Fall 2009 Freshman Cohort Retention Report

Executive Summary

This report summarizes the retention of 1,711 students in the University of South Alabama (USA) Fall 2009 first-time full-time baccalaureate degree seeking freshman cohort. Results indicated retention of students with lower high school GPAs and students with lower composite ACT scores is a concern. Retaining students from the Florida service area will be further analyzed when National Student Clearinghouse data is available. As with the Fall 2007 and Fall 2008 cohorts, the orientation session the student attended provided a significant predictor of student persistence. Students attending the earlier Freshman Summer orientation sessions were more likely to persist than students attending the later orientation sessions.

Overview

The following report provides a detailed analysis about the retention of the 1,711 first-time full-time baccalaureate degree seeking freshmen students in the University of South Alabama (USA) Fall 2009 freshman cohort. Retention in the context of this report is defined as whether or not freshmen students persisted and enrolled one year later in the Fall 2010 semester. Similar to reports written by Institutional Research, Planning and Assessment about the Fall 2007 and Fall 2008 freshman cohorts, the input-environment-outcome (IEO) model developed by Alexander W. Astin[1] was used as a conceptual framework to guide this analysis[2].

Cross tabular results for each variable and whether or not the student returned are reported. Comparisons for each subgroup are made to the overall retention rate of the cohort (66%). Significant mean differences for the input, environmental, and outcome variables are also indicated.

Additionally, three logistic regression models were tested. The first model included the input[3] variables. The second model included the input and the environmental[4] variables. The final model included two outcome[5] variables. The predictive power of each model for explaining whether or not the student returned (Yes/No) is reported as well as which variables were significant in each of the three models.

Cross Tabular Results

Cross tabular results for each variable and whether or not the student returned are summarized in the following section. Comparisons are made for each subgroup of the variable to the retention rate (66%) of the 1,711 freshmen in the cohort. These comparisons illustrate which subgroups of students persisted at

---

[1] Astin, A. W. (2002). *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education.* American Council on Education, Oryx Press.

[2] University of South Alabama Fall 2007 Freshman Cohort Retention Report available for reference at http://www.southalabama.edu/irpa/highpriority/fall07cohortfreshretenreport.pdf

[3] Input variables: Gender, race/ethnicity, age, region, high school GPA, and composite ACT score.

[4] Environmental variables: Freshman scholarship, other scholarship, housing, Freshman Seminar, college, orientation session attended, and percentage of student's courses taught by adjunct instructor.

[5] Outcome variables: USA hours earned and USA GPA.

higher, similar, or lower rates than the overall cohort retention rate of 66 percent. In addition, significant mean differences for the input, environmental, and outcome variables are reported.

Input Variable Cross Tabular Results
For the input variables included in this analysis (see Table 1: Comparisons of Input Variables to Fall 2009 Cohort Retention Rate), female students (69%) persisted at a higher rate than male students (63%) and the retention rate mean difference was statistically significant (see Appendix: T-Test Tables). In terms of race/ethnicity, African-American (59%) and students included in the "Other" race/ethnicity subgroup[6] (64%) persisted at a rate lower than the cohort retention rate (66%). The mean difference between African-American retention in comparison to retention of non-resident alien and Asian students was statistically significant (see Appendix: ANOVA Tables).

Table 1: Comparisons of Input Variables to Fall 2009 Cohort Retention Rate

Variable	Retention Rate >= 66%	Count	Retention Rate < 66%	Count
Gender				
	*Female (69%)	899	Male (63%)	812
Race/Ethnicity				
	Non-Resident Alien (85%)	27	Other (64%)	91
	Asian (82%)	60	*African-American (59%)	376
	Hispanic (74%)	39		
	White (67%)	1,118		
Age				
	*18 years old (68%)	1,305	19 years old (56%)	177
	17 years old or younger (67%)	116	20 years old (61%)	18
			22 years or older (51%)	73
			21 years old (41%)	22
Region				
	*International (85%)	27	Rest of Alabama (63%)	323
	Mobile or Baldwin County (67%)	1,015	Florida Service Area (50%)	50
	Mississippi Service Area (66%)	159		
	Rest of United States (66%)	137		
High School GPA				
	*3.51-4.0 (80%)	618	2.51-3.0 (55%)	355
	3.01-3.5 (67%)	453	2.25-2.5 (42%)	99
			2.24 or lower (42%)	48
Composite ACT Score				
	*30 or higher (90%)	71	19-20 (65%)	335
	27-29 (81%)	145	18 or lower (55%)	291
	24-26 (72%)	316		
	21-23 (67%)	354		
Note: *Significant mean difference at .05 p level based on T-Test for two group comparisons or at least one group with significant mean difference at .05 p level based on Games-Howell procedure for multiple group comparisons. Significantly different group indicated by orange fill color. Comparison group indicated by "*" and gray fill color.				

Retention comparisons based on age showed students who were 19 or older persisted at rates less than 62 percent. The mean difference between retention of 18 year old students in comparison to retention of 19 year old and 22 year old and older students was statistically significant (see Appendix: ANOVA Tables).

---

[6] Due to the small number of students with a Hawaiian/Pacific Islander, Multiracial, Native-American, or Unknown IPEDS race/ethnicity, these four subgroups were combined into an "Other" race/ethnicity group.

Students from the rest of Alabama (63%), in other words Alabama students not from either Mobile or Baldwin County, and students from the Florida service area (50%) were least likely to return. The mean difference between retention of international students in comparison to retention of students from the Florida service area was statistically significant (see Appendix: ANOVA Tables).

Finally, as high school GPA or composite ACT score declined, retention decreased. Students who had a high school GPA of 3.0 or lower persisted at rates lower than the rate for the overall cohort (66%). Similarly, students who had a composite ACT score of 20 or lower persisted at rates lower than the cohort retention rate (66%). The mean difference between retention of students with a high school GPA of 3.51 or higher in comparison to all other high school GPA groups was statistically significant. Except for students with a composite ACT score of 27-29, the mean difference between retention of students with a composite ACT score of 30 or higher in comparison to all other composite ACT score groups was also statistically significant (see Appendix: ANOVA Tables).

Environmental Variable Cross Tabular Results

For the environmental variables included in this analysis, persistence rates illustrated that receiving scholarships positively affected retention (see Table 2: Comparison of Environmental Variables to Fall 2009 Cohort Retention Rate). Students receiving a freshman scholarship (76%) or other scholarship[7] (68%) persisted at higher rates compared to the cohort rate (66%). Additionally, the mean difference between students who received a freshman scholarship compared to students who did not receive a freshman scholarship was statistically significant (see Appendix: T-Test Tables).

Table 2: Comparisons of Environmental Variables to Fall 2009 Cohort Retention Rate

Variable	Retention Rate >= 66%	Count	Retention Rate < 66%	Count
Freshman Scholarship				
	*Yes (76%)	674	No (59%)	1,037
Other Scholarship				
	Yes (68%)	274	No (66%)	1,437
Housing				
	On campus (66%)	837	Off campus (66%)	874
Freshman Seminar				
	Yes (67%)	858	No (64%)	853
College[8]				
	*Allied Health (73%)	266	Arts & Sciences (65%)	689
	Nursing (68%)	234	Engineering (65%)	184
	Computer Science (66%)	44	Education (64%)	115
			Business (58%)	179
Orientation Session				
	Summer Session 1 (79%)	303	Summer Session 4 (65%)	248
	Summer Session 2 (75%)	250	May Session (61%)	94
	Summer Session 3 (71%)	280	Summer Session 5 (59%)	282
			*August/Transfer Sessions (46%)	254
% Taught by Adjuncts				
	*Low (73%)	673	Medium (62%)	665
	No Adjuncts (67%)	191	High (58%)	156
Note: *Significant mean difference at .05 p level based on T-Test for two group comparisons or at least one group with significant mean difference at .05 p level based on Games-Howell procedure for multiple group comparisons. Significantly different group indicated by orange fill color. Comparison group indicated by "*" and gray fill color.				

---

[7] Other scholarship includes third party private scholarships that are not considered a USA Freshman scholarship.

[8] Continuing Education retention is not reported since there was not a student from Continuing Education in this cohort.

Interestingly, students living on campus[9] persisted at the same rate as students living off campus (66%). Students who took Freshman Seminar in Fall 2009 persisted at a slightly higher rate (67%) than students who did not take Freshman Seminar (64%).

Retention comparisons based on the college housing the major the student initially selected showed that Allied Health (73%) and Nursing (68%) students persisted at a higher rate than the overall cohort (66%). In addition, the mean difference for Allied Health students compared to Business students was statistically significant (see Appendix: T-Test Tables).

In terms of the orientation session attended, persistence rates of students who attended the first three Freshman Summer orientation sessions were higher than the persistence rate for the overall cohort (66%). Persistence rates based on the orientation session attended ranged from a high of 79 percent for the Freshman Session one orientation to a low of 46 percent for students who attended either the August or a Transfer[10] orientation session. When using the August/Transfer orientation sessions as a comparison group, there was a significant mean difference between the August/Transfer orientation sessions in comparison to all five Summer Freshman orientation sessions (see Appendix: ANOVA Tables).

Finally, in order to explore the relationship between student persistence and the percentage of a student's courses taught by adjunct faculty, four comparison groups were created based on whether students were taught by: 1) no adjunct faculty, 2) a low percentage of adjunct faculty[11], 3) a medium percentage of adjunct faculty[12], or 4) a high percentage of adjunct faculty[13]. Results showed students who were taught by a medium percentage (62%) or high percentage (58%) of adjunct faculty persisted at lower rates than the overall cohort (66%). Furthermore, the mean difference for students who were taught by a low percentage of adjunct faculty compared to students who were taught by a medium percentage or high percentage of adjunct faculty was statistically significant (see Appendix: T-Test Tables).

Outcome Variable Cross Tabular Results
The outcome variables incorporated into this analysis included number of hours earned through Summer 2010 at USA and the USA GPA through Summer 2010. Unsurprisingly, as number of USA hours earned increased the persistence rate also increased (see Table 3: Comparison of Outcome Variables to Fall 2009 Cohort Retention Rate). Likewise, as the USA GPA increased the persistence rate also increased.

Students who completed 18.5 or more hours through Summer 2010 persisted at a higher rate (at least 70%) compared to students completing 18 or fewer hours (at most 46%). The mean difference for students who completed 30.5 or more hours at USA compared to students in all other USA hours earned groups was statistically significant (see Appendix: ANOVA Tables).

Students with a USA GPA of 2.01 or higher through Summer 2010 persisted at a higher rate (at least 77%) compared to the cohort rate (66%) while students with a USA GPA of 2.0 or lower persisted at a much lower rate (36%). Moreover, the mean difference for students who had a USA GPA of 2.0 or lower compared to students in all other USA GPA groups was statistically significant (see Appendix: ANOVA Tables).

---

[9] On campus housing includes students living in the Grove.

[10] The orientation session of 50 students in the Fall 2009 cohort was unknown. The Office of New Student Orientation indicated these 50 students most likely attended the August orientation. In addition, 13 students attended one of three Transfer orientation sessions held in the evening to accommodate adult/working students. Since the persistence rates were similar for the August orientation group and the Transfer orientation group, the two groups were combined for this analysis.

[11] Low represents .01-33.33% of student's courses were taught by adjunct instructors.

[12] Medium represents 33.34-66.67% of student's courses were taught by adjunct instructors.

[13] High represents 66.68-100% of student's courses were taught by adjunct instructors.

Table 3: Comparisons of Outcome Variables to Fall 2009 Cohort Retention Rate

Variable	Retention Rate >= 66%	Count	Retention Rate < 66%	Count
USA Hours Earned				
	*30.5 or more (94%)	483	12.5-18 (46%)	197
	24.5-30 (88%)	414	6.5-12 (26%)	157
	18.5-24 (70%)	222	0-6 (11%)	222
USA GPA				
	3.51-4.0 (90%)	280	*2.0 or lower (36%)	622
	3.01-3.5 (88%)	275		
	2.51-3.0 (81%)	278		
	2.01-2.5 (77%)	240		
Note: *At least one group with significant mean difference at .05 p level based on Games-Howell procedure for multiple group comparisons. Significantly different group indicated by orange fill color. Comparison group indicated by "*" and gray fill color.				

Logistic Regression Results

The focus of the study was to determine which student characteristics (inputs) and environmental characteristics (institutional/other support characteristics) can be used to best predict the persistence of USA freshmen students. Since the focus of this study was prediction and classification of a dichotomous outcome variable, stepwise logistic regression was used. This technique allows for the identification of significant variables that contribute to the classification of individuals by using an algorithm to determine the importance of predictor variables. Stepwise logistic regression was used to identify significant variables in the model for predicting the outcome variable. Results of the final step for the model are reported including the classification rate for the model. Additionally, an analysis of the proportionate change in odds for significant variables is provided.

As a part of this study, three logistic models were tested. The first model included the input variables. The second model included the input variables and the environmental variables. The third model tested the outcome variables which were number of USA hours earned through Summer 2010 and USA GPA through Summer 2010 to see what happened when these outcomes were used as predictors of retention.

The number of students (selected cases) included in each model varied based on what variables were included in the final model. Some students in the cohort had missing data, typically high school GPA and/or composite ACT score. Because complete cases were required to compute the results, the final number of students used for each model ranged from a low of 1,451 students for the second model to a high of 1,695 students for the third model. The retention rate for this subset of 1,451 students was 69 percent. With a similar retention rate (69% compared to 66%) and 1,451 students representing 85 percent of the entire cohort, the models tested provided a solid representation of retention for this population. Since the focus for the models tested was to predict *returning* students, the outcome was coded with students not returning as a "0" and students *returning* as a "1". This focus meant results would predict the odds of whether the student would *return* one year later.

Model 1: Logistic Regression with Input Variables Only
The first model consisted of three steps (see Table 4: Input Model Classification Table). The final step (step 3) of the first model showed the model correctly classified students in this cohort who returned 92 percent of the time and students who did not return 24 percent of the time for an overall classification rate of 70 percent.

Table 4: Input Model Classification Table[a]

Observed			Predicted		
			Returned		Percentage Correct
			No	Yes	
Step 1	Returned	No	75	389	16.2
		Yes	51	951	94.9
	Overall Percentage				70.0
Step 2	Returned	No	100	364	21.6
		Yes	71	931	92.9
	Overall Percentage				70.3
Step 3	Returned	No	111	353	23.9
		Yes	83	919	91.7
	Overall Percentage				70.3

a. The cut value is .500

For each variable included in the first model, a comparison group was selected (gender=male, race/ethnicity=White, age=18, region=Florida service area, high school GPA=2.5 or lower, and ACT score=18 or lower). Values greater than "1" (Exp *B*) indicated the odds of the outcome (student *returning*) were higher compared to the selected comparison group. Values less than "1" indicated the odds of the outcome (student *returning*) were lower compared to the selected comparison group.

In the first model (see Table 5: Input Model Final Variables in the Equation), high school GPA, composite ACT score, and region were significant in the final step of the model (step 3). The final step of the model showed the odds (Exp *B*) of a student *returning* were greater for students with a higher high school GPA (2.51-3.0=2.04, 3.01-3.5=3.07, and 3.51-4.0=5.64) than for students with a high school GPA of 2.5 or lower. Additionally, the confidence intervals (95%) indicated in all comparisons the odds of a student *returning* were greater for students with a higher high school GPA than for students with a high school GPA of 2.5 or lower since the confidence intervals did not encompass an odds value less than one.

Table 5: Input Model Final Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a]	HS_GPA (2.5 or lower)			102.065	3	.000			
	HS_GPA (2.51-3.0)	.659	.213	9.539	1	.002	1.933	1.272	2.936
	HS_GPA (3.01-3.5)	1.128	.209	29.174	1	.000	3.090	2.052	4.654
	HS_GPA (3.51-4.0)	1.844	.210	77.169	1	.000	6.320	4.188	9.535
	Constant	-.386	.181	4.515	1	.034	.680		
Step 2[b]	HS_GPA (2.5 or lower)			104.279	3	.000			
	HS_GPA (2.51-3.0)	.672	.215	9.808	1	.002	1.958	1.286	2.982
	HS_GPA (3.01-3.5)	1.141	.210	29.482	1	.000	3.130	2.074	4.726
	HS_GPA (3.51-4.0)	1.887	.212	79.331	1	.000	6.599	4.357	9.996
	Region (FL Serv. Area)			14.799	5	.011			
	Region (Mobile/Baldwin)	.990	.315	9.887	1	.002	2.692	1.452	4.991
	Region (Rest of AL)	.724	.331	4.796	1	.029	2.063	1.079	3.945
	Region (MS Serv. Area)	.547	.354	2.396	1	.122	1.729	.864	3.458
	Region (Rest of US)	.795	.387	4.223	1	.040	2.215	1.037	4.727
	Region (International)	20.984	28085.0	.000	1	.999	1297830456	.000	.
	Constant	-1.251	.355	12.449	1	.000	.286		
Step 3[c]	HS_GPA (2.5 or lower)			66.734	3	.000			
	HS_GPA (2.51-3.0)	.712	.217	10.814	1	.001	2.039	1.334	3.118
	HS_GPA (3.01-3.5)	1.121	.212	27.895	1	.000	3.066	2.023	4.647
	HS_GPA (3.51-4.0)	1.730	.226	58.523	1	.000	5.641	3.621	8.788
	ACT (18 or lower)			13.195	5	.022			
	ACT (19-20)	.404	.177	5.223	1	.022	1.497	1.059	2.117
	ACT (21-23)	.296	.177	2.775	1	.096	1.344	.949	1.903
	ACT (24-26)	.217	.191	1.286	1	.257	1.242	.854	1.807
	ACT (27-29)	.642	.270	5.636	1	.018	1.900	1.118	3.228
	ACT (30 or higher)	1.205	.434	7.713	1	.005	3.338	1.426	7.816
	Region (FL Serv. Area)			14.910	5	.011			
	Region (Mobile/Baldwin)	1.020	.316	10.400	1	.001	2.775	1.492	5.159
	Region (Rest of AL)	.768	.333	5.337	1	.021	2.156	1.124	4.138
	Region (MS Serv. Area)	.583	.356	2.686	1	.101	1.792	.892	3.598
	Region (Rest of US)	.817	.389	4.411	1	.036	2.263	1.056	4.848
	Region (International)	21.222	27908.6	.000	1	.999	1647036966	.000	.
	Constant	-1.530	.378	16.401	1	.000	.217		

a. Variable(s) entered on step 1: HS_GPA.
b. Variable(s) entered on step 2: Region.
c. Variable(s) entered on step 3: ACT.
d. Comparison group for HS_GPA=2.5 or lower, Region=Florida service area, and ACT=18 or lower.

In relation to composite ACT score, the final version of this first model showed the odds (Exp *B*) of a student *returning* were greater for students with higher composite ACT scores (19-20=1.50, 21-23=1.34, 24-26=1.24, 27-29=1.90, 30 or higher=3.34) than for students with a composite ACT score of 18 or lower. Furthermore, the confidence intervals (95%) indicated the odds of a student *returning* with a composite ACT score of 19-20 or composite ACT score of 27 or higher were greater than for students with a composite ACT score of 18 or lower since the confidence intervals did not encompass an odds value less than one.

Finally, the odds of any student not from the Florida service area (Mississippi service area=1.79, rest of Alabama=2.16, rest of United States=2.26, Mobile or Baldwin County=2.78, and international

student=1,647,036,966) *returning* were greater than for students from the Florida service area. In addition, the confidence intervals (95%) indicated the odds of a student *returning* from the rest of Alabama, the rest of the United States, Mobile or Baldwin County, and students from another country (international student) were greater than for students from the Florida service area since the confidence intervals did not encompass an odds value less than one.

Model 2: Logistic Regression with Input and Environmental Variables
The second model included the input and also the environmental variables. For each environmental variable included in the second model a comparison group was selected (whether the student received a freshman scholarship=no, whether the student received an "other" scholarship=no, whether the student attended freshman seminar=no, orientation session attended=August/Transfer orientation sessions, whether the student lived on or off campus=off campus, which college housed the major the student selected at initial enrollment=Arts & Sciences, and percentage of a student's courses taught by adjunct instructors=high percentage of adjunct instructors). The correct classification rate for this second model (see Table 6: Input and Environmental Model Classification Table) remained the same as the first model at 92 percent for *returning* students. However, in comparison to the first model the classification rate for the second model slightly increased to 25 percent for students who did not return. The overall correct classification rate for the second model was 71 percent.

Table 6: Input and Environmental Model Classification Table[a]

Observed			Predicted		
			Returned		Percentage Correct
			No	Yes	
Step 1	Returned	No	112	341	24.7
		Yes	76	922	92.4
	Overall Percentage				71.3

a. The cut value is .500

The second model consisted of one step (see Table 7: Input and Environmental Model Final Variables in the Equation). Similar to the first model, high school GPA, composite ACT score, and region were significant in the final model. The final version (step 1) of the second model showed the odds (Exp *B*) of a student *returning* were greater for students with a higher high school GPA (2.51-3.0=1.85, 3.01-3.5=2.72, and 3.51-4.0=5.05) than for students with a high school GPA of 2.5 or lower. The confidence intervals (95%) indicated in all comparison groups the odds of a student *returning* were greater for students with a higher high school GPA than for students with a high school GPA of 2.5 or lower since the confidence intervals did not encompass an odds value less than one.

Table 7: Input and Environmental Model Final Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B) Lower	Upper
Step 1[a] HS_GPA (2.5 or lower)			57.466	3	.000			
HS_GPA (2.51-3.0)	.613	.220	7.744	1	.005	1.846	1.199	2.842
HS_GPA (3.01-3.5)	1.001	.217	21.210	1	.000	2.722	1.777	4.168
HS__GPA (3.51-4.0)	1.620	.231	49.107	1	.000	5.051	3.211	7.945
ACT (18 or lower)			6.464	5	.264			
ACT (19-20)	.234	.182	1.647	1	.199	1.263	.884	1.806
ACT (21-23)	.148	.183	.651	1	.420	1.159	.810	1.660
ACT (24-26)	.016	.201	.007	1	.935	1.016	.686	1.507
ACT (27-29)	.331	.279	1.408	1	.235	1.393	.806	2.408
ACT (30 or higher)	.883	.442	4.003	1	.045	2.419	1.018	5.747
Region (FL Serv. Area)			16.293	5	.006			
Region (Mobile/Baldwin)	1.002	.322	9.693	1	.002	2.725	1.450	5.122
Region (Rest of AL)	.693	.337	4.222	1	.040	2.000	1.033	3.875
Region (MS Serv. Area)	.478	.364	1.729	1	.188	1.614	.791	3.292
Region (Rest of US)	.721	.394	3.349	1	.067	2.056	.950	4.449
Region (International)	21.705	28058.740	.000	1	.999	2669574645	.000	.
Orientation (August/Transfer)			22.814	6	.001			
Orientation (May)	.621	.342	3.291	1	.070	1.861	.951	3.640
Orientation (Freshman 1)	1.015	.246	16.985	1	.000	2.760	1.703	4.473
Orientation (Freshman 2)	.856	.249	11.788	1	.001	2.355	1.444	3.840
Orientation (Freshman 3)	.759	.239	10.104	1	.001	2.136	1.338	3.410
Orientation (Freshman 4)	.488	.237	4.239	1	.040	1.629	1.024	2.592
Orientation (Freshman 5)	.376	.231	2.647	1	.104	1.456	.926	2.289
Constant	-1.841	.419	19.331	1	.000	.159		

a. Variable(s) entered on step 1: Orientation.
b. Comparison group for HS_GPA=2.5 or lower, ACT=18 or lower, Region=Florida service area, and Orientation=August/Transfer.

The final version of this second model showed the odds (Exp *B*) of a student *returning* were greater for students with higher composite ACT scores (19-20=1.26, 21-23=1.16, 24-26=1.02, 27-29=1.39, 30 or higher=2.42) than for students with a composite ACT score of 18 or lower. In this second model, the confidence intervals (95%) indicated the odds of a student *returning* with a composite ACT score of 30 or higher were greater than for students with a composite ACT score of 18 or lower since the confidence intervals did not encompass an odds value less than one.

Once again the odds of any student not from the Florida service area (Mississippi service area=1.61, rest of Alabama=2.00, rest of United States=2.06, Mobile or Baldwin County=2.73, and international student=2,669,574,645) *returning* were greater than for students from the Florida service area. In addition, the confidence intervals (95%) indicated the odds of a student *returning* from the rest of Alabama, Mobile or Baldwin County, and students from another country (international student) were greater than for students from the Florida service area since the confidence intervals did not encompass an odds value less than one.

In relation to the orientation session attended, the odds of a student *returning* were the greatest for students attending the earlier Freshman Summer orientation sessions. Students attending the earlier orientation sessions had greater odds for *returning* than a student who attended the August/Transfer

orientation sessions (May=1.86, Summer 1=2.76, Summer 2=2.36, Summer 3=2.14, Summer 4=1.63, Summer 5=1.46). Additionally, only the May and fifth Summer Freshman orientation sessions had a confidence interval with an odds ratio that captured an odds value less than one.

Model 3: Logistic Regression with Outcome Variables Only
Since outcomes of student success are different from inputs (student characteristics or institutional/other support characteristics), the third model only included the outcomes of interest: number of hours earned through the Summer of 2010 and the USA GPA the student attained through the Summer of 2010. The first and second models can be used based on data known before or at least early on after the student comes to campus. However, this third model can only be used after Summer 2010 has ended.

For the third model a comparison group was selected for the number of hours earned and the USA GPA the student attained through the Summer of 2010 (number of hours earned=0-6 hours and USA GPA=2.0 or lower). Compared to the other two models the correct classification rate for the third model (see Table 8: Outcome Model Classification Table) decreased to 86 percent for *returning* students. However, in comparison to the other two models the correct classification rate of the third model dramatically increased to 74 percent for students who did not return since this snapshot was based on data representing Summer 2010 student success outcomes instead of pre-Fall 2009 student and institutional or other support characteristics. The overall correct classification rate for the third model was 82 percent.

Table 8: Outcome Model Classification Table[a]

Observed			Predicted		
			Returned		Percentage Correct
			No	Yes	
Step 1	Returned	No	420	148	73.9
		Yes	156	971	86.2
	Overall Percentage				82.1

a. The cut value is .500

For the third model (see Table 9: Outcome Model Final Variables in the Equation) only hours earned at USA was significant. The third model showed the odds (Exp *B*) of a student *returning* were greater for students with more hours earned (6.5-12=2.92, 12.5-18=7.08, 18.5-24=19.09, 24.5-30=58.72, 30.5 or more=124.58) than for students with six or fewer hours earned by Summer 2010. Furthermore, confidence intervals (95%) for all USA hours earned comparison groups did not encompass an odds value less than one.

Table 9: Outcome Model Final Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1[a]	USAHoursEarned (0-6)			477.192	5	.000			
	USAHoursEarned (6.5-12)	1.070	.282	14.365	1	.000	2.916	1.677	5.071
	USAHoursEarned (12.5-18)	1.958	.259	57.080	1	.000	7.083	4.262	11.769
	USAHoursEarned (18.5-24)	2.949	.261	127.710	1	.000	19.086	11.444	31.830
	USAHoursEarned (24.5-30)	4.073	.263	240.122	1	.000	58.721	35.081	98.291
	USAHoursEarned (30.5 +)	4.825	.287	283.009	1	.000	124.575	71.007	218.555
	Constant	-2.110	.216	95.318	1	.000	.121		

a. Variable(s) entered on step 1: USAHoursEarned.

b. Comparison group for USA Hours Earned=0-6 hours.

Peer Comparisons

Finally, to gain a better idea about how USA retention and graduation rates compared to peer institutions the Integrated Postsecondary Education Data System (IPEDS) was used to compare USA to 28 peer institutions[14] (see National Center for Education Statistics IPEDS Data Feedback Report 2009). Compared to this group of peer institutions, USA had a somewhat similar but in all cases lower total enrollment, undergraduate enrollment, first-time, degree/certificate-seeking undergraduate enrollment, graduate enrollment, and full-time enrollment in Fall 2008 compared to the peer group median. The percentage of White students (67% for USA and 71% for peers), African-American students (17% for USA and 14% for peers), and female students (62% for USA and 59% for peers) was also somewhat similar compared to the peer group median. The USA percentile composite ACT, English ACT, and Math ACT scores of first-time degree/certificate seeking undergraduate students were almost identical at the 25th and 75th percentiles compared to the peer group median. Retention rates (67% for USA and 75% for peers) and four year (16% for USA and 18% for peers), six year (40% for USA and 45% for peers), and eight year (45% for USA and 50% for peers) graduation rates were also lower for USA compared to the peer group median.

---

[14] List of 28 IPEDS Peer Institutions used is included at the end of the Appendix.

National Center for Education Statistics

IPEDS Data Feedback Report 2009

Focus institution=University of South Alabama

Variable Name	USA	Comparison Group Median
Enrollment, by student level (Fall 2008)		
Total (N=28)	14,064	17,302
Undergraduate (N=28)	11,048	14,370
First-time, degree/certificate-seeking undergraduate (N=28)	1,617	2,318
Graduate (N=28)	3,016	3,374
Full-time enrollment (Fall 2008)		
Full-time enrollment (N=28)	10,398	12,177
Percent of all students enrolled who are women (Fall 2008)		
Female (N=28)	62%	59%
Percent of all students enrolled, by race/ethnicity (Fall 2008)		
African American (N=28)	17%	14%
White (N=28)	67%	71%
Percentile ACT scores of first-time, degree/certificate-seeking undergraduate students (Fall 2008)		
25th percentile Composite (N=27)	19	20
75th percentile Composite (N=27)	24	25
25th percentile English (N=26)	19	20
75th percentile English (N=26)	25	25
25th percentile Math (N=26)	17	19
75th percentile Math (N=26)	24	24
Retention rate of first-time, degree/certificate-seeking undergraduate students (Fall 2008)		
Full-time retention rate (N=28)	67%	75%
Bachelor's degree graduation rates of full-time, first-time, degree/certificate-seeking undergraduates within 4 years, 6 years, and 8 years (2000 cohort)		
4 years (N=28)	16%	18%
6 years (N=28)	40%	45%
8 years (N=28)	45%	50%
Note: Red fill color indicates higher #/% between USA and the comparison peer median for the variable.		

Implications

Based on what we know before a student steps foot on campus (input variables), retention of students with lower high school GPAs and students with lower composite ACT scores is a concern which prompts further reflection regarding admission standards and the allocation of resources to support at risk students. Also, retention of students from the Florida service area requires further investigation. When available, the National Student Clearinghouse database is expected to provide insight regarding whether those students are transferring to Pensacola State College since it has been accredited recently as a four year institution.

Likewise, as with the previous Fall 2007 and Fall 2008 cohorts, the orientation session the student attended provided a significant predictor of student persistence, with students attending the earlier Freshman Summer orientation sessions more likely to persist than students attending the later orientation sessions. The orientation session attended by students continues to provide a key factor in identifying at-risk freshmen students early in their college experience. Interventions such as the Fall 2010 peer mentoring pilot can be designed to target at risk students.

Past IRPA studies have looked at the contribution of freshmen scholarships to recruitment and retention goals. As with earlier studies, the importance of awarding freshman scholarships for students was clear. Additional merit based freshman scholarships should also be considered in order to attract top students to the institution since the data suggests they also are very likely to return to continue their studies at USA the following year.

Future Retention Research
This report is the first of two retention studies about the Fall 2009 freshman cohort that will be completed by Institutional Research, Planning and Assessment during the Fall 2010 semester. The second retention study will use National Student Clearinghouse data to explore the issue of "Where did USA Fall 2009 freshmen non returning students go?" This study will determine how many non returning freshmen students transferred to another college or university or "stopped out" of college altogether.

A P P E N D I X

T-Test Tables

Gender * Independent Samples Test

Gender		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Returned	Equal variances assumed	22.950	.000	-2.438	1709	.015	-.056	.023	-.101	-.011
	Equal variances not assumed			-2.433	1675.698	.015	-.056	.023	-.101	-.011

Freshman Scholarship * Independent Samples Test

Freshman Scholarship		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Returned	Equal variances assumed	237.474	.000	-7.313	1709	.000	-.169	.023	-.214	-.124
	Equal variances not assumed			-7.535	1574.179	.000	-.169	.022	-.213	-.125

Other Scholarship * Independent Samples Test

Other Scholarship		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Returned	Equal variances assumed	1.713	.191	-.628	1709	.530	-.020	.031	-.081	.042
	Equal variances not assumed			-.634	387.514	.526	-.020	.031	-.081	.041

Housing * Independent Samples Test

Housing		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	T	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Returned	Equal variances assumed	.118	.731	-.172	1709	.864	-.004	.023	-.049	.041
	Equal variances not assumed			-.172	1706.198	.864	-.004	.023	-.049	.041

Freshman Seminar * Independent Samples Test

Freshman Seminar		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Returned	Equal variances assumed	6.833	.009	-1.311	1709	.190	-.030	.023	-.075	.015
	Equal variances not assumed			-1.311	1707.748	.190	-.030	.023	-.075	.015

ANOVA Tables

Multiple Comparisons

Returned
Games-Howell

(I) Race	(J) Race	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
White	African-American	.080	.029	.064	.00	.16
	Asian	-.149	.052	.063	-.30	.00
	Hispanic	-.075	.072	.900	-.29	.14
	Non-Resident Alien	-.184	.071	.134	-.40	.03
	Other	.031	.053	.992	-.12	.18
African-American	White	-.080	.029	.064	-.16	.00
	Asian	-.229[*]	.056	.001	-.39	-.06
	Hispanic	-.156	.075	.320	-.38	.07
	Non-Resident Alien	-.264[*]	.074	.013	-.49	-.04
	Other	-.050	.057	.952	-.21	.11
Asian	White	.149	.052	.063	.00	.30
	African-American	.229[*]	.056	.001	.06	.39
	Hispanic	.073	.087	.959	-.18	.33
	Non-Resident Alien	-.035	.086	.998	-.29	.22
	Other	.179	.071	.128	-.03	.39
Hispanic	White	.075	.072	.900	-.14	.29
	African-American	.156	.075	.320	-.07	.38
	Asian	-.073	.087	.959	-.33	.18
	Non-Resident Alien	-.108	.099	.884	-.40	.18
	Other	.106	.087	.826	-.15	.36
Non-Resident Alien	White	.184	.071	.134	-.03	.40
	African-American	.264[*]	.074	.013	.04	.49
	Asian	.035	.086	.998	-.22	.29
	Hispanic	.108	.099	.884	-.18	.40
	Other	.214	.086	.145	-.04	.47
Other	White	-.031	.053	.992	-.18	.12
	African-American	.050	.057	.952	-.11	.21
	Asian	-.179	.071	.128	-.39	.03
	Hispanic	-.106	.087	.826	-.36	.15
	Non-Resident Alien	-.214	.086	.145	-.47	.04

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
17 years or younger	18 years old	-.011	.046	1.000	-.14	.12
	19 years old	.107	.058	.425	-.06	.27
	20 years old	.061	.126	.996	-.33	.45
	21 years old	.263	.116	.238	-.09	.62
	22 years or older	.166	.073	.219	-.05	.38
18 years old	17 years or younger	.011	.046	1.000	-.12	.14
	19 years old	.119*	.040	.035	.00	.23
	20 years old	.072	.119	.989	-.31	.45
	21 years old	.274	.108	.156	-.06	.61
	22 years or older	.177*	.060	.049	.00	.35
19 years old	17 years or younger	-.107	.058	.425	-.27	.06
	18 years old	-.119*	.040	.035	-.23	.00
	20 years old	-.046	.124	.999	-.43	.34
	21 years old	.156	.114	.743	-.19	.50
	22 years or older	.058	.070	.961	-.14	.26
20 years old	17 years or younger	-.061	.126	.996	-.45	.33
	18 years old	-.072	.119	.989	-.45	.31
	19 years old	.046	.124	.999	-.34	.43
	21 years old	.202	.160	.801	-.28	.68
	22 years or older	.104	.132	.967	-.30	.51
21 years old	17 years or younger	-.263	.116	.238	-.62	.09
	18 years old	-.274	.108	.156	-.61	.06
	19 years old	-.156	.114	.743	-.50	.19
	20 years old	-.202	.160	.801	-.68	.28
	22 years or older	-.098	.122	.966	-.47	.27
22 years or older	17 years or younger	-.166	.073	.219	-.38	.05
	18 years old	-.177*	.060	.049	-.35	.00
	19 years old	-.058	.070	.961	-.26	.14
	20 years old	-.104	.132	.967	-.51	.30
	21 years old	.098	.122	.966	-.27	.47

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) Region	(J) Region	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Mobile or Baldwin County	Rest of Alabama	.041	.031	.757	-.05	.13
	Mississippi Service Area	.010	.040	1.000	-.11	.13
	Florida Service Area	.170	.073	.200	-.05	.39
	Rest of United States	.006	.043	1.000	-.12	.13
	International	-.182	.071	.142	-.40	.04
Rest of Alabama	Mobile or Baldwin County	-.041	.031	.757	-.13	.05
	Mississippi Service Area	-.032	.046	.983	-.16	.10
	Florida Service Area	.128	.076	.548	-.10	.35
	Rest of United States	-.036	.049	.977	-.18	.10
	International	-.223	.075	.053	-.45	.00
Mississippi Service Area	Mobile or Baldwin County	-.010	.040	1.000	-.13	.11
	Rest of Alabama	.032	.046	.983	-.10	.16
	Florida Service Area	.160	.081	.360	-.08	.40
	Rest of United States	-.004	.055	1.000	-.16	.15
	International	-.191	.079	.173	-.43	.04
Florida Service Area	Mobile or Baldwin County	-.170	.073	.200	-.39	.05
	Rest of Alabama	-.128	.076	.548	-.35	.10
	Mississippi Service Area	-.160	.081	.360	-.40	.08
	Rest of United States	-.164	.082	.351	-.40	.08
	International	-.352*	.100	.009	-.64	-.06
Rest of United States	Mobile or Baldwin County	-.006	.043	1.000	-.13	.12
	Rest of Alabama	.036	.049	.977	-.10	.18
	Mississippi Service Area	.004	.055	1.000	-.15	.16
	Florida Service Area	.164	.082	.351	-.08	.40
	International	-.188	.081	.204	-.43	.05
International	Mobile or Baldwin County	.182	.071	.142	-.04	.40
	Rest of Alabama	.223	.075	.053	.00	.45
	Mississippi Service Area	.191	.079	.173	-.04	.43
	Florida Service Area	.352*	.100	.009	.06	.64
	Rest of United States	.188	.081	.204	-.05	.43

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) High School GPA	(J) High School GPA	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2.24 or below	2.25-2.5	-.008	.088	1.000	-.25	.24
	2.51-3.0	-.135	.077	.402	-.35	.08
	3.01-3.5	-.257*	.075	.010	-.47	-.04
	3.51-4.0	-.388*	.074	.000	-.60	-.18
2.25-2.5	2.24 or below	.008	.088	1.000	-.24	.25
	2.51-3.0	-.128	.056	.162	-.28	.03
	3.01-3.5	-.249*	.055	.000	-.40	-.10
	3.51-4.0	-.380*	.052	.000	-.53	-.23
2.51-3.0	2.24 or below	.135	.077	.402	-.08	.35
	2.25-2.5	.128	.056	.162	-.03	.28
	3.01-3.5	-.121*	.034	.004	-.22	-.03
	3.51-4.0	-.252*	.031	.000	-.34	-.17
3.01-3.5	2.24 or below	.257*	.075	.010	.04	.47
	2.25-2.5	.249*	.055	.000	.10	.40
	2.51-3.0	.121*	.034	.004	.03	.22
	3.51-4.0	-.131*	.027	.000	-.21	-.06
3.51-4.0	2.24 or below	.388*	.074	.000	.18	.60
	2.25-2.5	.380*	.052	.000	.23	.53
	2.51-3.0	.252*	.031	.000	.17	.34
	3.01-3.5	.131*	.027	.000	.06	.21

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) ACT	(J) ACT	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
18 or below	19-20	-.104	.039	.084	-.22	.01
	21-23	-.120*	.039	.023	-.23	-.01
	24-26	-.169*	.039	.000	-.28	-.06
	27-29	-.267*	.044	.000	-.39	-.14
	30 or above	-.355*	.046	.000	-.49	-.22
19-20	18 or below	.104	.039	.084	-.01	.22
	21-23	-.016	.036	.998	-.12	.09
	24-26	-.064	.036	.487	-.17	.04
	27-29	-.163*	.042	.002	-.28	-.04
	30 or above	-.251*	.044	.000	-.38	-.12
21-23	18 or below	.120*	.039	.023	.01	.23
	19-20	.016	.036	.998	-.09	.12
	24-26	-.049	.036	.752	-.15	.05
	27-29	-.147*	.041	.005	-.26	-.03
	30 or above	-.235*	.044	.000	-.36	-.11
24-26	18 or below	.169*	.039	.000	.06	.28
	19-20	.064	.036	.487	-.04	.17
	21-23	.049	.036	.752	-.05	.15
	27-29	-.099	.041	.162	-.22	.02
	30 or above	-.186*	.044	.001	-.31	-.06
27-29	18 or below	.267*	.044	.000	.14	.39
	19-20	.163*	.042	.002	.04	.28
	21-23	.147*	.041	.005	.03	.26
	24-26	.099	.041	.162	-.02	.22
	30 or above	-.088	.048	.457	-.23	.05
30 or above	18 or below	.355*	.046	.000	.22	.49
	19-20	.251*	.044	.000	.12	.38
	21-23	.235*	.044	.000	.11	.36
	24-26	.186*	.044	.001	.06	.31
	27-29	.088	.048	.457	-.05	.23

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) College	(J) College	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	95% Confidence Interval Upper Bound
AS	AH	-.084	.033	.135	-.18	.01
	BU	.073	.041	.565	-.05	.20
	CS	-.010	.075	1.000	-.24	.22
	ED	.005	.048	1.000	-.14	.15
	EG	.002	.040	1.000	-.12	.12
	NU	-.035	.035	.957	-.14	.07
AH	AS	.084	.033	.135	-.01	.18
	BU	.158*	.046	.012	.02	.29
	CS	.074	.077	.961	-.16	.31
	ED	.090	.052	.611	-.07	.25
	EG	.086	.045	.457	-.05	.22
	NU	.049	.041	.891	-.07	.17
BU	AS	-.073	.041	.565	-.20	.05
	AH	-.158*	.046	.012	-.29	-.02
	CS	-.084	.081	.945	-.33	.16
	ED	-.068	.058	.905	-.24	.10
	EG	-.071	.051	.805	-.22	.08
	NU	-.108	.048	.267	-.25	.03
CS	AS	.010	.075	1.000	-.22	.24
	AH	-.074	.077	.961	-.31	.16
	BU	.084	.081	.945	-.16	.33
	ED	.016	.085	1.000	-.24	.27
	EG	.012	.080	1.000	-.23	.26
	NU	-.025	.078	1.000	-.26	.21
ED	AS	-.005	.048	1.000	-.15	.14
	AH	-.090	.052	.611	-.25	.07
	BU	.068	.058	.905	-.10	.24
	CS	-.016	.085	1.000	-.27	.24
	EG	-.003	.057	1.000	-.17	.17
	NU	-.040	.054	.990	-.20	.12
EG	AS	-.002	.040	1.000	-.12	.12
	AH	-.086	.045	.457	-.22	.05
	BU	.071	.051	.805	-.08	.22
	CS	-.012	.080	1.000	-.26	.23
	ED	.003	.057	1.000	-.17	.17
	NU	-.037	.047	.986	-.18	.10
NU	AS	.035	.035	.957	-.07	.14
	AH	-.049	.041	.891	-.17	.07
	BU	.108	.048	.267	-.03	.25
	CS	.025	.078	1.000	-.21	.26
	ED	.040	.054	.990	-.12	.20
	EG	.037	.047	.986	-.10	.18

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) Orientation	(J) Orientation	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
August/Transfer	May Orientation	-.146	.060	.186	-.32	.03
	Freshman Session 1	-.328*	.039	.000	-.44	-.21
	Freshman Session 2	-.291*	.042	.000	-.41	-.17
	Freshman Session 3	-.254*	.041	.000	-.38	-.13
	Freshman Session 4	-.185*	.044	.001	-.31	-.06
	Freshman Session 5	-.128*	.043	.047	-.26	.00
May Orientation	August/Transfer	.146	.060	.186	-.03	.32
	Freshman Session 1	-.182*	.056	.023	-.35	-.02
	Freshman Session 2	-.146	.058	.157	-.32	.03
	Freshman Session 3	-.108	.057	.497	-.28	.06
	Freshman Session 4	-.039	.059	.995	-.22	.14
	Freshman Session 5	.018	.059	1.000	-.16	.19
Freshman Session 1	August/Transfer	.328*	.039	.000	.21	.44
	May Orientation	.182*	.056	.023	.02	.35
	Freshman Session 2	.037	.036	.949	-.07	.14
	Freshman Session 3	.074	.036	.366	-.03	.18
	Freshman Session 4	.144*	.038	.004	.03	.26
	Freshman Session 5	.200*	.038	.000	.09	.31
Freshman Session 2	August/Transfer	.291*	.042	.000	.17	.41
	May Orientation	.146	.058	.157	-.03	.32
	Freshman Session 1	-.037	.036	.949	-.14	.07
	Freshman Session 3	.038	.038	.958	-.08	.15
	Freshman Session 4	.107	.041	.125	-.01	.23
	Freshman Session 5	.163*	.040	.001	.04	.28
Freshman Session 3	August/Transfer	.254*	.041	.000	.13	.38
	May Orientation	.108	.057	.497	-.06	.28
	Freshman Session 1	-.074	.036	.366	-.18	.03
	Freshman Session 2	-.038	.038	.958	-.15	.08
	Freshman Session 4	.069	.041	.618	-.05	.19
	Freshman Session 5	.126*	.040	.029	.01	.24
Freshman Session 4	August/Transfer	.185*	.044	.001	.06	.31
	May Orientation	.039	.059	.995	-.14	.22
	Freshman Session 1	-.144*	.038	.004	-.26	-.03
	Freshman Session 2	-.107	.041	.125	-.23	.01
	Freshman Session 3	-.069	.041	.618	-.19	.05
	Freshman Session 5	.057	.042	.835	-.07	.18
Freshman Session 5	August/Transfer	.128*	.043	.047	.00	.26
	May Orientation	-.018	.059	1.000	-.19	.16
	Freshman Session 1	-.200*	.038	.000	-.31	-.09
	Freshman Session 2	-.163*	.040	.001	-.28	-.04
	Freshman Session 3	-.126*	.040	.029	-.24	-.01
	Freshman Session 4	-.057	.042	.835	-.18	.07

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) % Taught by Adjuncts	(J) % Taught by Adjuncts	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
No adjuncts	Low	-.059	.038	.405	-.16	.04
	Medium	.054	.039	.516	-.05	.15
	High	.087	.052	.346	-.05	.22
Low	No adjuncts	.059	.038	.405	-.04	.16
	Medium	.113*	.025	.000	.05	.18
	High	.146*	.043	.005	.03	.26
Medium	No adjuncts	-.054	.039	.516	-.15	.05
	Low	-.113*	.025	.000	-.18	-.05
	High	.033	.044	.874	-.08	.15
High	No adjuncts	-.087	.052	.346	-.22	.05
	Low	-.146*	.043	.005	-.26	-.03
	Medium	-.033	.044	.874	-.15	.08

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) USA Hours Earned	(J) USA Hours Earned	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
0-6 hours	6.5-12 hours	-.153*	.041	.003	-.27	-.04
	12.5-18 hours	-.354*	.041	.000	-.47	-.24
	18.5-24 hours	-.590*	.037	.000	-.70	-.48
	24.5-30	-.769*	.026	.000	-.84	-.69
	30.5 or more hours	-.830*	.024	.000	-.90	-.76
6.5-12 hours	0-6 hours	.153*	.041	.003	.04	.27
	12.5-18 hours	-.201*	.050	.001	-.34	-.06
	18.5-24 hours	-.437*	.047	.000	-.57	-.30
	24.5-30	-.616*	.039	.000	-.73	-.50
	30.5 or more hours	-.677*	.037	.000	-.78	-.57
12.5-18 hours	0-6 hours	.354*	.041	.000	.24	.47
	6.5-12 hours	.201*	.050	.001	.06	.34
	18.5-24 hours	-.236*	.047	.000	-.37	-.10
	24.5-30	-.415*	.039	.000	-.53	-.30
	30.5 or more hours	-.476*	.037	.000	-.58	-.37
18.5-24 hours	0-6 hours	.590*	.037	.000	.48	.70
	6.5-12 hours	.437*	.047	.000	.30	.57
	12.5-18 hours	.236*	.047	.000	.10	.37
	24.5-30	-.179*	.035	.000	-.28	-.08
	30.5 or more hours	-.240*	.033	.000	-.33	-.15
24.5-30	0-6 hours	.769*	.026	.000	.69	.84
	6.5-12 hours	.616*	.039	.000	.50	.73
	12.5-18 hours	.415*	.039	.000	.30	.53
	18.5-24 hours	.179*	.035	.000	.08	.28
	30.5 or more hours	-.061*	.020	.023	-.12	-.01
30.5 or more hours	0-6 hours	.830*	.024	.000	.76	.90
	6.5-12 hours	.677*	.037	.000	.57	.78
	12.5-18 hours	.476*	.037	.000	.37	.58
	18.5-24 hours	.240*	.033	.000	.15	.33
	24.5-30	.061*	.020	.023	.01	.12

*. The mean difference is significant at the 0.05 level.

Multiple Comparisons

Returned
Games-Howell

(I) USA GPA	(J) USA GPA	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
2.0 or below	2.01-2.5	-.403*	.033	.000	-.49	-.31
	2.51-3.0	-.442*	.031	.000	-.53	-.36
	3.01-3.5	-.517*	.028	.000	-.59	-.44
	3.51-4.0	-.533*	.027	.000	-.61	-.46
2.01-2.5	2.0 or below	.403*	.033	.000	.31	.49
	2.51-3.0	-.039	.036	.818	-.14	.06
	3.01-3.5	-.113*	.034	.007	-.21	-.02
	3.51-4.0	-.130*	.033	.001	-.22	-.04
2.51-3.0	2.0 or below	.442*	.031	.000	.36	.53
	2.01-2.5	.039	.036	.818	-.06	.14
	3.01-3.5	-.074	.031	.115	-.16	.01
	3.51-4.0	-.091*	.030	.022	-.17	-.01
3.01-3.5	2.0 or below	.517*	.028	.000	.44	.59
	2.01-2.5	.113*	.034	.007	.02	.21
	2.51-3.0	.074	.031	.115	-.01	.16
	3.51-4.0	-.016	.027	.973	-.09	.06
3.51-4.0	2.0 or below	.533*	.027	.000	.46	.61
	2.01-2.5	.130*	.033	.001	.04	.22
	2.51-3.0	.091*	.030	.022	.01	.17
	3.01-3.5	.016	.027	.973	-.06	.09

*. The mean difference is significant at the 0.05 level.

USA Peer Comparison Group

Institution Name	City	State	Unit ID
Auburn University Main Campus	Auburn	AL	100858
East Carolina University	Greenville	NC	198464
East Tennessee State University	Johnson City	TN	220075
Florida Gulf Coast University	Fort Myers	FL	433660
Georgia State University	Atlanta	GA	139940
Jacksonville State University	Jacksonville	AL	101480
James Madison University	Harrisonburg	VA	232423
Kennesaw State University	Kennesaw	GA	140164
Louisiana Tech University	Ruston	LA	159647
Marshall University	Huntington	WV	237525
Middle Tennessee State University	Murfreesboro	TN	220978
Old Dominion University	Norfolk	VA	232982
The University of Alabama	Tuscaloosa	AL	100751
The University of West Florida	Pensacola	FL	138354
Troy University	Troy	AL	102368
University of Alabama at Birmingham	Birmingham	AL	100663
University of Alabama in Huntsville	Huntsville	AL	100706
University of Arkansas at Little Rock	Little Rock	AR	106245
University of Louisville	Louisville	KY	157289
University of Missouri-Kansas City	Kansas City	MO	178402
University of North Carolina at Charlotte	Charlotte	NC	199139
University of North Carolina at Greensboro	Greensboro	NC	199148
University of North Florida	Jacksonville	FL	136172
University of North Texas	Denton	TX	227216
University of Southern Mississippi	Hattiesburg	MS	176372
Valdosta State University	Valdosta	GA	141264
Wayne State University	Detroit	MI	172644
Wichita State University	Wichita	KS	156125