

Using Proc Report to Produce Easy to Understand Student Performance and Progress Analyses for Educators

Proc Report for Student Performance Analysis

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ABSTRACT

The Florida Department of Education evaluates schools and school districts in 11 specific categories including student performance on statewide standardized tests. Decisions on financial rewards or additional reporting requirements and third-party monitoring visits are made based on the results. One Florida school district with over 40,000 students uses Enterprise Guide® software to produce detailed reports of key elements to identify students who may need additional support to make progress and demonstrate proficiency on the annual assessment. A series of *if-then* conversions are used before compute statements are applied in a Proc Report to produce an ODS Excel file with color-coded data for ease of interpretation. Basic and early intermediate level SAS® users should find something new and applicable to education and other fields.

INTRODUCTION

School Administrators have huge responsibilities and portfolios which include student safety, facilities management, personnel issues, multiple state and local regulation satisfaction, community involvement, parent communication, as well as coordinating student transportation and nutrition programs. These are all in addition to their primary responsibility of insuring a proper education for the students under their care. Producing easy to understand reports that take and make sense of a variety of student score reports and provide some indication of future results can be of tremendous value to them. The processes below apply input, output, and if-then statements; an occasional do loop; sorting, ranking, filtering and other processing steps; and finally Proc Report and ODS statements to build a color coded excel file for each school site.

THE PROBLEM

State accountability systems for K-12 schools measure multiple subjects across several grades from Third Grade to Graduation. The Florida Department of Education evaluates schools and school districts in 11 specific categories including student performance on statewide standardized tests in English Language Arts, Mathematics, Science, and Social Studies, and student growth in English Language Arts and Mathematics for the total tested population and for the students who placed in the lowest 25th percentile on the previous year's assessment.

Since six of the eleven items involve the two basic subjects, English Language Arts (ELA) and Mathematics, schools are proactively monitoring student performance and growth with periodic assessments. They need to frequently analyze the results for individual students, grade levels, schools, teachers, and other groupings.

One Florida school district with over 40,000 students uses Enterprise Guide® software to produce detailed reports of key elements to identify students who may need additional support to make progress and demonstrate proficiency on the annual assessment. Both ELA and Mathematics reports are compiled. An inherent complication is the different scale scores the State applies to each subject and grade combination, and the division of these scores into eight separate bucket groupings as illustrated in Table 1 below. Further, the method used to determine whether a student has demonstrated growth since the previous assessment changes in the top three of the eight groupings.

In addition, projections from local assessments differ for students who are enrolled in the higher-level subjects before or after entering High School. The Mathematics report is complicated by the fact that Grades 3 to 8 Mathematics, Algebra 1 and Geometry are all included, and they use a different scale to score the related assessments. This report discusses only the ELA report.

Five demographic items and 11 raw scores are the inputs for ELA and produce a report with 10 converted elements, 6 calculated items and 6 of the original raw scores and the five demographics. Color coding of 12 of the items allows for quick visual interpretation and analysis of individual and grouped student data and progress over the series of state and local assessments. A synopsis of the data conversion and compute statements are explored in the following sections.

Reports of this type have helped elevate one Florida School District by 96 points on an 1100-point scale over three years, from 573 to 669. Vastly more important than the score itself is the increase in the student growth and performance items each of the points represents.

Table 1. Bucket Minimums by Grade Level for ELA and Math

<i>ELA</i>	1.1	1.2	1.3	2.1	2.2	3	4	5
Grade 3	240	255	270	285	293	300	315	330
Grade 4	251	267	282	297	304	311	325	340
Grade 5	257	273	289	304	313	321	336	352
Grade 6	259	276	293	309	318	326	339	356
Grade 7	267	284	301	318	326	333	346	360
Grade 8	274	290	306	322	330	337	352	366
Grade 9	276	294	311	328	336	343	355	370
Grade 10	284	301	318	334	342	350	362	378

<i>Math</i>	1.1	1.2	1.3	2.1	2.2	3.0	4.0	5.0
Grade 3	240	255	270	285	291	297	311	327
Grade 4	251	267	283	299	305	310	325	340
Grade 5	256	273	290	306	313	320	334	350
Grade 6	260	277	294	310	318	325	339	356
Grade 7	269	285	301	316	323	330	346	360
Grade 8	273	290	306	322	330	337	353	365
Algebra 1	425	446	467	487	492	497	518	532
Geometry	425	446	466	486	493	499	521	533

DATA MANAGEMENT IS THE SOLUTION

Choosing and converting selected data elements that allow for the greatest degree of confidence in reports to school and district administrators is a key step in data management. Educational software and assessment providers have over a million datapoints to use to produce regression equations to establish a range of predictions with a high degree of reliability. Those predictions can then be applied to develop school and district reports based on their individual student populations. Analysis of other assessments, including teacher or subject specialist created assessment, against a standard such as a related statewide test can provide another set of comparative values.

DATA COLLECTION

The input demographic data includes student name, grade, school, an identification number, and an indication of whether the student's results will be attributable to the school or district based on their enrollment dates. The score inputs begin with two years of state test scores, two years of the critical writing component of those scores, and five sequential reading diagnostic assessment scores, and end with two years of averaged scores on the local assessments aligned to the district curricula. Figures 1 and 2 below show the truncated input file with over 30,000 records and then the results of the *varnum* file input statement to list the variables in order of creation.

Student	Grade	School	FLEID	Accountability	ELA2018	ELA2019	Writing2018	Writing2019	diagOSSeF19	diagOSSeW19	diagOSSeS19	DiagOSSeF	DiagOSSeW	PredProf20	PredProf19
Student1	4	School36	210438326	Y	302				530	537	556	538	541	77	74
Student2	7	School36	210660982	Y	317	321	60	80	581	598	587	562	619	66	81
Student3	4	School36	211703002	Y	298				454	495	500	482	527	61	50
Student4	8	School36	211720887	Y	325	337		60	592	569	538	579	609	40	59
Student5	7	School36	211897252	Y	332	332		80	577	612	543	514	582	68	65
Student6	5	School36	212235163	Y	288	277		40	417	475	486	456	502	44	41
Student7	6	School36	212246503	Y		333		80			608	594	614	73	83
		Truncated													
Student30561	3	School35	268526440	N									430	29	
Student30562	4	School35	268526531	N									531	84	
Student30563	3	School35	269715796	N											
Student30564	5	School35	269791788	N											

Figure 1. Truncated Input File

Variables in Creation Order					
# Variable	Type	Len	Format	Informat	Label
1 Student	Char	35	\$35.	\$35.	Student
2 grade	Num	8	15.		grade
3 School	Char	43	\$43.	\$43.	School
4 FLEID	Char	14	\$14.	\$14.	FLEID
5 Accountability	Char	1	\$1.	\$1.	Accountability
6 ELA2018	Num	8	15.		ELA2018
7 ELA2019	Num	8	15.		ELA2019
8 Writing2018	Num	8	15.		Writing2018
9 Writing2019	Num	8	15.		Writing2019
10 diagOSSeF19	Num	8	15.		diagOSSeF19
11 diagOSSeW19	Num	8	15.		diagOSSeW19
12 diagOSSeS19	Num	8	15.		diagOSSeS19
13 DiagOSSeF	Num	8	15.		DiagOSSeF
14 DiagOSSeW	Num	8	15.		DiagOSSeW
15 PredProf20	Num	8	15.		PredProf20
16 PredProf19	Num	8	15.		PredProf19

Figure 2. Input Variables in Creation Order

The *grade* is the only demographic variable in a number format along with all the score inputs. Variables '*ELAXXX*' and '*WritingXXX*' are the past two years of the state end of year ELA assessment and the writing component of that test, which has an inordinate influence on the students' placement. The five variables beginning with '*diagOSSe*' are periodic diagnostic evaluations of the students' reading levels. The final variables, '*PredProfXX*,' reflect the mean of all the locally developed assessments for the school year indicated.

DATA CONVERSIONS

While the first four score inputs (#6 to 9) are displayed in the final report as they are entered, every other element is processed in either a data step or a compute statement in Proc Report, or both.

The five diagnostic scores all use identical scales applied to *if-then* processes to convert them to one of the 8 buckets displayed above. A similar process is applied to reformat the local assessment averages to the buckets. All the conversion input codes are adjusted to reflect the scale applied to the student's grade in the year that the score was earned. As an example, a current 6th grade student has the 4th grade scale applied to their 2018 score, the 5th grade score to 2019, and their current grade to the 2020 predictions.

The abbreviated code to convert the diagnostics to the buckets shown in Table 1 above is below. The diagOSSeF19 is the score from the Fall 2019 assessment and the IRBeF19 is the conversion to one of the eight buckets.

```
data IRB1920;
set ELAIRFSA1920;
  IRBeF19 = .;
  if diagOSSeF19 eq . then IRBeF19 = .;
  else if (grade eq 3 and diagOSSeF19 ge 598) then IRBeF19 = 5;
  else if (grade eq 3 and diagOSSeF19 ge 564) then IRBeF19 = 4;
  *Continues by grade and score input with bucket output*
  else if (grade eq 9 and diagOSSeF19 ge 484 ) then IRBeF19 = 1.2;
  else if (grade eq 9 and diagOSSeF19 le 483 and diagOSSeF19 ne . ) then
    IRBeF19 = 1.1;
  else if diagOSSeF19 eq . then IRBeF19 = . ;
  else IRBeF19 = .;
```

The most recent diagnostic, DiagOSSeW, undergoes one additional conversion using decile scale to predict the probability of success on the next state assessment. The conversion scale factors are from an analysis by the provider of the diagnostic software. A sample of that conversion code is exhibited here, where IRBwePR is the probability of success:

```
IRBwePr = .;
  if DiagOSSeW eq . then IRBwePr = .;
  if (grade eq 3 and DiagOSSeW ge 550) then IRBwePr = 90 ;
  else if (grade eq 3 and DiagOSSeW ge 537) then IRBwePr = 80 ;
  else if (grade eq 3 and DiagOSSeW ge 528) then IRBwePr = 70 ;
  *Continues by grade and score input with decile output*
  else if (grade eq 8 and DiagOSSeW ge 554) then IRBwePr = 10 ;
  else if (grade eq 8 and DiagOSSeW lt 554 and DiagOSSeW ne .) then
    IRBwePr = 0 ;
  else if DiagOSSeW eq . then IRBwePr = . ;
  else IRBwePr = .;
run;
```

Converting the two prior years test scores into the eight buckets involves a similar process and code as the diagnostic conversions with a different scale applied. Input variables *ELA2018* and *ELA2019* are the two years of scores used to produce the output variables *EAL19* and *EAL18* which are the eight buckets for those years. The conversion points are adjusted to match the students' grade levels in 2018 and 2019.

Those two years of test scores are then used to identify a minimum target score to demonstrate growth. The wrinkle here is that while students earn growth points by moving up a bucket, students in the highest three buckets can also show growth by remaining in the same bucket in the next grade *and* advancing one point in their score. This requires adding an additional discriminant in several lines to calculate the prior year score plus one

as the minimum for the if-then statement. As shown below, the target score can either be a specific number or calculated value.

```

ELGtarget19 = . ;
  if grade = 3 and ELA2018 ge 330 then ELGtarget19 = 330 ;
  else if grade = 3 and ELA2018 ge 315 then ELGtarget19 = ELA2018 + 1 ;
  else if grade = 3 and ELA2018 ge 300 then ELGtarget19 = ELA2018 + 1 ;
  else if grade = 3 and ELA2018 ge 293 then ELGtarget19 = 300 ;
      *Continues by grade and score input with target score output*
  else if grade = 10 and ELA2018 gt 0 and ELA2018 lt 294 then ELGtarget19
    = 301 ;
  else ELGtarget19 = . ;

```

According to the State's guide to calculating school grades, a Learning Gain is achieved if the attained score meets or exceeds the target score, and Proficiency is measured by placing in bucket 3 or higher. A Proficiency Drop indicates the student was proficient in 2018 and had an unsatisfactory score last year. These are some of the simplest code segments, producing different results if the scores rose, dropped or were missing:

```

LG19 = ' ' ;
  if ela2018 eq . or ela2019 eq . then LG19 = ' ' ;
  else if ELGtarget19 gt ela2019 then LG19 = 'N' ;
  else if ela2019 ge ELGtarget19 then LG19 = 'Y' ;
  else LG19 = . ;
L345 = " " ;
  If EAL19 ge 3 then L345 = "Y" ;
  else if EAL19 eq . then L345 = " " ;
  else if EAL19 le 2.2 then L345 = "N" ;

ProfDrop = " " ;
  if (EAL18 ge 3 and EAL19 lt 3) then ProfDrop = 'Y' ;
  else ProfDrop = " " ;

```

Additionally, the lowest twenty-five percent of students from each school and tested grade are identified for their Learning Gain separately as one of the eleven school grade calculation cells. Finding this bottom quartile of students requires combining retained grade 3 and current grade 4 students into one group since their placement is based on their scores on the same test. A new variable, *testgr*, is created to combine those two grades. This new variable is combined with the *school* variable and a second variable *schgrade* is created. This process concludes with filtering for the accountability variable so only students who will be counted in the school grade calculation are included in the lowest quartile. For brevity some data steps are removed from the display of the variable creation and ranking code below. These steps conclude with the creation of the output variable *BQELA*, which displays a 'Y' if the student is ranked in the lowest 25th percentile and is also on the accountability list.

```

  testgr = . ;
  if grade le 4 then testgr = 3 ;
  else testgr = grade - 1 ;
  schgrade = school||testgr ;
run ;

proc sort data=erank ;
  by schgrade ;
run ;

proc rank data=erank out=rankgrade ties=low descending ;

```

```

    by schgrade;
    var ELA2019;
    ranks ELARank ;
run;

proc rank data=rankgrade percent out=graderank ties=low descending;
    by schgrade;
    var ELARank ;
    ranks RankELA ;
run;

BQELA = ' ';
    if (accountability eq 'Y' and ELA2019 ne . and rankela le 25 and
        rankela ne . ) then BQELA = 'Y';
    else BQELA = ' ';
run;

```

An equi-percentile comparison of the 2019 year-end Predicted Proficiency from the local assessments and the achieved bucket for matched students produced a series of cut scores for each subject and grade level. Based on those results the 'PredProf20' variable was converted into one of the eight buckets to enable an easy comparison. A truncated section of the if-then statement code is displayed:

```

PredProf20bkt = . ;
    if PredProf20 = . then PredProf20bkt = . ;
    else if ( grade = 3 and PredProf20 ge 86 ) then PredProf20bkt = 5 ;
    else if ( grade = 3 and PredProf20 ge 75 ) then PredProf20bkt = 4 ;
        *Continues by grade and score input with PredProf20bkt output*
    else if ( grade = 10 and PredProf20 ge 34 ) then PredProf20bkt = 1.2 ;
    else if ( grade = 10 and PredProf20 lt 34 ) then PredProf20bkt = 1.1 ;
    else PredProf20bkt = . ;

```

Three of the data files are then merged, and a keep statement applied to reduce the output while maintaining most of the original and all of the created variables in preparation for the Proc Report step.

PROC REPORT

A macro is created to make it easy to change components of the Proc Report for each subject and to allow for quick adjustments to summary files by school, grade and district. The macro sets the parameters of the *Proc Report* so it can be invoked for all students or for each school separately.

The listing of columns in the order they are to be displayed appears first, then the *Define* statements which alter the column header label and the column width as appropriate. A snippet of these code segments are below:

```

***Creating the Macro***
%MACRO IRFSAbkt2020 ;

column student School Grade FLEID Accountability ELA2018 ELA2019
Writing2018 Writing2019 EAL18 IRBeF19 IRBeW19 IRBeS19 PredProf19 EAL19
IRBeF IRBwe DiagOSSeW IRBwePr PredProf20 PredProf20bkt LG19 ProfDrop L345
ELAbq ELGtarget20 ELAptsNeeded ;

Define student / display "Student" ;
Define School / display "School" ;

```

```

Define Grade / display "grade" style(column)={width=10};
Define FLEID / display "FLEID" style(column)={width=105};
Define Accountability / display "Accountability" style(column)={width=30 };
Define ELA2018 / display "FSA ELA Spring 17-18" style(column)={width=30} ;
Define ELA2019 / display "FSA ELA Spring 18-19" style(column)={width=30} ;
    *Continues with defined output for each column*
Define LG19 / display "Gain Last Year" style(column)={width=30} ;
Define ProfDrop / display "Proficiency Drop" style(column)={width=30};
Define L345 / display "Proficient in 2019" style(column)={width=30} ;
Define ELAbq / display "Low 25% ELA 2019-20" style(column)={width=30};
Define ELGtarget20 / display "Gain Target 2020" style(column)={width=30};
Define ELAptsNeeded / display "Point Growth Needed 2020"
    style(column)={width=30};

```

To simplify interpretation, color-coding the key variables allows for a quick visual reading of the trends for individual and groups of students. The colors are added by applying a series of compute statement in the *Proc Report*. The same eight color scheme is applied to the two 'EALXX', the five 'IRB..', and the 'PredProf20bkt' variables, and a shorter three color scheme to the 'PredProfXX's:

```

Compute EAL19;;
if EAL19 = 1.1 then call define(_col_,"style","style=
    {background=red}"); ;
    else if EAL19 = 1.2 then call define(_col_,"style","style=
    {background=coral}"); ;
    else if EAL19 = 1.3 then call define(_col_,"style","style=
    {background=pink}"); ;
    else if EAL19 = 2.1 then call define(_col_,"style","style=
    {background=orange}"); ;
    else if EAL19 = 2.2 then call define(_col_,"style","style=
    {background=yellow}"); ;
    else if EAL19 = 3 then call define(_col_,"style","style=
    {background=green}"); ;
    else if EAL19 = 4 then call define(_col_,"style","style=
    {background=blue}"); ;
    else if EAL19 = 5 then call define(_col_,"style","style=
    {background=violet}"); ;
endcomp;

```

```

Compute PredProf19;;
if PredProf19 = . then call define(_col_,"style","style=
    {background=white}"); ;
    else if PredProf19 >= 80 then call define(_col_,"style","style=
    {background=green}"); ;
    else if PredProf19 >= 60 then call define(_col_,"style","style=
    {background=yellow}"); ;
    else if PredProf19 >=0 then call define(_col_,"style","style=
    {background=red}"); ;
endcomp;

```

One of the predictive variables is in a decile form, requiring ten different colors to delineate the separate values, and the use of a white background for any empty cells. Ten hues of gradually deepening intensity were selected from the Predefined Color webpage in the SAS Help Center and a Compute code segment added:

```

Compute IRBwePr;;
  if IRBwePr = . then call define (_col_,"style","style={background=
    white}");
else if IRBwePr= 90 then call define(_col_,"style","style={background=
  RoyalBlue}");
else if IRBwePr= 80 then call define(_col_,"style","style={background=
  DodgerBlue}");
else if IRBwePr= 70 then call define(_col_,"style","style={background=
  DeepSkyBlue}");
else if IRBwePr= 60 then call define(_col_,"style","style={background=
  LightSkyBlue}");
else if IRBwePr= 50 then call define(_col_,"style","style={background=
  SkyBlue}");
else if IRBwePr= 40 then call define(_col_,"style","style={background=
  LightBlue}");
else if IRBwePr= 30 then call define(_col_,"style","style={background=
  PowderBlue}");
else if IRBwePr= 20 then call define(_col_,"style","style={background=
  PaleTurquoise}");
else if IRBwePr= 10 then call define(_col_,"style","style={background=
  LightCyan}");
else if IRBwePr= 0 then call define(_col_,"style","style={background=
  Azure}");
endcomp;

```

Finally, since students who were in the top halves of the score buckets on the most recent state assessments would be more likely to reach their target score on the next test, these students were identified and their 'ELAptsNeeded' variable had a color marker applied. Only students who had not achieved bucket 3 or higher proficiency, were selected for this marker. Once again, their grade level was a discriminant, along with their prior year bucket, and the midpoint of that bucket for the tested grade level. This section applied *Do* statements to section off each of the current grade levels in the Compute code segment:

```

compute ELAptsNeeded ;;
if grade eq 3 then do; if ELAptsNeeded = . then call define
  (_COL_,'style','style=[background=white]');
else if ( EAL19 eq 1.1 and ELA2019 ge 247 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
else if ( EAL19 eq 1.2 and ELA2019 ge 262 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
else if ( EAL19 eq 1.3 and ELA2019 ge 277 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
else if ( EAL19 eq 2.1 and ELA2019 ge 288.5 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
else if ( EAL19 eq 2.2 and ELA2019 ge 296 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
end;
  *Continues by grade, bucket and target score midpoint input *
else if grade eq 10 then do; if ELAptsNeeded = . then call define
  (_COL_,'style','style=[background=white]');
else if ( EAL19 eq 1.1 and ELA2019 ge 284.5 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
else if ( EAL19 eq 1.2 and ELA2019 ge 302 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
else if ( EAL19 eq 1.3 and ELA2019 ge 319 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');
else if ( EAL19 eq 2.1 and ELA2019 ge 331.5 ) then call define
  (_COL_,'style','style=[background=Fuchsia]');

```

```

else if ( EAL19 eq 2.2 and ELA2019 ge 339 ) then call define
  (_COL_, 'style', 'style=[background=Fuchsia]');
end;
endcomp;
run;
****Ending the Macro****
%mend IRFSAbkt2020 ;

```

After the 'IRFSAbkt2020' macro is created, it is invoked in the *Proc Report* step in the ODS segment:

```

ODS EXCEL
file='C:\Users\pzs0116\OneDrive - St. Lucie Public Schools\ADAM\SESUG\SESUG
20\IR FSA ELA BLTs 4 SESUG2020 2.xlsx' STYLE=seaside OPTIONS ( Orientation
= 'landscape' FitToPage = 'yes' Pages_FitWidth = '1' Pages_FitHeight= '100'
row_heights="155px" Flow='Headers' FROZEN_HEADERS='yes' gridlines='yes' );

Proc Report data=elabq nowd style(header)={tagattr="rotate:90"};
%IRFSAbkt2020 ;
run;
quit;
ods excel close;

```

School, grade, or other specific reports can be produced with the inclusion of a where statement before the macro clause in the Proc Report.

RESULTS

As illustrated in Figure 3, even a cursory glance at the finished report shows areas of green and blue which represent proficiency, and reds, yellows and oranges which indicate various levels of concern. The arrows point to the prior year bucket rating and the predicted rating for the upcoming test. The first three and last two students in view are predicted to show a learning gain. Student 5 is expected to maintain proficiency, while student 4 is predicted to drop, and may need additional support.

Student	School	grade	FLEID	Accountability	FSA ELA Spring 17-18	FSA ELA Spring 18-19	Writing Score 2018	Writing Score 2019	FSA ELA Bucket 17-18	I-Ready Fall 18-19	I-Ready Winter 18-19	I-Ready Spring 18-19	Predicted UA Proficiency 18-19	ELA FSA Bucket 18-19	I-Ready Fall 19-20	I-Ready Winter 19-20	I-R Winter Score 19-20	I-R Probability for FSA Proficiency	Predicted UA Proficiency 19-20	Predicted UA Bucket 19-20	Gain Last Year	Proficiency Drop	Proficient in 2019	Low 25% ELA 2019-20	Gain Target 2020	Point Growth Needed 2020
Student1	School36	4	210438326	Y	.302	.	.	.	2.2	3	74	3	2.1	2.2	541	40	77	3	4	3	Y	Y	311	9		
Student2	School36	7	210660982	Y	317	321	60	80	2.2	2.2	3	2.2	81	2.2	1.3	3	619	80	66	3	N	N	333	12		
Student3	School36	4	211703002	Y	.298	.	.	.	1.2	1.3	2.1	50	2.2	1.2	2.1	527	20	61	3	3	N	N	311	13		
Student4	School36	8	211720887	Y	325	337	.60	.80	2.2	2.2	2.1	1.3	58	3	2.1	3	609	60	40	1.2	Y	Y	338	1		
Student5	School36	7	211897252	Y	332	332	.80	.80	3	2.2	3	1.3	65	3	1.2	2.1	582	30	68	3	N	Y	333	1		
Student6	School36	5	212235163	Y	288	277	.40	.40	2.1	1.1	1.2	1.2	41	1.2	1.1	1.2	502	0	44	1.3	N	N	Y	289	12	
Student7	School36	6	212246503	Y	.333	.	.80	3	83	3	3	3	614	80	73	3	3	Y	Y	334	1	

Figure 3. Truncated Output Excel File

Filtering and sorting features give the school administrators the options to group their students by grade or any of the actual or predicted performance measures. This allows for categories of students to be identified for instructional adaptations designed to support struggling students.

CONCLUSION

The process provides school administrators and teachers valuable information about their students and their performance relative to other students and statewide assessment results. Each of the conversion steps applies a generic calculation to produce an adjusted value. Any degree of error in the initial data or calculations will always produce some inconsistencies. While data can reflect trends and areas for further analysis, educators know that the most inconsistent variable in any report is the student. The final determination on how to react to the report is always in the hands of those who are closest to the students.

REFERENCES

Parker, Chevell. 2018. "Insights from a SAS Technical Support Guy: A Deep Dive into the SAS® ODS Excel Destination." *Proceedings of the SAS Global 2018 Conference*, Denver, CO. Available at <https://support.sas.com/content/dam/SAS/support/en/sas-global-forum-proceedings/2018/2174-2018.pdf>

CONTACT INFORMATION

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