

Using NSSE Data: An analysis of Volkwein University's Institutional Effectiveness

Shaun M. O'Malley

The Pennsylvania State University

Executive Summary

Volkwein University is dedicated to student outcomes and student success. In 2012, Volkwein administered the National Survey of Student Engagement (NSSE). This report serves to show a preliminary analysis of that data and to provide evidence to the President's Cabinet of the benefits of institutional research such as the NSSE survey and to encourage the cabinet to invest the money, time and resources into not only administering the survey in 2015 but also employing institutional researchers who can analyze the data to ensure that Volkwein University is meeting its educational student learning outcomes.

From an analysis of the data, evidence shows that Volkwein University is successful in encouraging the use of higher order cognitive thinking skills such as analyzing material, synthesizing information, evaluating solutions and applying this learning (Table 1) and that this growth contributes to development and growth in real world situations based upon Volkwein University's student learning outcomes (Table 2). For the sake of this report, the focus was on the specific higher order cognitive skill of analyzing information. Drawing from correlation tables in Appendix 3 the students who reported using this higher order cognitive skill more frequently also had a stronger sense of accomplishment not just in their GPA in both their 2nd and 3rd semester on campus, but also in their ability to meet the learning outcomes of thinking critically, learning effectively on their own, developing a better understanding of themselves, developing a better understanding of people different from them, solving complex real-world problems, and developing a personal code of values.

The data does have some alarming trends about student success at Volkwein University. The students at Volkwein University are not performing well and that GPAs across the board need to be increased for all students and though students in different populations at Volkwein University do fare better than other populations, as a whole, Volkwein University needs to focus on its curriculum, teaching and student resources to encourage better GPAs and reduce the number of students who transfer out of or drop out of Volkwein University.

Sub-populations that struggle the most at Volkwein University are athletes, men in fraternities, international female students and male students (Appendix 4). Working with Athletics to ensure that students involved in sports have study hours, advising opportunities and tutoring could real help to ensure that our student athletes are being more successful. As for fraternities, offering more educational programming around how to be successful is going to be important to make sure our male fraternity brothers are performing at the best level. Working closely with Fraternity and Sorority Life, it will be important to make sure that pledging processes do not detract from the students time for learning so that the students can be successful in their academic course work. Allowing more resources and promoting those resources around writing centers, tutors, and academic support is necessary to help change the trend of GPAs at Volkwein University. Natural sciences are usually demanding classes, however an evaluation of the curriculum is also important to examine why students in the sciences are not doing as successful and are there ways to help remove some of those barriers for better achievement.

Administering assessments of Volkwein University students give the administration at Volkwein University a pulse on what is happening at the institution. As Volkwein himself once said, assessment processes are not meant to hinder the process but instead to "to build cultures of evidence that feed into continuous improvement systems" (Volkwein, 9).

Introduction

History of the National Survey of Student Engagement (NSSE)

The world of higher education is becoming more and more complex (Brittingham, 2009). With many different constituents wanting a say in the direction of higher education institutions, the unstable economic times leading to decreased state appropriations and the decline of other means of funding for higher education, and the rising cost of tuition, institutions are having to become more engaged with inspirational and pragmatic approaches to ensure quality education and a commitment to student learning outcomes as a measure of their quality (Volkwein, 2009).

One level of measurement comes from an accreditation process that institutions volunteer to participate in by providing a self-evaluation (inspirational) and complying with an external review (pragmatic) to look at and examine ways the institution can improve (Brittingham, 2009; Volkwein, 2009). Through this process, institutions allow for external accountability to their constituents: the taxpayers, federal and state governments, students and parents, and alumni and donors of the institution.

With the complex nature of each individual institution, the accreditation process has changed and become more flexible to allow for a better assessment of each institution. Furthermore the accreditation process has changed its focus to veer away from rigid forms of measurement such as just looking at GPA, number of books in a library, faculty/student ratio, hours spent in the classroom, admissions selectivity, curricular requirements, resources, facilities, and faculty credentials (Volkwein, 2009) to focus more on actual student learning outcomes (Brittingham, 2009).

Even with the focus on student learning outcomes, the accreditation process still remains largely numbers based and focused on institutional criteria such as financial resources and institutional processes (NSSE, 2001).

In 1998, with a grant from the Pew Charitable Trusts, and information gathered from the College Student Report, a survey conducted under the National Survey of Student Engagement on “good practices in undergraduate engagement” sparked the need for a survey that “could provide colleges and universities—as well as a potential range of stakeholders—with far more valuable information about institutional quality than established measures of reputation” (NSSE, 2001).

A design team was created which consisted of some of the most important minds in higher education and student development theory from Alexander Astin to Gary Barnes, Arthur Chickering to Peter Ewell, John Gardner, George Kuh, Richard Light, Ted Marchese and C. Robert Pace. The survey included many questions from existing surveys such as the College Student Experiences Questionnaire (CSEQ), the Cooperative Institutional Research Program (CIRP) and underwent many revisions from various constituents with stakes in higher education such as the US News and World Report, various accrediting agencies, organizations with interest in higher education and interested participating universities (NSSE, 2001).

NSSE 2013: An Updated Survey to Reflect Changes in Higher Education

The field of higher education is always changing and the way students learn are changing. After a decade of analysis from NSSE results, NSSE underwent a major renovation in 2013. Though a positive result of NSSE is that it allows institutions to create a multi-year assessment of student learning at an institution, NSSE also needed to implement changes to its survey to facilitate changing directions and needs in higher education. With the 2013 rollout of NSSE 2.0, 23% of the

NSSE questions are new to the survey, 27% of the questions underwent major re-writes, 28% underwent minor wording changes and 22% of the questions remained the same (NSSE). The updated survey also allowed for the addition of institution-specific modules and additional question sets that revolve around new opportunities that have been proven to help foster student learning such as civic engagement, inclusivity and experiences with diversity, technology usage and advances made in academic advising (NSSE, 2001). The survey also has developed questions around higher-order learning, reflective and integrative learning, learning strategies, quantitative reasoning, collaborative learning, discussions with diverse others, student-faculty interactions, effective teaching practices, quality of interactions and supportive environments (NSSE, 2).

Since the last time Volkwein University administered the NSSE survey, the survey has undergone many changes so administering the survey again in 2015 will allow Volkwein University the opportunity to have access to this new data set with new and improved questions that have been developed through sound educational advances of student learning over the past decade. Volkwein University can also tailor NSSE questions to reflect future educational outcomes around student success.

Importance of NSSE Data

NSSE data can be extremely important for an institution of higher education, especially through an analysis of student learning outcomes. The most important is that NSSE data allows for an opportunity to really give insight into the quality of education at an institution outside of just the previous “bureaucratic checklists” of assessment that were previously employed (Volkwein, 2009). Originally, there were three main areas that the design committee had envisioned for use of NSSE data. These areas are:

- 1) Improving Education. The information could be used to help improve the quality of education at an institution which can be extremely important in the accreditation process and when conducting academic program reviews and internal self-study. This allows institutions to look at their mission and values and see if they are appropriately fostering trends to accomplish those missions (NSSE, 2001). For example, at Volkwein University, student success is at the forefront of the institution’s mission, so questions around if the university is implementing practices around student success and if those practices are successful, if not how can those processes be improved.
- 2) Information obtained from NSSE can be used to gauge institutional effectiveness, which will help with accreditation and serve as a measure of accreditation outside of atypical rigid measures that are used. Creating a survey that allows for similar measurements across the board can also allow for easier benchmarking from peer institutions (NSSE, 2001).
- 3) Lastly, the data could be used publicly to inform information in college guidebooks, help with national rankings in such as the US News and World Report and allow for general members of the public to research the data (NSSE). The goal of the data was also to make it simple to understand so people outside of higher education such as parents and potential college students can examine the data and make a better, more-informed decision about the school that is right for them (NSSE, 2001).

Now that NSSE has been administered at institutions and the number of institutions that use NSSE data are on the rise and an updated version of NSSE has been created, there are many other opportunities that exist for the use of NSSE data. The goal of this report is to examine these uses and to explain why Volkwein University can greatly benefit from administering NSSE in 2015 and what can be learned from this assessment data.

Surveys at Volkwein University

In the spring of 2013, first year students were asked to complete the National Survey of Student Engagement. The NSSE data set was administered to first year students at Volkwein University in the Spring of 2013 with a 26% completion rate, which is comparable to NSSE in 2014, under the newly released NSSE survey, response rates for first year students situated around 29% (NSSE, 2014). Please see Appendix 1, to view the respondent characteristics from the NSSE Survey administered in 2012 by Volkwein University. Volkwein University elected to utilize a census method in which electronic invites were sent to student emails with four follow up reminder emails. The campaign was relatively low-key with most marketing being done through on campus posters with the slogan, "Teach me How to NSSE." Incentives were submitted to NSSE and approved during Phase II of survey preparations and met compliance standards for NSSE's IRB protocols as well as Volkwein University's IRB rules and regulations. Incentives included gift cards to Volkwein University's bookstore, on-campus creamery, Volkwein University swag-bags (consisting of various Volkwein University memorabilia) and 2 Apple Ipad touches. Students who completed the survey were entered into a lottery drawing for the incentives.

According to NSSE data and various other literature, incentives can increase response rates with little affect on the quality of data. Sarraf and Cole in their most article in 2014, "Survey lottery incentives and institutional response rates: An exploratory analysis," offering incentives through a lottery system increased participation by 3 to 6 percentage points. According to an article published by Singer and Ye in 2013, "The use and effects of incentives in surveys" and by Toepoel in 2012, "Effects of incentives in surveys," data quality is not affected by incentives for survey completion.

Framework for the Study: A Student Development Approach

Development is tantamount to education. With that, using the NSSE data, the goal is to follow Patrick Terenzini and Bob Reason's Comprehensive Outcomes Model to track development and growth. This model, which builds upon 35 years of research, allows for the opportunity to examine Volkwein University's educational outcomes through an analysis of opportunities in the student's academic coursework to track learning. Accomplishing this analysis will aid Volkwein University in the accreditation process as well as providing evidence to various constituents that a Volkwein University education is valuable and beneficial to the development of the student and worth the financial cost.

Using this framework to evaluate the NSSE data can allow for Volkwein University to examine institutional effectiveness and focus on which aspects are important in helping shape and develop first year students. Terenzini and Reason suggest that, "the framework can promote more informed program review, revision and development, as well as more effective resource allocations," which is extremely important in today's environment with many demands on institutional resources (Terenzini and Reason, 2005). Using this college impact model, the goal is to focus on the many different factors that contribute to student persistence and success in a college setting. Following the Foundations of Excellence in the First Year College Project, this model allows for a focus on the faculty culture, students academic engagements in higher-order cognitive skills, moral reasoning skills, psychosocial development, and persistence in subsequent years (Terenzini and Reason, 2005) following Terenzini and Pascarella's observation that "multiple forces operate in multiple settings to influence student learning and persistence" (Terenzini and Reason, 2005). To see the model framework, please see Appendix 2.

For the purpose of this report and to show the President's cabinet the possible opportunities from NSSE data research, the goal is to focus on if the curriculum utilizes higher order cognitive skills to

meet the learning outcomes. The chart below shows the 4 higher order cognitive skills and what students reported about these tools in their curriculum at Volkwein University.

Table 1: Students Report Using Higher Order Cognitive Skills at Volkwein University

During the current school year how much of your course work emphasized the following mental activities:				
	Very Much	Quite a Bit	Some	Very Little
Analyzing the basic elements of an idea, experience or theory such as examining a particular case or situation in depth and considering its components	134 37.33%	143 39.83%	74 20.61%	6 1.67%
Synthesizing and organizing ideas, information or experiences into new, more complex interpretations and relationships	99 27.73%	152 42.58%	89 24.93%	16 4.48%
Evaluating or making judgments about the value of information, arguments or methods such as examining how others gathered and interpreted data and assessing the soundness of their conclusions	98 27.15%	158 43.77%	86 23.82%	18 4.99%
Applying theories or concepts to practical problems or in new situations	131 36.29%	140 38.78%	76 21.05%	13 3.88%

University, it would stand to reason that they would have developed the necessary skills to accomplish several educational learning outcomes established by Volkwein University. The outcomes from the NSSE survey that relate to development and growth from the specific higher order cognitive learning tools can be seen in the chart below.

Table 2: Volkwein University's Objectives and Educational Learning Outcomes

Volkwein University's Objectives and Outcomes	
Objectives – Higher Order Cognitive Learning Skills	Outcomes From Utilizing Higher Order Cognitive Learning Skills in Volkwein University's Curriculum
<ul style="list-style-type: none"> • Analyze • Synthesize • Evaluate • Apply 	11E) Thinking critically and analytically
	11J) Learning effectively on your own
	11K) Understanding Yourself
	11L) Understanding people of other racial/ethnic backgrounds
	11M) Solving complex real-world problems
	11N) Developing a personal code of values and ethics

Students who reported having used higher order cognitive skills in their classroom experience, also reported higher assurances in meeting the student outcomes listed in Questions 11E, 11J, 11K, 11L, 11M and 11N of the NSSE survey in all instances of the higher order practices of analyze, synthesize, evaluate and apply.

With an analysis of the data, student who reported that they used higher order cognitive learning skills also reported that they were able to be more effective in accomplishing the learning outcomes as stated by Volkwein University. Students who ranked using higher order cognitive learning tools also did significantly better than students who ranked using higher order cognitive skills lower in their courses. (To see this correlation, please see Appendix 3 on page XXX).

Different Populations

Through an analysis of the different populations at Volkwein University, the data shows that students do have some small differences between subsets in the population (See Appendix 3 on page XXX for a comparison of GPA based upon different populations at Volkwein University). At Volkwein University for 2012, of the 361 people that took the NSSE survey, 44 of those students

did not return for their sophomore year (which is about 13% of the total number of students who took the survey). A majority of the students that did not return to Volkwein University are domestic (96%), white (56%), female (64%) students who are not involved in fraternity or sorority life (91%) and are not athletes on campus (93%). Furthermore a good majority of these students live on campus (59%), majoring in the Social Sciences (22%), Business (20%) and the Arts and Humanities (15%). 46% of these students that left had a GPA of 3.0 or higher. Looking at these numbers, half of the people that left Volkwein University did not fall in “high-risk” populations (male, athlete, greek life, etc).

Overall the variability between students and their GPA's are very low however there are some interesting observations that can be made. Domestic females outshine their male counterparts at the end of both their 2nd and 3rd semester at Volkwein University. Female student respondents average GPA at the end of the 2nd semester was 3.76 compared to male students whose average GPA was a 2.84. In the third semester females reported an average GPA of 3.70 and the male students reported an average GPA of 2.86. International male students also do significantly better than domestic male students with international male student GPA's averages being 3.08 at the end of both the 2nd and 3rd semester. There was a weak response for international female students with only 15 respondents, however from the 15 that did respond, they did significantly worse than even the male domestic students with an average GPA being 2.63 at the end of their 2nd semester. Volkwein University needs to ensure that more resources are being offered to its domestic male students and international female student populations to make sure that they are able to be more successful at Volkwein University.

According to current literature and for the analysis of this data set, the definition being used for “first generation” college students is that neither parent has attended education past a high school diploma. 14% of students fall into this category and based upon GPAs from the 2nd and 3rd semester, these first-generation students actually perform better than those students that do not fall in the first generation category. First generation students reported an average GPA at the end of their 2nd semester as a 2.96 verses non-first generation students who reported an average GPA of 2.79. At the end of the 3rd semester, those number do not change much for first generation students who reported an average GPA of 2.94 verses non-first generation students who reported an average GPA of 2.73.

When it comes to Fraternity and Sorority life, male students that are not in fraternities do slightly better than their counterparts in fraternities, however that is not the same for females in sororities. Female sorority sisters do significantly better with their GPA's than all male and female respondents regardless of if they were or were not in a Greek organization. This is partially contributed to the standards that sororities have set up around having to implement study hours and more educational training opportunities for sorority sisters. Implementing similar regulations on fraternities could also help contribute to encouraging male students in fraternities to do better academically in the future.

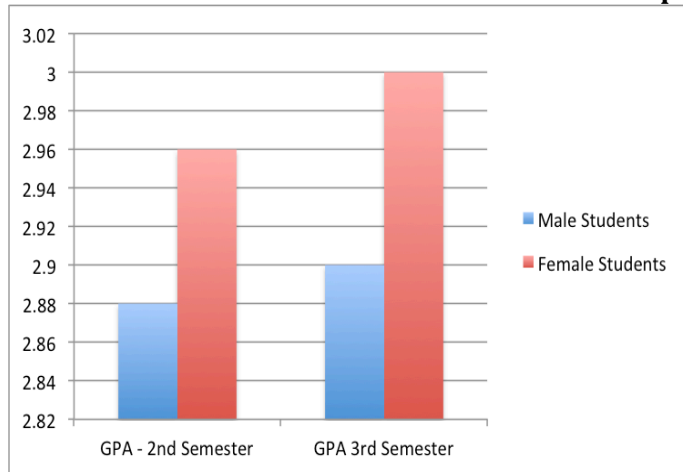
Non-athlete students do slightly better than their counterparts who play sports on campus. Non-athletes report an average GPA at the end of the 2nd semester as a 2.96 compared to athletes who report an average GPA at 2.79. This trend carries through to the end of the third semester with non-athletes reporting an average GPA of 2.97 and athletes reporting an average GPA of 2.88. Implementing more resources and opportunities for athletes around study hours, tutoring and mentoring can also help contribute to better performance of student athletes.

There is also a difference within majors. Students who are in the natural sciences and engineering

are struggling more than students in majors like Business, Social Sciences and Education. A look at the curriculum is necessary to see why students in certain majors are not doing as well as in other majors. Understandable, students in the sciences would struggle with the course work, but implementing some more assessment as to what those barriers are for students in the sciences can help with program review to create better resources to meet these student's needs.

Though some students do slightly better than other populations of students, student's performance overall for the institution is particularly low across the board. Of the 361 responses, roughly 49% of respondents had a GPA of a 2.99 or lower at the end of their 2nd semester and roughly 54% of students had a GPA of 2.99 or lower at the end of their 3rd semester. Looking at the GPAs of the student population at Volkwein University shows that there are some challenges and barriers to student performance and it is imperative that the institution figures out what these challenges and barriers are to be able to improve. Further analysis of the NSSE data can lead to comparisons among other educational outcomes to create changes in the program to better meet student needs, which lead to student success.

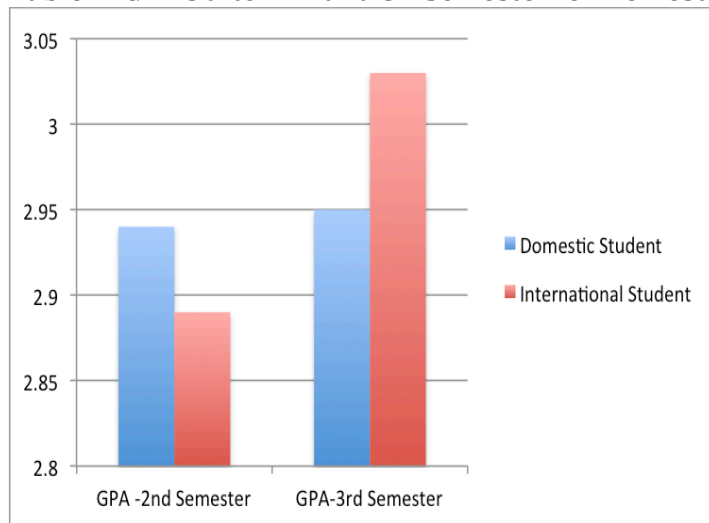
Table 3: GPA's after 2nd and 3rd Semester based upon Gender at Volkwein University



Male students do significantly worse than their female counterparts after both the 2nd and 3rd semester at Volkwein University.

More programs need to be implemented to target male students on campus and making sure they have the necessary resources to be successful and achieve better on campus.

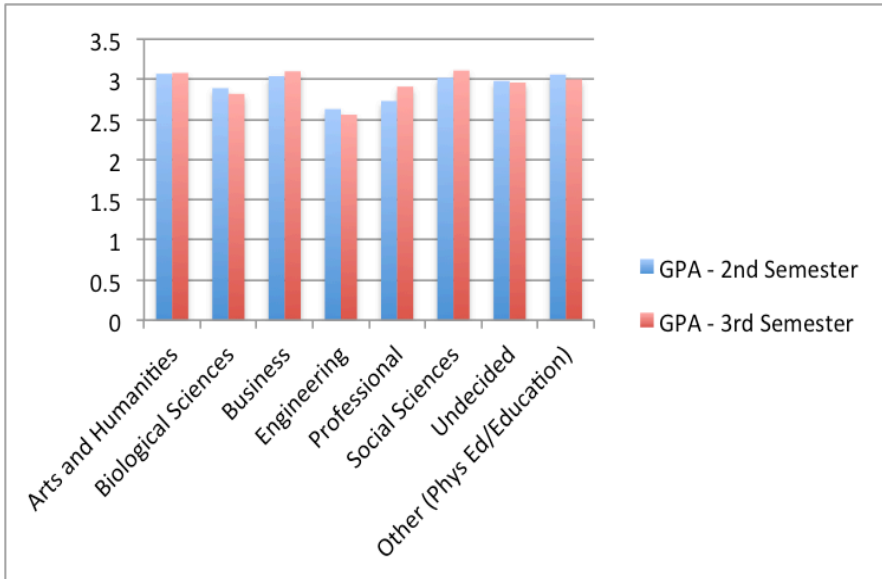
Table 4: GPA's after 2nd and 3rd Semester for Domestic and International Students



Domestic students at Volkwein University do better during their 2nd semester however after having a year to get acclimated to campus international students do significantly better.

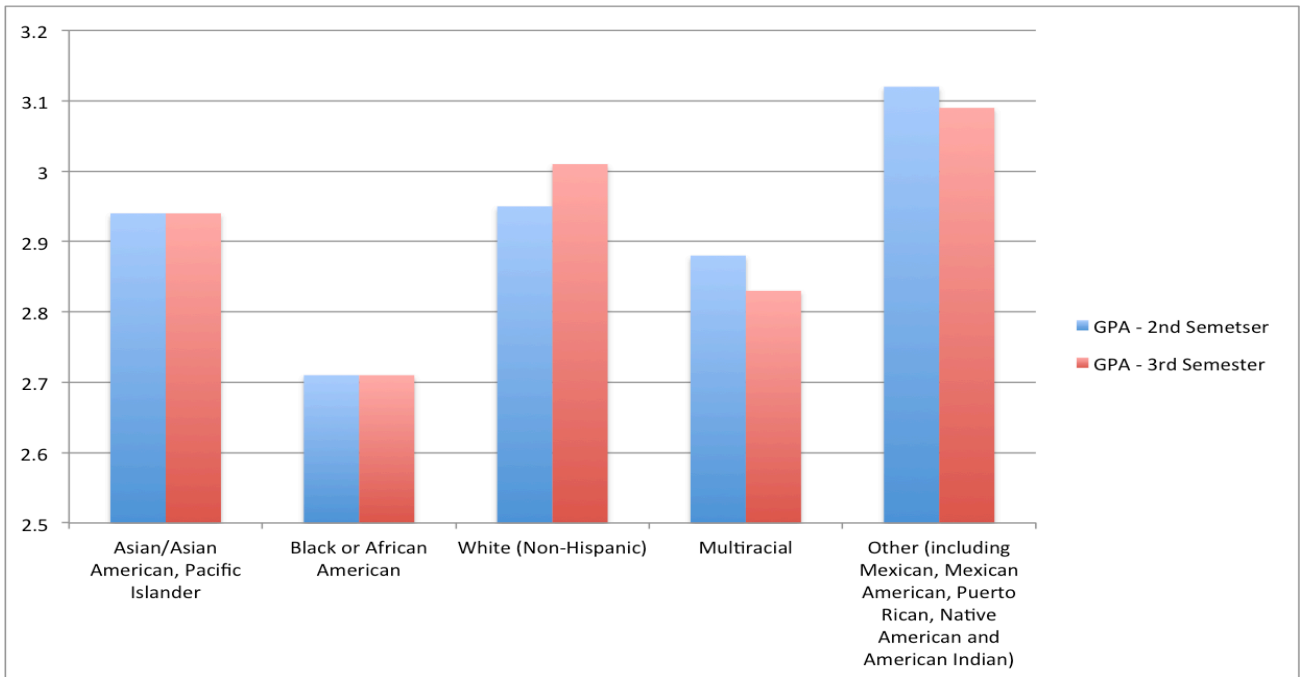
This data can be misleading though. Male international students do significantly better during their 3rd semester, however female international students perform about the same as male domestic students in their 3rd semester.

Table 6: GPAs after 2nd and 3rd Semester based upon Major at Volkwein University

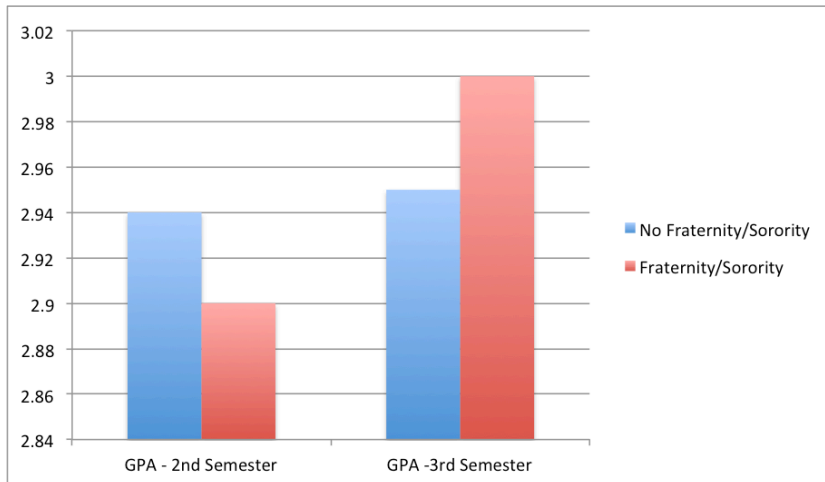


Students in the Biological Sciences and in Engineering's GPA's are lower than other majors. An evaluation of the curriculum needs to happen to discover what barriers exist for students in Engineering and Biological Sciences. Once these barriers have been realized, Volkwein University needs to offer more resources for these students so that they can achieve at higher levels.

Table 7: GPA's after 2nd and 3rd Semester by Race at Volkwein University



Though Higher Education is supposed to be a great equalizer, there are still discrepancies that exist among populations at Volkwein University. African American students are underperforming at Volkwein University compared to all other races. More information needs to be examined to figure out what is the cause for this and how can Volkwein University offer more resources to those students to ensure they perform at higher levels.

Table 8: Greek Life on Student GPAs

From this table it would appear that the members of Greek Life do significantly much better than non-greek students during the 3rd semester. But this is not necessarily the case. The male students in fraternities do significantly worse their 3rd semester but because of Educational programs, the women in sororities do much better skewing this data.

The Future

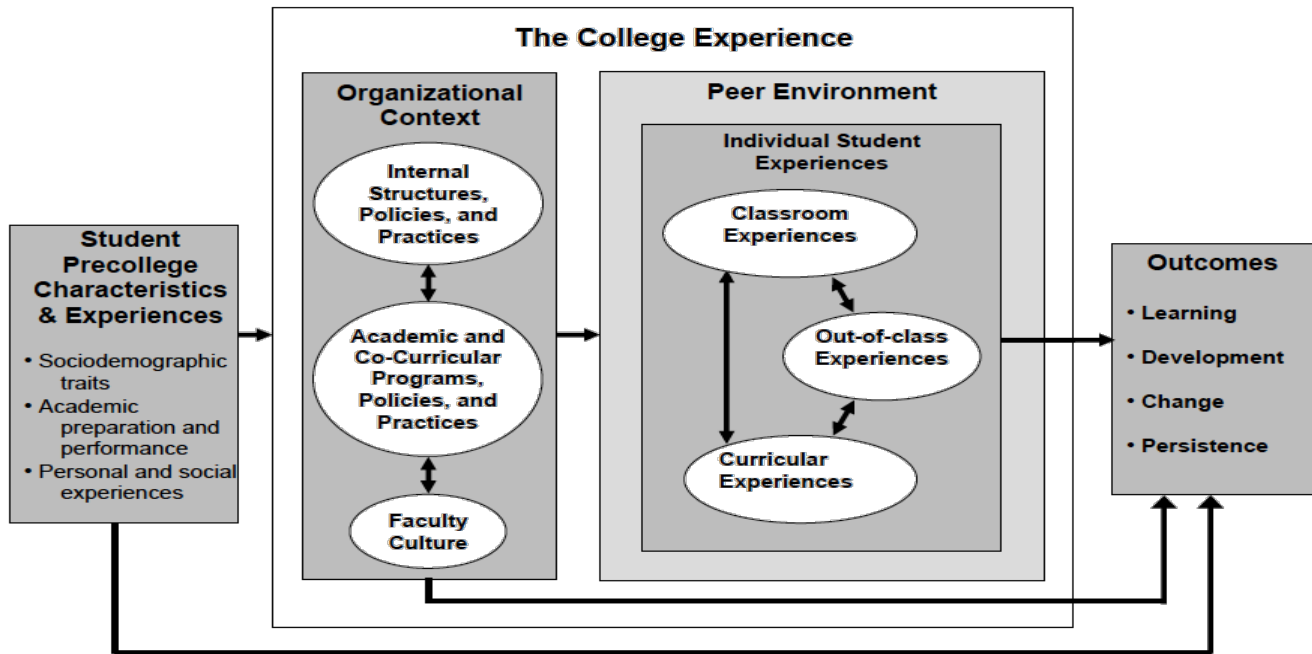
Volkwein University has always been committed to student success and creating outcomes that lead students to develop and to grow. Administering assessments such as NSSE are beneficial in providing many details about students at the institution to not only measure the effectiveness of the institution but also predict trends for the institution. Using variables from pre-college characteristics to student performance and engagement at an institution can really create an overall plan for an institution on how to proceed. These assessments show weaknesses in the institution and allow administrators to provide new programs and opportunities to strengthen those weaknesses, make budgetary decisions around what is important for the continued success of the students and also shape strategic planning by helping set priorities.

With that, Volkwein University has not been as successful in interpreting the data. Just because you conduct the assessment, it is useless if you do not have the appropriate people hired to look at, analyze, make predictions and help facilitate the learning of trends in the student population. From this experiment, it is quite clear of the importance of institutional assessment and research and the need of hiring professional staff who understand how to perform regression analysis, conduct anova and t-tests but most importantly can make the data understandable to all constituents that try to alter, shape, or influence the conversation of what is important at an institution. The bottom line: the students are the most important part of a University, and if an institution can utilize assessments like the NSSE survey to make sure that the money, time and effort that students are utilizing to get a quality education, it should be the role of the institution to utilize the data to always create a culture of improvement.

Appendix 1

Major Student Characteristics that took the NSSE Survey at Volkwein University, Spring 2012		
	N	Percentage of Response
Gender		
Male Students	140	39%
Female Students	219	61%
Domestic Vs. International		
Domestic Student	325	90.03%
International Student	36	9.97%
Age		
18 or Less	257	72.39%
19 or Older	97	27.32%
Race/Ethnicity		
Asian, Asian American or Pacific Islander	68	18.89%
Black or African American	37	10.28%
White (Non-Hispanic)	179	49.72%
Mexican, Mexican American, Puerto Rican, or other Hispanic/Latino	23	6.38%
Multiracial	21	5.83%
Other or Prefer not to Respond	32	8.89%
Fraternity and Sorority Life		
Not in Fraternity or Sorority	320	90.14%
In a Fraternity or Sorority	35	9.86%
Athlete vs. Non Athlete		
Not an Athlete	324	91.27%
Student Athlete	13	8.73%
Major		
Arts and Humanities	30	8.65%
Biological Sciences	38	10.95%
Business	44	12.68%
Engineering	33	9.51%
Professional	23	6.63%
Social Science	72	20.75%
Other (Includes Education and Physical Science)	73	21.03%
Undecided	34	9.08%
Living Arrangements		
On-Campus	232	65.91%
Off-Campus	120	34.08%
Enrollment Status		
Less Than Full Time	2	.56%
Full Time	353	99.44%
**First Generation vs. Non-First Generation College Student		
First Generation	50	15.82%
Not-First Generation	266	84.18%
**Research defines first generation as no parent attending college		
Retention		
Not Retained from First Year to Sophomore Year	46	12.74%
Retained from First Year to Sophomore Year	315	87.26%
Grade Point Average		
After 2nd Semester		
0.00-0.99	7	1.96%
1.00-1.99	28	7.82%
2.00-2.99	141	39.39%
3.00-3.99	176	49.16%
4.00	6	5.71%
After 3rd Semester		
0.00-0.99	0	0.00%
1.00-1.99	16	5.08%
2.00-2.99	155	49.21%
3.00-3.99	141	44.76%
4.00	3	0.95%

Appendix 2

**The Comprehensive Outcomes Model**

The model above is Terenzini and Reason's Comprehensive Outcomes Model. In relationship to the study of NSSE data from Volkwein University's educational learning outcomes, the use of higher order cognitive learning skills would fall under the academic policies and practices of the institution and relate to the classroom and curricular experiences whereas students would be able to practice the use of those skills out of the classroom in real world experiences, leading to learning and development of the student by achieving the outcomes presented by Volkwein University.

Appendix 3

Analyze - Higher Order	Thinking Critically/Analytically													
	Very Little	GPA2	GPA3	Some	GPA2	GPA3	Quite a Bit	GPA2	GPA3	Very Much	GPA2	GPA3	GPA2	GPA3
Very Little	0.29	3.00	2.87	0.57	1.89	3.06	0.57	2.67	2.82	0.00	-	-	2.52	2.92
Some	0.86	1.64	2.44	7.76	2.90	2.82	8.33	3.13	3.19	3.74	3.1	3.08	2.70	2.88
Quite a Bit	0.57	2.82	2.7	8.33	2.93	2.98	18.68	2.82	2.84	12.64	2.7	2.91	2.83	2.86
Very Much	0.57	3.74	3.61	2.87	3.29	3.18	11.78	3.11	3.11	22.41	3	2.97	3.29	3.22
	2.30	2.80	2.91	19.54	2.75	3.01	39.37	2.93	2.99	38.79	2.96	2.99		
Analyze - Higher Order	Learning effectively on own													
	Very Little	GPA2	GPA3	Some	GPA2	GPA3	Quite a Bit	GPA2	GPA3	Very Much	GPA2	GPA3	GPA2	GPA3
Very Little	0.59	1.89	3.09	0.29	2.68	2.47	0.59	2.94	3.01	0.29	2.8	2.9	2.57	2.87
Some	0.88	1.60	2.50	6.16	3.05	2.99	9.68	3.00	2.98	2.64	3.3	3.29	2.73	2.94
Quite a Bit	2.05	2.59	2.91	6.74	2.89	3.00	21.99	2.83	2.89	9.97	2.7	2.76	2.76	2.89
Very Much	0.59	3.56	3.23	4.11	3.10	3.11	14.66	3.05	3.01	18.77	3.1	3.05	3.20	3.10
	4.11	2.41	2.93	17.30	2.93	2.89	46.92	2.96	2.97	31.67	3	3		
Analyze - Higher Order	Understanding Yourself													
	Very Little	GPA2	GPA3	Some	GPA2	GPA3	Quite a Bit	GPA2	GPA3	Very Much	GPA2	GPA3		
Very Little	0.89	2.11	2.92	0.00	0.00	0.00	0.59	3.00	2.87	0.30	2.8	2.9	1.97	2.17
Some	2.67	2.59	2.62	5.64	3.07	3.10	7.72	2.96	2.95	3.26	3.2	3.17	2.96	2.96
Quite a Bit	2.97	2.79	2.87	10.39	2.73	2.91	19.88	2.80	2.85	8.01	2.9	2.89	2.81	2.88
Very Much	3.56	3.42	3.38	6.53	3.03	2.95	10.98	3.15	3.04	16.62	3	2.98	3.15	3.09
	10.09	2.73	2.95	22.55	2.21	2.24	39.17	2.98	2.93	28.19	3	2.99		
Analyze - Higher Order	Understanding people of other racial/ethnic backgrounds													
	Very Little	GPA2	GPA3	Some	GPA2	GPA3	Quite a Bit	GPA2	GPA3	Very Much	GPA2	GPA3		
Very Little	0.88	2.11	2.92	0.00	0.00	0.00	0.59	3.00	2.87	0.29	2.77	2.9	1.97	2.17
Some	2.95	2.59	2.74	7.08	3.00	2.96	6.19	3.00	3.09	3.54	3.21	3.15	2.95	2.99
Quite a Bit	1.18	3.28	3.19	10.62	2.70	2.91	18.29	2.77	2.84	10.91	2.92	2.86	2.92	2.95
Very Much	2.65	3.54	3.55	5.31	3.22	3.08	11.80	3.09	3.03	17.70	2.97	2.95	3.21	3.15
	7.67	2.88	3.10	23.01	2.23	2.24	36.87	2.97	2.96	32.45	2.97	2.97		
Analyze - Higher Order	Solving Complex Real World Problems													
	Very Little	GPA2	GPA3	Some	GPA2	GPA3	Quite a Bit	GPA2	GPA3	Very Much	GPA2	GPA3		
Very Little	0.88	2.11	2.92	0.59	3.00	2.87	0.29	2.77	2.90	0.00	0.00	0.00	1.97	2.17
Some	5.57	3.01	3.11	7.33	2.92	2.85	5.28	2.88	2.96	1.76	3.50	3.54	3.08	3.12
Quite a Bit	2.35	3.02	3.33	13.20	2.77	2.83	18.77	2.80	2.85	6.45	2.83	2.86	2.86	2.97
Very Much	3.23	3.52	3.51	7.33	3.20	3.08	12.02	3.05	3.00	14.96	2.96	2.93	3.18	3.13
	12.02	2.92	3.22	28.45	2.97	2.91	36.36	2.88	2.93	23.17	2.32	2.33		
Analyze - Higher Order	Developing a personal code of values													
	Very Little	GPA2	GPA3	Some	GPA2	GPA3	Quite a Bit	GPA2	GPA3	Very Much	GPA2	GPA3		
Very Little	0.88	2.11	2.92	0.59	3.00	2.87	0.00	0.00	0.00	0.29	2.77	2.90	1.97	2.17
Some	4.42	3.02	3.02	5.60	3.02	2.94	7.08	2.90	2.95	2.65	3.3	3.26	3.06	3.04
Quite a Bit	4.42	3.21	3.24	11.50	2.66	2.80	18.29	2.74	2.81	6.49	2.97	2.91	2.90	2.94
Very Much	4.42	3.44	3.46	5.01	3.19	2.99	14.16	2.95	2.92	14.16	3.07	3.03	3.16	3.10
	14.16	2.95	3.16	22.71	2.97	2.90	39.53	2.15	2.17	23.60	3.02	3.03		

Appendix 4

Student Performance by Sub-Populations at Volkwein University				
SUB-POPULATION	# OF RESPONDENTS	GPA AFTER 2 ND SEMESTER	GPA AFTER 3 RD SEMESTER	Retention Information (number of students who left VU based upon characteristic)
Male Students	140	2.88	2.90	16
Female Students	219	2.96	3.00	29
Domestic	325	2.94	2.95	42
International	36	2.89	3.03	3
Asian, Asian American or Pacific Islander	68	2.94	2.94	9
Black or African American	37	2.71	2.71	3
White (Non-Hispanic)	179	2.95	3.01	25
Multiracial	21	2.88	2.83	3
Other (including Mexican, Mexican American, Puerto Rican, Native American, and American Indian)	32	3.12	3.09	2
No Fraternity/Sorority	320	2.94	2.95	41
Fraternity/Sorority	35	2.90	3.00	3
Not an Athlete	324	2.96	2.97	42
Athlete	31	2.79	2.88	2
First Generation	50	2.96	2.94	3
Not First-Generation	311	2.79	2.73	41
Arts and Humanities	30	3.07	3.08	0
Biological Sciences	38	2.89	2.82	0
Business	44	3.04	3.10	9
Engineering	33	2.63	2.56	4
Professional	23	2.73	2.91	3
Social Science	72	3.02	3.11	10
Undecided	34	2.98	2.96	5
Other (including Education and Physical Science)	73	3.06	3.00	5

Examining student performance based upon their GPA gives insight into how subsets of populations are doing at Volkwein University. There are pockets of students that are doing better than other students and using NSSE data, the institution can look at those individual subsets and create solutions to ensure that those subsets are doing better.

Looking at retention as a measure of student performance also can provide insight into what students left. Looking at Volkwein University, the students that left were not in high risk populations and half of them were doing really well at Volkwein University so other factors contributed to their decision to leave Volkwein University. Figuring out these other decisions allows Volkwein to resolve those reasons in the future and close the gap on retention.

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