

Get Your SAS to Work

Laura Wichman

Brandon Moore, PhD

McLennan Community College

Session Description

- Do you ever have a difficult time getting your SAS to work? If so, come see how we are using SAS to help our office be more efficient and effective! We will discuss and give examples of using Base SAS and Enterprise Guide for standard daily reports, ad hoc reports, state/federal reporting, and making work easier for you. If you have PC Base SAS, then you have access to the versatility in Enterprise Guide. Come by to see how to get your SAS to work!

Disclaimer...

- This is not a sales pitch for SAS or for Zogotech's Estudios data warehouse

Background

- Spring 2015 we purchased SAS
 - SPSS campus since at least the 1990s
 - Zogotech warehouse > Access based with SQL back end
 - Began recoding SPSS syntax and Access queries to SAS
- Brandon - SAS experience from Graduate school
- Laura - no SAS experience, but did have experience in SQL and some SPSS

Previously a SPSS Campus...

- CBM reporting
- IPEDS
- LBB Performance Report
- LBB Licensure Report
- Perkins Reporting
- Student Right to Know
- SACSCOC Profiles/Surveys
- TCCA Surveys--i.e. enrollment/census
- Grade Distribution Reports
- Course Evaluations
- Developmental Surveys
- Campus Report
- Ad Hoc reporting
- Student tracking
- Achieving the Dream (Access)
- Everything...

Data Sources

- Estudios
 - Data warehouse that has been in place since 2008
 - Access front end, SQL back end
- CBM
 - State reports going back to the dawn of time
- Ellucian/Colleague/Datatel//////////
 - Anything we can download 😊

Enterprise Guide

The screenshot shows the SAS Enterprise Guide interface. The 'Project Tree' on the left displays a project named 'ATD_DATA' with a 'Process Flow' folder containing 'RECORD_GENERAL_FA13', 'One-Way Frequencies (3)', and 'Programs'. The 'Programs' folder includes 'Import', 'buildCohort', 'GeneralRecord', 'TermRecord', and 'Program'. The 'Process Flow' window shows a sequence of tasks: 'buildCohort' (a red runner icon) is connected to 'REPLACEMENT013', 'COHORT01_FA13', 'COHORT02_S P14', 'COHORT02_FA13', 'COHORT02_U NDUP_FA13', and 'COHORT_FA13'. The 'Servers' window at the bottom left shows 'Refresh', 'Disconnect', and 'Stop' buttons, along with a tree of servers including 'SASApp', 'OLAP Servers', and 'Private OLAP Servers'.

The 'Query Builder for SASApp:CBM.CBM001_FA13' window is open. The 'Query name' is 'Query Builder' and the 'Output name' is 'WORK.QUERY_FOR_CBM001_FA13'. The 'Computed Columns' tab is active, showing a list of columns with checkboxes. The 'Select Data' tab is also active, showing a table of selected columns.

Column Name	Source Column
colleagueId	t1.colleagueId
SEX (GENDER)	t1.SEX
FTPT (Full/Part-Time Students)	t1.FTPT
AGECAT (AGECAT)	t1.AGECAT

At the bottom, there are buttons for 'Run', 'Save and Close', 'Cancel', and 'Help'.

The 'Query Builder' window shows the generated SQL code in the 'Code' tab. The code is as follows:

```
eg_conditional_drops(WORK.QUERY_FOR_CBM001_FA13)

PROC SQL;
  CREATE TABLE WORK.QUERY_FOR_CBM001_FA13 AS
  SELECT t1.colleagueId,
         t1.SEX,
         t1.FTPT,
         t1.AGECAT
  FROM CBM.CBM001_FA13 t1;
QUIT;
```

Daily Reports - Enrollment

- Enrollment reports went from a 5-step code process to a 2-step process.

```
*****/
options ls=96 ps=71; /* For Courier New 10pt */
options mlogic mprint symbolgen;
options maautosource sasautos=('n:\Programs\macrolib\'', sasautos);

%let TERM = 2016SP; /* term you are running report for */
%let PTERM = 2015FA; /* previous term that has flex courses to be flexed to &TERM */
%let MTERM = 2015WM; /* minimester term that is being record in &TERM */

%let PATH = N:\Projects\Enrollm

/* REGULAR STUDENTS */

PROC SQL;
  CREATE TABLE WORK.regStudent
  SELECT t2.colleagueId,
         t1.term,
         t1.startDate,
         t1.censusDate,
         t2.enrolled,
         t1.isFlexClass
```

Count of Regular Students - 2016SP	# 7642
Page Break	
Count of Minimester Students - 2015WM	# 521
Page Break	
Count of Flex & Minimester Students - 2016SP	# 33
Page Break	
Count of Flex Students to Report Next Term - 2016SP	# 1126
Page Break	
Count of Regular Students Flex Students to Report Next Term - 2016SP	# 870
Page Break	

Daily Reports - Section Utilization

```

13 2015-11-03: created. LEW
14 2016-02-18: Changed date format of file name an
15
16 INPUT: ESTUDIAS.TBL_CLASSECTIONS
17
18 OUTPUT: PDF SECTION REPORTS
19
20 UPDATES:
21
22 SPECIAL INSTRUCTIONS: CHANGE TERMS OF PRCO SQL
23
24 *****
25 options ls=96 ps=71; /* For Courier New 10pt */
26 options mlogic mprint symbolgen;
27 options maautosource sasautos=('n:\Programs\macr
28
29 libname library 'n:\ir_data\formats\';
30
31
32
33 %let date = %SYSFUNC(PUTN(%syssevalf(%SYSFUNC(T
34
35 /*SPRING SECTIONS */
36
37 PROC SQL;
38 CREATE TABLE WORK.CLASSECTIONS_01 AS
39 SELECT t1.term,
40 t1.sectionType,
41 t1.subject,
42 t1.courseNumber,
43 (SUM(t1.classSectionCapacity)) FORMAT
44 (COUNT(t1.sectionNumber)) AS totalClassSections,
45 (SUM(t1.censusCount)) FORMAT=6. AS totalClassSize,
46 ((SUM(t1.censusCount))/(COUNT(t1.sectionNumber))) AS avgClassSize
47 FROM ESTUDIAS.tbl_ClassSections t1
48 WHERE t1.term IN('2016SP','2015SP','2014SP') AND t1.cancelled = 'no'
49 GROUP BY t1.term,
50 t1.sectionType,
51 t1.subject,

```

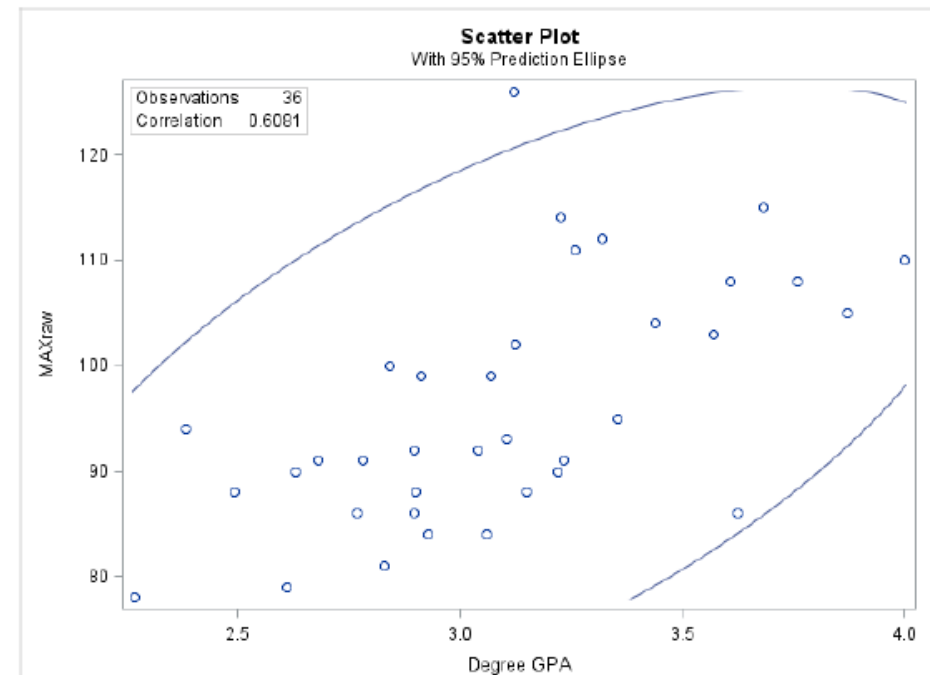
Non-Internet Sections Only

		2014SP					2015SP				
		Utilization Rate	Total Capacity	Total Class Sections	Total Class Size	Average Class Size	Utilization Rate	Total Capacity	Total Class Sections	Total Class Size	Average Class Size
ACCT	2301	0	0	0	0	0	0	0	0	0	0
	2302	0	0	0	0	0	0	0	0	0	0
	2401	87.86	140.00	5.00	123.00	24.00	71.43	140.00	5.00	100.00	20.00
	2402	66.67	84.00	3.00	56.00	18.00	83.33	84.00	3.00	70.00	23.00
ACNT	1303	71.94	253.00	9.00	182.00	20.00	67.70	226.00	8.00	153.00	19.00
	1313	64.29	28.00	1.00	18.00	18.00	0	0	0	0	0
	1329	57.14	28.00	1.00	16.00	16.00	71.43	28.00	1.00	20.00	20.00
	1331	41.67	24.00	1.00	10.00	10.00	50.00	28.00	1.00	14.00	14.00
	2388	0	0	0	0	0	0	0	0	0	0
AERO	2488	0	0	0	0	0	0	0	0	0	0
	1102	6.67	30.00	2.00	2.00	1.00	20.00	5.00	1.00	1.00	1.00
	1112	40.00	5.00	1.00	2.00	2.00	20.00	5.00	1.00	1.00	1.00
	2102	0	0	0	0	0	20.00	5.00	1.00	1.00	1.00
AGRI	2112	0	0	0	0	0	20.00	5.00	1.00	1.00	1.00
	1131	0	0	0	0	0	25.00	32.00	1.00	8.00	8.00
	1311	0	0	0	0	0	12.50	32.00	1.00	4.00	4.00

Ad Hoc Requests/Campus Reports

- Students lists
 - These are typically delivered in Excel or pdf tables
 - Majors at the University Center
 - Student Organizations
- Tracking
 - Developmental education
 - BIOL request
- Correlational Analysis for Workforce Programs

Table 7. Correlation of Degree GPA & Highest Raw Test Score - Test Dates - 08/01/2013 - 12/31/2014



Students' degree GPA and the raw score on of their highest scoring attempt on the National Board of Respiratory Care exam did show a correlation, $r(36)=0.61$, $p=<0.0001$.

Campus Reports

- Grade Distribution
 - Went from weeks of compiling
 - Weeks of formatting
 - Weeks of saving & distributing
 - To less than 1 hour from compiling to distribution
- Dual Credit Analysis
 - Beginning of semester report
 - Grade distribution
 - Financial analysis

Grade Distribution - Grade Categories (Fall 2015)
Division Summary

	Grade Category						Total	
	A, B, C, or CRs		D, F, or NCs		W			
	#	%	#	%	#	%	#	%
Allied Health & Nursing	2,193	92.1	97	4.0	90	3.7	2,380	100.0
Business Programs	2,173	69.3	398	12.6	564	17.9	3,135	100.0
Emergency Services Education	646	80.5	52	6.4	104	12.9	802	100.0
Human Services & Education	1,280	76.4	205	12.2	190	11.3	1,675	100.0
Language, Literature & Communications	2,769	66.4	710	17.0	686	16.4	4,165	100.0
Math, Sciences & Agriculture	4,252	60.6	1,880	26.8	875	12.4	7,007	100.0
Physical Education	582	90.2	18	2.7	45	6.9	645	100.0
Social & Behavioral Science	5,043	77.2	792	12.1	695	10.6	6,530	100.0
Visual & Performing Arts	1,543	77.5	261	13.1	185	9.3	1,989	100.0
Total	20,481	72.2	4,413	15.5	3,434	12.1	28,328	100.0

2014FA - Dual Credit Cost Analysis by Location

Location	Undup Headcount	Average Class Size	Number Waived	State Funding	Tuition & Fees	Lab & Special Fees	Dual Credit Fee	Less Waivers	Revenue	Faculty Salary	Faculty Travel	Expenditures	Net Revenue	Net Excluding State Funding
██████████	32	15	9	\$3,418.06	\$21,315.00	\$0.00	\$915.00	\$5,480.00	\$19,168.06	\$12,784.53	\$2,209.50	\$14,994.03	\$4,174.03	\$755.97
██████████	99	16	12	\$7,846.27	\$48,960.00	\$66.00	\$2,029.50	\$5,884.00	\$52,017.77	\$26,096.47	\$1,836.98	\$27,933.45	\$24,084.32	\$16,238.05

Macros

```
%let AY = 2015-16; /* ACADEMIC YEAR OF COLLECTION */
%let YEAR = 2016; /* YEAR OF WINTER COLLECTION */
%let TERM = FA12; /* TERM OF ENROLLMENT FILE */
%let TERM1 = FA13; /* CBM009 TERM 1 */
%let TERM2 = FA14; /* CBM009 TERM 2 */
%let TERM3 = FA15; /* CBM009 TERM 3 */
```

```
/* IMPORT SAV ENROLLMENT FILE FROM SPRING COLLECTION OF REPORTING YEAR */
/* REPORTING FALL 2012 COHORT FOR WINTER 2016 COLLECTION */
```

PROC IMPORT

```
DATAFILE = "\\MCC-DATA\IEDATA\Reporting\Federal\IPEDS\&AY.\WINTER_&YEAR.\Graduation\DATA\&TERM.ENR3.sav"
OUT = WORK.ENR
REPLACE;
```

```
RUN;
```

PROC SQL;

```
CREATE TABLE WORK.regStudents_&TERM. AS
SELECT t2.colleagueId,
       t1.term,
       t1.startDate,
       t1.censusDate,
       t2.enrolled,
       t1.isFlexClass
FROM ESTUDIAS.tbl_ClassSections t1, ESTUDIAS.tbl_StudentClasses t2
WHERE (t1.classSection = t2.classSection AND t1.sectionName = t2.sectionName AND t1.term = t2.term) AND
      (t2.enrolled = 1 AND t1.isFlexClass = 0 AND t1.term = "&TERM");
```

```
QUIT;
```

Things yet to come...

- Continue recoding from SPSS to SAS
- Create global template
- Upload files directly to SharePoint
- Download files from SFTP
- Connect to Ellucian dictionaries

Questions/Comments/Dirty Looks/Glazed Eyes?

