients). The fourth stage might also be the stage in which confounding variables are controlled or mediation and / or moderation are evaluated. This stage may also include post-stratification, as in multilevel regression (also known as Hierarchical Linear Modeling [HLM]) with post-stratification.

Conclusions

Obviously, the main idea of this article was to help researchers, primarily graduate students, better prepare for data collection. It is important to note that although the stages of a Statistical Action Plan are listed and described above as sequential, a researcher may need to return to previous steps throughout the process. Again, this is one of the benefits of forcing one’s self to create such a plan – it necessitates thinking about what type of data is needed to answer the research question or specific hypotheses and it motivates consideration of alternative analyses as a contingency if the resulting data does not conform to the assumptions of the planned primary analysis strategy. As many people have recognized over the historical course of science, more effort spent in planning research pays substantial benefits as the study is conducted and analyzed. In essence, it is much better to plan potential contingencies and learn about them (i.e. unfamiliar analysis) prior to data collection than it is after data collection and one is facing a thesis / dissertation defense or publication deadline. Lastly, an Adobe.pdf version of this article can be found here (along with several of the resources listed below). Other, potentially useful resources are also located here.

Until next time; “a failure to plan at the beginning [of the semester] on your part does not represent a crisis at the end [of the semester] on my part.” – Kevin J. Armstrong, PhD.

References / Resources


Little, R. J. A., & Rubin, D. B. (1987). Statistical analysis with missing data. New York: John Wiley & Sons. [Still one of the most important resources for understanding missing values].

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Starkweather, J. (2012b). Step out of the past: Stop using coefficient alpha; there are better ways to calculate reliability. Benchmarks Online, June 2012. Available at: http://it.unt.edu/benchmarks/issues/2012/06/rss-matters


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Training

By Claudia Lynch, Benchmarks Online Editor

Do you need training on widely used computer programs including those used in statistical analysis? If so, this monthly Benchmarks Online column is for you.

Statistical Analysis

Instructor-led courses are offered only by special request. Please contact an RSS member or Claudia Lynch if you are interested in taking such a class or wish to have someone offer a class for your students. SAS, SPSS and Introduction to R are offered online. Make sure and check out the RSS Matters article Statistical Resources in the July 2012 issue of Benchmarks Online.

Special classes can always be arranged with the RSS staff. Also, you can always contact the RSS staff for one-on-one consultation. Please read the FAQ before requesting an appointment though.

Especially for Faculty and Staff Members

In addition to the online statistical courses, which are available to students, faculty and staff, staff and faculty members can take courses offered through the Business Service Center (they have a new comprehensive training curriculum), and the Center for Learning Enhancement, Assessment, and Redesign (CLEAR). Additionally, the Center for Achievement and Lifelong Learning (CALL) offers a variety of courses, usually for a small fee.

EIS Training Resources

EIS training is available and expanding. Visit my.unt.edu to access tutorials.

Questions or comments relating to EIS training should be sent to EACouncil@unt.edu.

Microsoft Virtual Academy

Who is eligible to participate in MVA?

Anybody interested in growing their career can be a part of MVA.
MVA courses and events are free, but you need to identify yourself using a Microsoft account in order to sign up for MVA and create your MVA profile.

To sign up for MVA, on the MVA home page, MVA courses and events are free, but you need to identify yourself using a Microsoft account in order to sign up for MVA and create your MVA profile.

There is no minimum level of technical expertise required.

Microsoft E-Learning
Microsoft E-Learning courses are available for faculty and staff via our UNT System Microsoft Campus Agreement. To enroll in Microsoft Learning:

1. Go to: https://business.microsoftlearning.com/activate/
2. Input your multiuse access code: IWO11DC02B (The code is case-sensitive.)
3. You are prompted to sign in using a valid Windows Live™ ID. (This is the user name and password you will use to access the site each time you log on.) If you don't already have a Live™ ID, click "sign on" and create one.

Central Web Support
Central Web Support provides "web hosting and support to appropriate campus entities free of charge." Visit their website for "How-Tos about Everything."

CLEAR
CLEAR offers courses especially for Faculty Members. CLEAR training includes:

- Blackboard
- Turnitin
- Turning Point
- Assessment
- Teaching Effectiveness
- Respondus

Please check out CLEAR's training and event calendar at http://clear.unt.edu/calendar for the latest information regarding Blackboard, CLEAR's initiatives, and on campus instructional events.

Further information can be found here.

FREE SLOAN-C ONLINE WORKSHOPS
The University of North Texas is a premium member of Sloan-C College Pass. To request FREE ENROLLMENT in an online workshop by Sloan-C, please contact Amber Bryant with the name and date of the workshop selected.

- Sloan-C 2014 Workshops

Please click on the link above to see the available 2014 workshops.

Ed2go
Ed2go are courses that are offered, for a fee, to UNT faculty, staff and students as well as the general public. According to the CALL website:

CALL has partnered up to provide online learning on a variety of topics. From standardized test preparation to
database programming to training for libraries and their staff, there’s a variety of areas from which to choose in online learning.

The online minicourses, provided in conjunction with Ed2go, are standardized 12-lesson modules released over a six week period. (Courses are active for eight weeks to provide some flexibility). Each module features a quiz. Lessons are instructor-led and course participants and instructor communicate through a course discussion board. Lessons can be downloaded and saved. At the end of the course there is a final quiz. A passing grade opens a window that allows students to print out a course completion certificate.

Most courses are $89, and UNT faculty, staff and students may receive a $10 discount. Visit the online courses page at http://www.ed2go.com/unt/ or contact Tami Russell at 940.565.3353 for more information.

For additional information, visit the Ed2go blog here. You can subscribe to their newsletter also.

Information Security Awareness

Information Security Awareness -- The ITSS Information Security team offers Information Security Awareness training to all UNT faculty and staff.

- It is a policy requirement that ALL staff take an information security course at least once a year.
- See the Virus Information Page and the Information Security Handbook -- for Faculty, Staff and Students for further information.

Business Service Center Training & Development

Provides training to UNT System institutions: http://bsc.untsystem.edu/training-development. There is also a link to download Office 2010 training (in PowerPoint 2010 format) on the BSC website. The March 2014 BSC Solution Source Newsletter has instructions for registering for their online courses.

UNT HR Training and Development

As noted on their website:

Monthly emails are sent to all employees with a list of current classes, many available by webcast. (Note: Few, if any classes are offered during the winter break, spring break holiday periods for all UNT System campuses.)

Learn more about classes here: https://untranet.unt.edu/untsystem/UNT%20System%20HR/talent_management/SitePages/Home.aspx

If you have questions or specific needs, contact talentmanagement@untsystem.edu or call 855-878-7650 to be directed to a Talent Management staff member.

Alternate Forms of Training

Many of the General Access Labs around campus have tutorials installed on their computers. See http://computerlabs.unt.edu/ for a list of labs and their locations. The 24 Center in Willis Library, for example, has a list of Tutorials and Software Support. The Library Instructional Unit also offers workshops and training, including "tech skills" training. Visit their websites for more information: http://www.library.unt.edu/library-instruction.

Info~Tech, UNT's IT Research Partner

Info~Tech is UNT's IT research partner. UNT System, UNT, UNT Health Science Center and UNT Dallas employees have access to Info~Tech research at: www.infotech.unt.edu (click on the UNT System name to login). Your standard EUID and Password gains you access to the Info~Tech system. Please take a moment to read their terms and conditions by clicking through the agreement when you set up your profile the first time you log in.

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.

New Horizons Computer Learning Centers

New Horizons is a DIR vendor, which means that state agencies, like UNT, get special pricing for their services negotiated at the State level (click here for more information about DIR vendors). New Horizons offers courses at their own facilities in Dallas and Fort Worth, but will arrange for onsite training as well. They have a “Tips and Tricks” page that has helpful information. You can also join their mailing list to receive their monthly newsletter, event invitations and specials.

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Staff Activities

Staff activities for UIT are reported in this column. ITSS staff activities are handled by ITSS Communications.

Changes, Awards, Recognition, Publications, etc.

The following UIT employees were recognized at the The UNT Service Awards Ceremony in the Gateway Ballroom on May 1, 2014.

<table>
<thead>
<tr>
<th>Years</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 Years</td>
<td>Bacon, Troy E</td>
</tr>
<tr>
<td>5 years</td>
<td>Fenton, Matthew Martin</td>
</tr>
<tr>
<td>15 Years</td>
<td>Hinkle-Turner, Anna E</td>
</tr>
<tr>
<td>25 Years</td>
<td>John, Abraham K</td>
</tr>
<tr>
<td>5 years</td>
<td>Johnson, Christopher Sherman</td>
</tr>
<tr>
<td>10 Years</td>
<td>McMullen, Jason D</td>
</tr>
<tr>
<td>15 Years</td>
<td>Nesloney, Linda Sue</td>
</tr>
<tr>
<td>15 Years</td>
<td>Parr, Marsha Ann</td>
</tr>
<tr>
<td>10 Years</td>
<td>Sanzone, Richard A</td>
</tr>
<tr>
<td>5 years</td>
<td>Olsberg, Ashley</td>
</tr>
</tbody>
</table>

As John Hooper pointed out, "that's 120 years or service!"

Below, Philip Baczewski, Senior Director of Academic Computing and User Services and Deputy Chief Information Officer for University Information Technology and John Hooper, Chief Information Officer, University Information Technology flank Abraham John, Senior Director of Administrative IT Services, as he celebrates 25 years of service at UNT.
EDUCAUSE Opportunities

By Claudia Lynch, Benchmarks Online Editor

Registration is open for the EDUCAUSE 2014 Annual Conference, coming up in September. There is also a virtual Annual Conference, and EDUCAUSE Live! webinars remain free and available for viewing at a time of your choosing.

**EDUCAUSE Live! Webinars**

EDUCAUSE Live! is a series of free, hour-long interactive webinars on critical information technology topics in higher education. You can register for upcoming webinars and you can find recordings of all past webinars in the EDUCAUSE Live! archives.

September 29–October 2, 2014  |  Orlando, Florida and Online

**Key Upcoming Dates**

- Registration Opens: **May 2014**
- Proposal Selection: **June 2014**
- Program/Agenda Online: **July 2014**

Click on the link for more information: http://www.educause.edu/annual-conference

**Virtual Conference**

- Start Date: **Tuesday, September 30**
- Start Time: **7:30 a.m. (UTC-4)**
- Conference End Date: **Thursday, October 2**
- End Time: **11:30 a.m. (UTC-4)**
- Preconference Seminars: **Monday, September 29** (for additional fees)

Click on the link for more information: http://www.educause.edu/annual-conference/virtual-conference

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Today's Cartoon

From "Today's Cartoon by Randy Glasbergen", posted with special permission.
For many more cartoons, please visit www.glasbergen.com.

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“Right now we’re only hiring twins. One for the office and a back-up copy for the cloud.”