10 SAS Skills for Grad Student Survival: A Grad Student ‘How To’ Poster
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Overview
Throughout the many, many, years that I was in graduate school, I spent a lot of time learning SAS on my own. This paper is a culmination of the SAS challenges I overcame and the SAS skills that I learned outside of the classroom. These 10 SAS skills helped me to survive graduate school and successfully write a complex simulation analysis in SAS for my dissertation. This simulation was one of the most challenging SAS programs that I ever wrote. This poster and paper is the sixth in the ‘Grad Student How-To’ series and provides graduate students with a list of 5 essential SAS skills plus references to find more detailed information on each of the topics.

1. Finding SAS Information
Find it Fast!
The main SAS skill that helped me to survive my dissertation was being able to find the SAS information I needed. Every project has a unique set of challenges that requires different SAS skills. To help you, I have included a list of top reference books, SAS papers, documentation, samples, conference proceedings and more that can be found at support.sas.com.

2. Organization and Documentation
Don’t learn the hard way!
Organization and documentation practices are key programming skills for graduate students. I learned this the hard way by losing code, misplacing datasets, and not being able to remember what my code did.

- Use a header for documentation
- Use a table of contents
- Use comments
- Use Enterprise Guide®

Learn More:
- Priest EL, Mullins B. Keep it Organized- SAS tips for a research project. South Central SAS Users Group 2012 Educational Forum.

3. Enterprise Guide® software
Learn the easy way!
Enterprise Guide® is a point and click SAS interface. It is becoming more widely used for students through the SAS OnDemand for Academics Program where professors can set up a SAS server for their class “in the cloud”. Students, if you don’t have access to Enterprise Guide, you can ask them to set it up. It’s free!

- Point and Click
- Use Enterprise Guide modules
- Look at your comments
- Look for the remainder of the top 10 in the paper!

4. Program Data Vector
How SAS® Thinks...
The SAS language reference defines the program data vector as “a logical area in memory where SAS builds a data set, one observation at a time.” It is key for:

- Automatic variables: _N_ and _ERROR_
- Data and Set statements
- Variable Renaming, keeping and dropping
- Merges
- Transposes
- Macros

Learn More:

5. Sleuthing
Find it…Fix it!
Sleuthing is the ability to figure out why code is not working… and it takes a combination of knowledge, attention to detail, and patience. Sometimes when your brain is tired and sleep and caffeine levels are low, even the simplest problem can take hours to fix. I’ve been asked repeatedly why I can spot many SAS errors easily… its because I have had a lot of practice!

- Use your SAS log – errors and warnings
- Use Enterprise Guide modules
- Look at your comments

Learn More:

Rest of the top 10!

- These 5 SAS skills form a foundation for understanding and programming SAS efficiently.
- Look for the remainder of the top 10 in the paper!