

EXAMINING THE ENGAGEMENT OF TRANSFER STUDENTS  
IN TEXAS UNIVERSITIES

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The success of transfer students plays a critical role in improving the baccalaureate attainment rates of undergraduates attending 4-year higher education institutions in Texas; however, current indicators suggest transfer students have lower persistence and graduation rates relative to students who begin and complete their college education at one university (i.e., non-transfer students). Additionally, the research literature indicates a link between degree completion and engagement; however, transfer students are reported to be less engaged and less likely to persist than their counterparts. This quantitative study compared the engagement experiences of 2-year transfers, 4-year transfers, swirl transfer, and non-transfers by using National Survey of Student Engagement (NSSE) 2008 data to determine if there are any differences among these groups, and if these differences persist after controlling for individual and institutional covariates. The sample consisted of 2,000 seniors attending 4-year higher education institutions in Texas. The engagement scores of each group were compared using a multivariate analysis (MANOVA). This study found non-transfers were more engaged than each type of transfer student on Student-Faculty Interaction and Supportive Campus Environment factors; moreover, these differences generally persisted after controlling for residence, enrollment status, and institutional control (i.e., public vs. private). The data indicated no difference among the three transfer sub-groups for any of the engagement variables, which suggests their engagement experiences were similar. This research suggests that efforts to increase

the participation and success rates of Texans, particularly those described as transfers, may be informed by how students perceive their engagement experiences; consequently, institutions may consider modifying and implementing policies that promote student participation in educationally purposeful activities leading to persistence and graduation.

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Being confident of this, that he who began a good work in you will carry it on to completion until the day of Christ Jesus (Philippians 1:6 New International Version).

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## CHAPTER 1

### INTRODUCTION

Many issues, including increasing fiscal accountability and less than desirable graduation rates, are prompting more research focused on understanding the factors contributing to the departure of students from higher education institutions before degree completion. In 2010, the number of students enrolled in Texas 4-year institutions totaled 677,504 students, but only 143,415 students completed degrees at these institutions; moreover, about 31% of students did not graduate or persist within a 6-year period (THECB, 2011c). The data on enrollment and degrees awarded by racial groups further highlights the nature of student departure in Texas: for Whites (46.3% enrolled and 54.3% earned a degree), for Hispanics (28.7% enrolled and 24.8% earned a degree), and for African Americans (12.1% enrolled and 9.4% earned a degree) (THECB, 2011a). Concerned about the state's educational attainment rates, policymakers in Texas have implemented a plan that links higher education funding to performance measures such as persistence and graduation rates. House Bill 9 (2011) enacted in the 82nd Texas Legislative Session significantly altered Texas' method of calculating formula funding for colleges and universities by linking state appropriations to measures of success such as graduation rates and course completion. THECB justified the move towards this new funding strategy by arguing that efforts to increase the number of students enrolled in higher education must be accompanied by increases in degree completers (THECB, 2009). The performance-based funding plan allocates funds to higher education institutions based on the number of students completing courses, thus providing institutions the incentive to find ways to keep help more

students complete more classes, persist in college, and graduate with a bachelor's degree. According to THECB (2009), this new funding strategy communicates to higher education institutions that, "You can do more to help all students stay in college and graduate" (p. 4).

Within this context of outcome-based funding, higher education institutions in Texas are expected to retain and graduate more students. Some institutions may respond to this pressure by modifying standards to improve the quality of the undergraduate cohort while others may focus on intervention programs and other educational activities that promote persistence and graduation. Both approaches assume the implementation of these new policies and practices may improve the quality of the undergraduate experience and yield positive outcomes; however, the implementation of these initiatives should be tempered by empirical evidence indicating that, despite the expenditure of resources and effort, the persistence and graduation rates at most higher education institutions in the United States have shown only modest increases (Seidman, 2006; Tinto, 2007). This discrepancy emphasizes the need to continuously examine and understand the merits of effective educational practice and policy related to student success.

#### Demographic Changes and Conditions in Texas

In addition to increased accountability and the reality of performance-based funding, Texas demographic changes place the state at risk of becoming one of the least educated in the nation resulting in adverse effects on the state's future economic growth. The population in Texas has steadily increased making it one of the largest states in the United States. According to the 2010 Census, nearly 4.3 million people

were added to the state over the last decade increasing its current population to over 25 million. Texas is the second largest state in the country, which is only surpassed by California with over 37 million residents, and it is also the fastest growing state in the U. S. (U.S. Census Bureau, 2010). From 2000 to 2010, the state's growth rate was 20.6% compared to the average national growth rate of 9.7%. The three largest cities in the state- Houston, San Antonio, and Dallas- recognized significant population growth ranking them among the top-ten largest cities in the nation; moreover, Austin, Fort Worth, and El Paso are other cities within the state with large populations (Mackun & Wilson, 2011). Not only is the population in the state growing rapidly, but its racial composition is changing as well.

The 2010 Census diversity data revealed Texas is the fourth "majority minority" state in the nation with a minority population comprising 50.2% of the state's total population (Humes, Jones, & Ramirez, 2011). The Census estimated Hispanics will become the largest racial group in Texas by 2015 and the largest cities in the state will have a higher percentage of Hispanics than whites; it also projected that the percentage of non-Hispanic Whites in Houston, San Antonio, Dallas, and El Paso will be less than 10% while the population of Hispanics in these areas may exceed 25%. As the state's population becomes larger and more ethnically diverse, the educational attainment rates of its citizens are likely to lag behind.

Texas is projected to become one of the least educated states in the nation. A national study of educational attainment reported that the total number of high school graduates in the U. S. was about 3 million and the averaged freshman graduation rate was 75.5%; however, Texas had the second largest number of students graduate from

high school, a total of 264, 275, but its averaged freshman graduation rate of 75.4% was 29<sup>th</sup> in the nation (Stillwell, Sable, & Plotts, 2011). The study also reported that a smaller proportion of Texas' population graduated from high school; moreover, the high school graduation rates for minority students were lower than Whites students- Whites (82.7%), Hispanic (69.6%), and African American (68%). These figures show that the lowest high school graduation rates were among minorities who compose the majority of the state's population. Another measure of educational attainment is the number and rate of high school dropouts. Nationally, the total population of high school dropouts was 607,789 and the dropout rate was 4.1%. In Texas, 41,393 students dropped out of high school and minority students dropped out at higher rates- Whites (1.5%), Hispanic (4.2%), and African American (5%). These data provide further evidence that fewer minorities are completing high school and it may also indicate that they are not pursuing, or are unprepared for, postsecondary education.

According to THECB (2000a) data, there were educational gaps within Texas on key outcomes including enrollment and graduation rates. Texas was 17<sup>th</sup> among other states in terms of the percentage of citizens who graduated from 4-year institutions (49.3%) and 26<sup>th</sup> in the nation in terms of baccalaureate graduates (16.9%). In the fall 2009 semester, enrollment at Texas higher education institutions increased by 121,935 students when compared to the previous fall, but only 42% of this population were Black or Hispanic; moreover, the percentage of Blacks and Hispanics in higher education did not reflect their representation in the population. THECB also examined the educational attainment of 7<sup>th</sup> graders from 1998 to 2009 and found that 67.6% graduated from high school, 51% of these high school graduates enrolled in higher education, and 17.9% of

these students completed a higher education degree in Texas. They also reported on the success of minority males: among African American males, 59.2% graduated from high school, 40.2% enrolled in higher education, and 6.7% completed a degree. Additionally, the educational attainment rates for Hispanic males were: 58% graduated from high school, 35.6% enrolled in college, and 7.8% completed a degree. Black and Hispanic students also had lower educational attainment rates at the postsecondary level than White students. For example, 56% of Whites completed a bachelor's degree in 2010 compared to 25% of Hispanics and 10% of Blacks. The educational attainment levels in Texas are projected to grow even wider between the racial groups and the percentage of bachelor degree holders in the state will decrease by 6% from 18.2% in 2000 to 12.9% in 2040. These data highlight the lower educational attainment rates among minority students particularly those at-risk of not completing a bachelor's degree.

An educated workforce is critical to the future economic prosperity of the state (THECB, 2011b). The state projected changes in the Texas Labor force in 2040 will reflect more minorities, particularly Hispanics, compared to 2000: Hispanics will make up 58.7% of the workforce, African Americans 7.9% and Whites 25.2%. Based on these projections and the educational attainment data, a smaller percentage of the workforce will have a bachelor's degree resulting in a larger, less educated population that will have a negative impact on Texas's economic future. A report published by the Texas Comptroller acknowledged the link between a strong economy and educational attainment:

[A] less educated workforce translates into lower earnings and fewer skilled workers. Businesses will have a harder time finding qualified employees to fill positions, and may even decide to locate in a different state where skilled workers are plentiful. (Texas Comptroller of Public Accounts, 2008, p. 9)

## Affordability, Accessibility, and Closing the Gaps

Within the context of increased accountability, performance funding, population growth, and declining educational attainment rates, THECB adopted a plan entitled Closing the Gaps by 2015 to increase the participation, as measured by enrollment, and success, as measured by degree completion, of students in Texas higher education institutions, particularly those at-risk of not obtaining a baccalaureate degree (THECB, 2011b). Additionally, it established two goals. The participation goal is to add 630,000 more students to the state's higher education system by 2015. Furthermore, the state wants to increase enrollment for three racial groups as follows: African Americans (65,000 students), Hispanics (439,000 students), and Whites (102,000 students). One key step to accomplishing this goal includes establishing affordability policies that ensure students are able to participate in higher education, which includes encouraging students to begin at 2-year institutions then transfer to 4-year institutions. The success goal is to award 210,000 undergraduate degrees, certificates, and other identifiable student successes from high-quality programs. The state wants to increase degrees awarded by racial groups as follows: African Americans (24,300 degrees), Hispanics (67,000 degrees), and Whites (109,000 degrees). Key steps to accomplishing this goal are to increase retention and graduation rates by providing institutions with incentives to develop programs and policies that increase the number of students who transfer between 2-year and 4-year institutions and recognizing programs that successfully retain students. The plan reflects the state's efforts to prevent the predicted decline in educational attainment among its citizens by improving access into higher education and producing more baccalaureate graduates.

The demographic changes in Texas coupled with an anticipated decline in baccalaureate attainment rates have placed greater pressure on higher education institutions to enroll, retain, and graduate more students. THECB reported a large gap existed among racial groups in both participation in and graduation from the state's higher education institutions (THECB, 2000). Minorities, who have the lowest enrollment and graduation rates, will constitute a larger proportion of Texas's population and workforce. If the gap is not closed, fewer college graduates will be available to fill future employment opportunities. Higher education institutions in Texas, particularly the 38 public and 39 private 4-year institutions, must share the burden of increasing the graduation rates of a rapidly growing and diverse population. In order for the state to reach the goals established by the Closing the Gaps plan, the success of transfer students at 4-year institutions will need to be improved. In Texas, a large number of students, particularly minorities, begin their post-secondary education at 2-year institutions and then transfer to 4-year institutions hoping to complete a bachelor's degree while a smaller proportion of students move between 4-year institutions. Although transfer students constitute a significant part of Texas' higher education system, students transferring into 4-year institutions, whether from a 2-year or another 4-year institution, have lower persistence and graduation rates relative to students who begin and complete their degree at one institution; the 4-year graduation rate for non-transfer students is 82% compared to 67% for transfer students; moreover the persistence rate of non-transfer students was higher (89%) compared to transfer students (81%) (THECB, 2001; THECB, 2010).

THECB acknowledged that to achieve the goals of Closing the Gaps, institutions

need to increase student success while maintaining the gains achieved in participation. Institutional practices have emerged with the purpose of increasing persistence and graduation rates, but substantial gains in these rates have not occurred. A fitting description of the challenge Texas faces in accomplishing these goals is articulated by Vincent Tinto (2007) who stated:

Though access to higher education has increased, greater equality in attainment of 4-year college degrees has not followed suit. For too many low-income students access to higher education has become a revolving door, the promise of a Bachelor's degree unfulfilled. (p. 12)

The literature on educational attainment has established that persistence is both conceptually and empirically linked to degree attainment or graduation; moreover, it is argued that persistence is a necessary condition for graduation (Pascarella & Terenzini, 1991). Pascarella and Terenzini, in their review of research on educational attainment, stated, "persistence and thereby educational attainment [graduation] are largely a function of the student's fit or match with the college environment" (p. 387).

Engagement is an approach of examining the experiences of students, and their subsequent fit, within the institutional environment that facilitate or inhibit positive outcomes such as persistence and graduation. Therefore, efforts to increase these outcomes must be informed by research examining the engagement experiences of transfer students at 4-year higher education institutions in Texas. This research is important because a growing proportion of students are choosing to attend multiple institutions during their pursuit of a bachelor's degree. Moreover, engagement is an important factor in the success of students; however, empirical examination of the engagement of transfer students within the context of Texas' higher education system is limited. In light of this research and the pressure to increase the success of

undergraduates, Texas higher education institutions and other stakeholders should evaluate engagement among transfer students to further understand all the factors leading to their persistence and graduation.

#### Problem Statement

The presence of transfer students in 4-year higher education institutions impacts Texas's achievement of the goals in the Closing the Gaps initiative. While engaged students are more likely to persist towards degree completion, the literature seems to agree that transfers are generally less engaged than non-transfers thus more insight into the nature of engagement among these students is warranted. Moreover, the evidence of engagement among different types of transfer students is unclear as some studies report one group of transfers being more engaged than another on certain benchmarks while other studies report the opposite. Additionally, some studies report transfers are equally or more engaged than non-transfer under certain conditions. This evidence yields an ambiguous picture of engagement among transfer students. Since the National Survey on Student Engagement (NSSE) instrument provides an opportunity to create discreet transfer subgroups, more studies can examine transfer student engagement and include multiple transfer groups in their analysis. This study attempts to answer the following question: What are the comparative engagement experiences, represented by five engagement scores, of 2-year transfers, 4-year transfers, swirl transfers, and non-transfers as reported by the NSSE for seniors at 4-year higher education institutions in Texas?

#### Purpose Statement

This study compared the engagement scores of 2-year transfers, 4-year

transfers, swirl transfers, and non-transfers to determine if there are any differences among these groups, and if these differences persist after controlling for individual and institutional covariates.

### Hypothesis

Given the relationship between engagement and completion, which indicates engaged students are more likely to persist towards graduation, then it follows that students who are seniors at 4-year higher education institutions in Texas, composed of both non-transfers and transfers, would be engaged at similar levels. This study tested the following hypothesis:

H<sub>0</sub>: There is no difference among the dependent variables (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experience, and supportive campus environment) by student type (non-transfer, 2-year transfer, 4-year transfer, and swirl transfer) of seniors attending 4-year higher education institutions in Texas.

### Research Questions

In addition, two research questions were examined to determine if any observed differences persisted after controlling for individual and institutional covariates:

RQ<sub>1</sub>: After controlling for individual-level covariates (enrollment status, residence, and ethnicity), is there a significant difference among the dependent variables (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experience, and supportive campus environment) by student type (non-transfer, 2-year transfer, 4-year transfer, and swirl transfer)?

RQ<sub>2</sub>: After controlling for institutional-level covariates (control, selectivity, and Carnegie Classification), is there a significant difference among the dependent variables (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experience, and supportive campus environment) by student type (non-transfer, 2-year transfer, 4-year transfer, and swirl transfer)?

### Definitions

Engagement is the level of student participation in purposeful educational activities while in college that may positively influence the persistence and graduation of students. NSSE measures engagement using five benchmarks: academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment.

NSSE benchmarks- The five NSSE benchmarks are a proxy to evaluate students' institutional engagement. They include: 1) academic challenge- the extent to which higher education institutions promote high levels of student achievement by emphasizing the importance of academic effort and setting high expectations for student performance; 2) active-collaborative learning- a student's level of involvement in their education and application of knowledge to different settings, as well as, collaborating with others in solving problems or mastering difficult material that prepares students to deal with "real world" problems; 3) student-faculty interaction- the level and nature of students' contact and interaction with faculty both inside and outside the classroom; 4) enriching educational experiences- the students' participation in activities that broaden their knowledge by participating in complementary learning opportunities, experiencing

diversity, and using technology; and 5) supportive campus environment- the students' perceptions about the institution's commitment to their success and cultivation of positive relationships among different groups on campus.

Transfer student: senior students who self-reported on the NSSE that they started at another higher education institution before attending the institution in which they completed the NSSE. There are three types of transfer students in this group: 2-year, 4-year, and swirl. Two-year transfers refer to students who indicated that they only attended a 2-year institution before enrolling in their current institution. Four-year transfers refer to students who indicated that they only attended a 4-year institution before enrolling in their current institution. Swirl transfers refer to students who attended multiple institutions, both 2- and 4-year, before enrolling in their current institution.

Non-transfer student: senior students who self-reported on the NSSE that they started at the institution in which they completed the NSSE and did not attend any other higher education institutions since high school graduation.

## CHAPTER 2

### LITERATURE REVIEW

#### The Current State of Higher Education in Texas

The current state of higher education in Texas includes increased accountability, performance funding, and greater pressure to increase persistence and graduation rates among undergraduates; moreover, these institutions face the challenges related to a growing, diverse population. The challenges associated with more people flooding the Texas higher education system is not new. There were at least three periods of significant growth in the history of Texas higher education (Cardozier, 2011). The first was after World War II, when Texas experienced massive growth in enrollment in higher education causing many of the state's teachers colleges to become state colleges; moreover, they were authorized to broaden their curriculum to accommodate the large number of veterans returning to the state. The second era of growth occurred in the 1960s when college enrollment increased again due to the postwar baby boom. The final period of growth occurred in the 1990s, when 2-year institutions experienced the largest growth in enrollment while 4-year institutions recognized moderate growth. Cardozier suggested an important indicator of the expansion of Texas higher education system during this time period was the increase in the number of public community college districts- from 40 in 1968 to 50 in 1995.

Currently, there are 38 public 4-year institutions, 39 private 4-year institutions, 2 private 2-year institutions, and 50 public 2-year college districts in the state. According to THECB (2011a), enrollment rates at Texas's 2-year and 4-year institutions have increased, but the graduation rates statewide, and for specific types of students, was

comparatively stagnant. The report stated enrollment in both 2-year and 4-year institutions increased significantly over a 10-year period with most of the growth occurring at 2-year institutions. In 2000, 482,770 students were enrolled in 2-year institutions then 10 years later enrollment increased almost 40% to 802,070 students; while enrollment at 4-year institutions increased 24%- from 536,747 students in 2000 to 703,379 in 2010. Moreover, THECB reported that the 2010 target for the participation goal was exceeded with an increased enrollment of over 485,000 students. These data suggest Texas is on pace to accomplish the participation goals established by the Closing the Gaps plan. Contrary to the positive trend in participation, the data regarding student success, or degree completion, indicated growth for this segment was slower as the 2010 target for degree completers, set at 171,000, was just met with 176,604 degrees awarded. Also, the number of degrees awarded by racial group fell short of targets: the target for African Americans was 19,800 but 18,443 completed a degree, the target for Hispanics was 50,000 but 47,331 completed a degree, and the target for Whites was 96,000 but 88,071 completed a degree. These data suggests the success goal may not be reached by 2015.

One aspect of student success THECB examined were the percentage of students transferring from 2-year institutions into 4-year institutions and their graduation rates. Studies have shown that transfer patterns in Texas have changed in recent years as the majority of the state's growing population of students began their postsecondary education at 2-year institutions (Council of Public University Presidents and Chancellors, 2010). THECB (2011) reported that the total enrollment at 2-year public institution was 743,252; the majority of these students were enrolled in academic

degree programs (69%) and part-time students (69.1%). The racial breakdown of this group was as follows: White (41%), Hispanic (34.4%), and African American (12.9%). In terms of degree completers, the majority were White (42%) followed by Hispanic (31.9%) then African Americans (11.5%). THECB also reported that 27% of students attending 2-year institutions transferred into a 4-year institution; moreover, 25.7% of students who completed an academic associate's degree were enrolled in another higher education institution while only 9.1% of students with a technical degree transferred to another institution. The graduation rate for 2-year transfer students attending 4-year institutions was 55.6% in 2010 and about 35% of 4-year graduates completed thirty or more semester credit hours at 2-year institutions.

The success of 4-year transfer students is relatively unknown as limited state-wide data exists on the success of students attending a 4-year institution who then transfer to another 4-year institution. THECB (2011a) reported enrollment at 4-year public institutions was 557,550. The majority of these students attended full-time (77.4%) and 81,050 bachelor degrees were awarded. The data on enrollment and degrees awarded by racial groups were as follows: for Whites (46.3% enrolled and 54.3% earned a degree), for Hispanics (28.7% enrolled and 24.8% earned a degree), and for African Americans (12.1% enrolled and 9.4% earned a degree). Although, there is limited data that tracks the transfer of students from one 4-year institution to another, one report by THECB estimates about 10,000 students transferred among the state's public 4-year institutions (THECB, 2000). More data is needed that accurately tracks the percentage of 4-year students who transfers to other institutions and graduate.

Although transfer students constitute a significant part of Texas' higher education system, THECB data revealed students transferring into 4-year institutions have lower persistence and graduation rates compared to students who begin and complete their degree at one institution (i.e., non-transfer students) (THECB, 2001; THECB, 2010). The 4-year graduation rate for non-transfer students is 82% compared to 67% for transfer students; moreover the persistence rate of non-transfer students was higher (89%) compared to transfer students (81%) (THECB, 2010). The participation and success data reported by THECB supports the argument that while student enrollment has increased state-wide similar gains have not been recognized in graduation rates.

One reason this disparity may exist is due to the persistence of transfer students, as the move from one institution to another, as reflected in low transfer rate for 2-year transfer students (27%). More needs to be done beyond articulation policies between 2- and 4-year institutions that increase the percentage of 2-year transfer students on 4-year campuses. A second plausible reason for this disparity may be due to low graduation rate of 4-year students who completed 30 or more semester hours at a 2-year institution. These students have completed a significant portion of the general education requirements, particularly if they are following the 4-year institutions articulation policies, yet a little more than a third are graduating with a bachelor's degree. Since much of the growth in the state's higher education system occurred among 2-year institutions, and more students are choosing to begin college at these types of institutions, it appears reasonable to conclude that transfer students will play a critical role in helping the state reach its Closing the Gap 2015 participation and success goals. Higher graduation rates for transfer students at 4-year institutions may result from

efforts to increase the transfer rates between 2-year and 4-year institutions, to increase the graduation rates of transfer students, and to improve the tracking of transfer students between 4-year institutions.

THECB (2000) recognized the need to increase the state's persistence and graduation rates of transfer students in 4-year institutions. Consequently, THECB has implemented two policies to encourage institutions to develop practices that promote student success. First, they developed a system to identify and recognize institution's "best practices" in providing student support services and high quality education. They have also indicated funding will be given to institutions that increase student success. Although efforts to stimulate the development of, and subsequently, reward institutional practices that promote student success are buttressed by optimism, previous studies examining the factors contributing to, or interfering with, the success of transfer students suggest that increasing the persistence and graduation rates of transfer students through institutional practice will be a daunting task.

### Transfer Student Success

Two-year institutions in Texas have not only recognized significant growth, but the transfer function they offer plays a role in increasing the persistence and graduation rates of undergraduates in the state. According to the literature, the transfer function at 2-year institutions facilitates the movement of students into 4-year institutions by providing them with lower-division courses and services intended to ease the students' transition into their new institutions (Laanan, Starobin, & Eggleston, 2010). Many students choose to begin the pursuit of their bachelor's degree at 2-year institutions because they offer flexible schedules, affordable classes, convenient locations, smaller

class sizes, and place a greater emphasis on teaching (Laanan, 2001). The 2-year curriculum includes academic course work transferable to 4-year institutions, continuing-education courses, and remedial courses; moreover, their open-admissions policies provide access into higher education for many people who may be ineligible or lack the financial resources to attend a 4-year institution (Laanan, 2001; Laanan & Starobin, 2004; Townsend, 2001; Wolf-Wendel, Twombly, Morphey, & Sopcich, 2004). Moreover, the transfer function of 2-year institutions serves as a pathway to the baccalaureate degree for many minority students (A. Cohen & Brawer, 2003). The transfer function of 2-year institutions contributes to the state's effort of achieving the Closing the Gaps goal of increasing participation and success; however, there are important barriers that may interfere with progress towards these outcomes such as adjustment issues, enrollment patterns, and the challenges of measuring persistence and graduation rates.

Previous studies have examined a key barrier to transfer student adjustment into new institutions, particularly from 2-year into 4-year institutions, known as transfer shock. Transfer shock describes the decline in academic performance students experience after transferring into a new institution; for example, the GPA of a transfer student from a 2-year institution may decline after their first or second semester of attendance at a 4-year institution (Cameron, 2005; B. Cejda, 1994; Diaz, 1992; Hills, 1965; Ishitani & McKittrick, 2010; Townsend, 1995). Hill (1965) described the elements of this barrier succinctly. First, he argued that 2-year transfer students should expect to experience a GPA decline during their first semester after transfer. Secondly, he argued

that their grades would improve in relation to their length of stay at the new institution. Finally, he argued that non-transfer generally performed better than transfer students.

His observations have been validated by other empirical research. Cejda (1997) examined the transfer shock of 100 students enrolled at a 4-year institution who previously attended a 2-year institution. His sample included students who completed 24 or more hours at a 2-year institution and were enrolled full-time at the 4-year institution; moreover, he compared the GPA of students in five majors (e.g., business, education, fine arts and humanities, math and science, and social science). He found that the mean GPA for the sample before transfer was 3.142 but the mean GPA after transfer was 3.066, which was a mean GPA change of -0.76. Using a t-test analysis, he compared the transfer shock of students by major with the total sample of students and reported a decline in GPA for math and science majors (-0.246) and business majors (-0.342). A second study conducted by Cejda and others found evidence of transfer shock for transfer students (Cejda, Rewey, & Kaylor, 1998). They also examined the academic performance of 2-year transfer students at a 4-year institution and discussed the link between pre-transfer GPA and post-transfer success. The sample of 263 students for their study included those who completed an associate degree and enrolled full-time at the 4-year institution. They performed an ANOVA and found students with pre-transfer GPAs above 3.0 experienced transfer shock during their first semester at the 4-year institution; moreover, they reported that 4% of students with pre-transfer GPAs above 3.0 earned GPAs in the 2.0-2.49 range at the 4-year institution. These studies depict the challenges related to the academic performance of transfer students

in their new institution; however, subsequent research has provided insight into other factors related to this barrier.

Previous studies have identified experiential factors that contribute to transfer shock. For example, Cameron (2005) reported transfer students attributed their lower academic performance to increased course workload, more readings, and higher expectations related to critical thinking and scholarly writing. She also found that students felt less confident in their abilities as a result of their academic performance and did not feel the professors at the new institution valued their academic abilities. Other studies identified similar factors were significantly related to the decline in transfer students' GPAs. For example, McCormick et al. found two factors were associated with lower academic performance: 1) the student's previous college experience not preparing them for the new campus culture and 2) the new campus not facilitating engagement the same way it did for non-transfer students (McCormick, Sarraf, BrckaLorenz, & Haywood, 2009). Moreover, Duggan and Pickering (2008) reported that differences in academic performance among transfer students may be attributed to the students' classification. They found freshman transfer students attributed their lower academic performance to balancing work obligation with classes and poor academic integration while sophomores and juniors cited different reasons. For sophomores, the cost of attending college and self-esteem had a negative effect on their academic performance; while the lower performance of juniors were related to student-faculty interaction, missing class, and lack of social involvement. These studies appear to indicate that transfer students experience lower academic performance, or transfer shock, due to factors related to the campus environment and their subsequent ability to

adjust to, integrate in, or maneuver around perceived barriers in these new environments.

In an effort to consider other factors underlying, or that are tangential to, transfer shock, researchers have examined the role of transfer student capital in the adjustment experiences of transfer students at new institutions (Laanan et al., 2010). Transfer student capital describes the transfer student's ability to transition successfully from a 2-year institution into a 4-year institution (i.e., their comprehension of degree requirements at the 4-year institution). Laanan et al. listed four barriers that may adversely affect this transition: lack of academic preparation, inaccurate transfer advising, misaligned expectations, and weak transfer and articulation policies. Using the L-TSQ scale, they examined the experiences of 2-year transfer students attending a 4-year institution to identify the factors that influenced their academic and social adjustment. Their sample, enrolled at a public Doctoral/Research University-Extensive, was composed primarily of whites (87.9%), 18-24 year olds (90%) and males (57%). They found students' motivation for transfer and academic counseling experiences at the 2-year institution negatively influenced their academic adjustment. Moreover, the students' academic and social adjustments were negatively impacted by their perceptions of the faculty or the campus environment stigmatizing them. These findings provide insight into the actual experiences of transfer students that may underlie their GPA decline, which is associated with lower persistence and graduation rates. Institutions that fail to assist students with making the appropriate adjustments to these barriers, whether perceived or real, may have a significant portion of students leaving prior to degree completion. Reflecting on an institution's use of learning communities to help certain types of

students adjust to their new environment, Ishitani and McKittrick stated, "...this type of curriculum structure may inversely affect transfer students...because [they] enter the learning communities where native and freshman transfer students have already established their own peer network." One may conclude from their statement that 4-year institutions may facilitate the adjustment of transfer students into new campus environments by identifying and removing barriers established by the institution- failure to do so may result in undesirable persistence and graduation rates.

In addition to transfer shock and the associated factors contributing to lower academic performance, the literature indicates enrollment patterns may be another barrier to the persistence and graduation rates of transfer students. Ginder and Mason (2011) reported that student enrollment patterns have changed over the last several decades. Students are more likely to enroll in multiple institutions than remain at a single institution in pursuit of their bachelor's degree. Moreover, fewer students are enrolling as full-time freshman who remain at a single institution until graduation. Additional evidence appears to support their findings. Knapp, Kelly-Reid, and Ginder (2011) reported that 15% of undergraduates were first-time and full-time students, 49% were not first-time and full-time students, and 32% were not first-time and part-time students. Moreover, Pascarella and Terenzini (2005) reported that 30% of students who begin at 4-year institutions attended multiple institutions within a four year period: 16% of students transferred to another 4-year institution while 13% transferred to a 2-year institution.

These data suggest students are attending multiple institutions and that transferring is a significant part of their college experience; however, there is further

evidence that enrolling in multiple institutions (i.e., transferring) reduces the odds of earning a bachelor's degree. Pascarella and Terenzini (2005) reported students who attended more than one school, and who did not return to their first institution, were less likely to complete a bachelor's degree within 11 years of entering college. They also showed students who pursued a bachelor's degree by starting at 2-year institutions were less likely than their counterparts starting at a 4-year institution to complete the degree within five year; they found that only 8% of 2-year transfer students completed a bachelor's degree compared to 57% of students who began at a 4-year institution. Pascarella and Terenzini concluded that any interruption in the student's enrollment (i.e., transfer from one institution to another) appeared to inhibit educational attainment. While their data depict transfer students are less likely to graduate than non-transferers, some researchers argues these data may not be accurate due to limitations of current methods of tracking enrollment patterns and subsequent calculation of persistence and graduation rates.

There are four types of enrollment patterns: delayed entry, stopping out, vertical transfer, and horizontal transfer. Delayed entry occurs when a student postpones enrollment into college for at least one year after graduating from high school. Stopping out is a temporary interruption in enrollment. Vertical transfer refers to students who initially enroll in a 2-year institution then transfer to a 4-year institution. Horizontal transfer refers to students who move from one 4-year institution to another. These broad categories are not exclusively separate as a student may be classified in multiple groups at some point during their academic career; moreover, these various enrollment patterns make it difficult for institutions to label students as a persister or non-persister

as these terms do not adequately capture their diverse enrollment patterns (Hagedorn, 2005). Hagedorn (2005) described the complexity of accurately calculating persistence and graduation rates for transfer students:

While a dropout could be viewed as 'anyone who leaves college prior to graduation' it must be accepted that a 'dropout' may eventually return and transform into a 'non-dropout' any time prior to death thereby negating any earlier designations used for studies, research or retention rates. (p. 5-6)

One consequence of this challenge is that transfer students may be excluded from formulas that calculate persistence or graduation rates. For example, if a student attends multiple institutions then only at the institution from which they graduated will they be counted as a persister, but previous institutions he or she attended would likely count the student as a non-persister. For example, the transfer community using President Barak Obama's college enrollment history to illustrate this point. He was classified as a persister at Columbia University, his graduating institution, but a non-persister at Occidental College, which was his transferring institution. Imprecise calculations of persistence and graduation serve as barrier because these rates may not accurately capture students' diverse enrollment patterns. Hagedorn (2005) provided an example of how graduation rates changed after students' enrollment patterns were considered. She reported that 23% of first-time students transferred to another institution within a six year period. The six-year retention rate for the first institution was 55%, but this figured increased to 63% when the students' enrollment at other institutions was included in the calculation. The limitations associated with accurately calculating persistence and graduation rates may provide incentives for 4-year institutions to modify their environments and practices to minimize the number of students who leave their institution. While 4-year institutions cannot prohibit students

from leaving, they may prevent some departure, and positively influence persistence and graduation rates, by modifying their practices and environments to help transfer students adjust to their new environment. The probability of inaccurate calculations of graduation rates are likely reduced as more students adjust and complete their degree at their new institutions.

Three barriers (i.e., transfer shock, varied enrollment patterns, and measurement errors) may interfere with efforts to increase the persistence and graduation rates of transfer students, which may also adversely impact accomplishment of the Closing the Gaps plan. These barriers reveal the error of assuming that well-designed articulation policies or other transfer initiatives facilitate seamless transfer between institutions (Ullman, 2011). Moreover, these efforts, while necessary, fail to account for the importance of adjustments students must make in their new environment (Ishitani & McKittrick, 2010; Laanan, 2001). One approach of gaining more insight into the adjustment of transfer students in 4-year institution is to examine their engagement experiences. Engagement research provides a framework for understanding the students' and institutions' role in facilitate the adjustment of students in 4-year institutions. While persistence and graduation rates are a common measure of transfer student success, more research is needed to understand the engagement experiences of transfer students. According to the literature, engagement, among other factors, leads to persistence and graduation.

#### Factors Leading to Persistence and Engagement

Over the past twenty-five years, educational research has identified the reasons students do not persist and this knowledge has informed the development of

institutional policies and practices that may have facilitated higher persistence and graduation rates (Tinto, 2002). Many studies have examined the influence of various factors on the persistence of undergraduate students; therefore, a review of the literature yields multiple theories, models, and data concerning the elements contributing to, or impeding, the persistence of students towards graduation (Cabrera & Nora, 1993; Seidman, 2006). From this milieu of evidence emerges a set of factors that have been consistently validated over two decades of research as positively influencing the persistence of undergraduate students. In their review of research on educational attainment and persistence, Pascarella and Terenzini (2005) listed these factors as: academic performance; academic experiences; financial aid; interaction with faculty members; interaction with peers; residence; learning communities; academic major; academic and social engagement; pre-college characteristics; and transfer status. Moreover, new research has emerged, since the publication of Pascarella and Terenzini's review, which has examined the influence of various factors related to transfer status on persistence.

The first three factors strongly related to persistence are academic performance, academic experience, and financial aid. Academic performance's, which is operationalized as grades or grade point average (GPA), impact on persistence has been found to be positive and statistically significant over various time periods, among different groups of students, and diverse college environments (Blecher, 2006; E. Pascarella & Terenzini, 2005). For example, researchers reported academic performance is one of the most influential factors on decisions to persist in college for Hispanics students (Crisp & Nora, 2010), students with disabilities (Ponticelli & Russ-

Eft, 2009), and transfer students (Duggan & Pickering, 2008; Wang, 2009). Wang (2009) examined the probability of 2-year transfer students completing a bachelor's degree and found that GPA was a significant predictor, particularly for those with a high transfer GPA; he also reported that a one-point increase in GPA was associated with increased odds of earning the bachelor's degree by a factor of 3.029. Wang also found that the student's transfer GPA increased the probability of them persisting; a one-point increase in GPA was associated with increased odds of persisting by a factor of 3.441. Crisp (2010) also found transfer GPA increased the odds of completing the degree for third-year students; a one-point increase in GPA was associated with increased odds of completing the degree by a factor of 1.306.

These studies seem to indicate that some transfer students may experience a decline in their GPA after transferring, that is transfer shock, but those with high transfer GPAs have a strong probability of persisting and graduating. Although academic performance is a significant factor that leads towards persistence, the students' academic experiences appears important as well. Academic experiences include programmatic interventions such as enrollment in developmental course or participation in support programs (Pan, Guo, Alikonis, & Bai, 2008; E. Pascarella & Terenzini, 2005). Enrollment in these types of courses influenced persistence (Crisp & Nora, 2010; E. Pascarella & Terenzini, 2005). Crisp (2010) found enrollment in developmental courses correctly predicted the graduation for 72% of second year students and 65% of third year students. While these findings are positive, there is evidence in the literature that the number of classes needed, and enrollment in reading remediation, adversely impacted the probability of staying in school. Pan, Guo, Alikonis and Bai (2008)

examined the effects of intervention programs, which facilitated student interactions with faculty, on retention and college cumulative GPA. They found academic-help programs (i.e., tutoring) significantly increased the retention rates of students and that advising and social integration programs significantly helped students at highly selective colleges return to school after their first year. Moreover, the authors found general orientation programs significantly helped all students increase their GPAs for the first year and the social integration programs significantly helped students in selective colleges increase their GPAs for the first year.

Financial aid has also been linked to persistence. Students who received financial aid were as likely to persist in college as those who did not; however, students awarded loans were less likely to persist than those awarded scholarships (Crisp & Nora, 2010; Ponticelli & Russ-Eft, 2009). The number of hours worked per week, which is related to financial aid, impacts persistence as well, because students who are more likely to work, or work long hours, to pay for educational cost not covered by financial aid are less likely to persist. Previous research suggested working on-campus promotes persistence, but working off-campus, and full-time, negatively impacted persistence because students were less likely to engage academically and socially in the college environment (Duggan & Pickering, 2008; Pascarella & Terenzini, 2005). Another factor related to financial aid and working is enrollment intensity. Full-time enrollment is positively related to persistence; however, students with insufficient financial aid and/or who worked full-time were less likely to enroll in classes full-time (Blecher, 2006; Crisp & Nora, 2010; Wang, 2009).

Additional factors that led to persistence include interaction with peers and faculty, residence, major, and pre-college characteristic. The link between persistence and interactions with faculty members and peers has been researched extensively (Astin, 1993; Tinto, 1993; Tinto, 1997). Pascarella and Terenzini (1977) examined the patterns of student-faculty informal interaction beyond the classroom and its impact on freshman retention. They found informal interaction with faculty increased the student's social integration, institutional commitment, and academic integration. In addition, student-faculty informal interaction directly influenced the students' development of intellectual competences, their sense of autonomy, and their sense of purpose. Students who viewed their interactions with faculty members as positive felt integrated into the college's academic and social communities were more likely to persist (Rendon, 1994).

Residence, whether a student lives on-campus versus off-campus, is another factor that leads to persistence. Previous research found that students living on campus were more likely to persist because they were more likely to participate in activities, such as learning communities, that promote social and academic integration (Pascarella & Terenzini, 2005; Tinto, 1997). Academic major is another factor linked to persistence. Students majoring in science, math, engineering, business, and health-related professions were more likely to persist than peers with majors in the social sciences, humanities, or education (Pascarella & Terenzini, 2005). A series of pre-college characteristics such as gender, parental education, socioeconomic status, and college preparation has also been linked to persistence (Blecher, 2006; Pascarella & Terenzini, 2005; Peltier, Laden, & Matranga, 1999; Tinto, 1987; Wang, 2009). Students who

completed college-preparatory curriculum in high school and those from high socioeconomic backgrounds were more likely to persistence; moreover, parental education has been demonstrated as positively related to persistence as students are more likely to persist if their parents have a college education.

Research investigating the role of transfer variables on persistence suggested that student type, the number of transfer hours accepted, and classification related to persistence. For example, sophomore and junior transfer students exhibited higher persistence rates than non-transfers and freshman transfer students (Ishitani, 2008); moreover, different factors led to the persistence of transfer students by classification (Duggan & Pickering, 2008). Duggan and Pickering (2008) reported differences in academic performance among transfer students may be attributed to the students' classification. They found freshman transfer students attributed their lower academic performance to balancing work obligation with classes and poor academic integration while sophomores and juniors cited different reasons. For sophomores, the cost of attending college and self-esteem had a negative effect on their academic performance; while the lower performance of juniors were related to student-faculty interaction, missing class, and lack of social involvement.

The persistence of transfer students may be influenced by many factors including different patterns of engagement. Some research has indicated that horizontal transfers, students who move between 4-year institutions, were more likely to persist (Blecher, 2006) while other studies found the proportion of degree-applicable courses in which students enrolled influenced their persistence (Ponticelli & Russ-Eft, 2009). Hu (2011) examined the relationship between persistence and engagement; he found a

statistically significant relationship between student engagement in educationally purposeful activities and the probability of persisting. Moreover, he found that the relationship between engagement and persistence was non-linear. For example, he reported that students with high academic engagement and low social engagement were less likely to persist. This data and others (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008) offer empirical evidence of the link between persistence and engagement.

The academic and social engagement of students is a critical factor that leads to persistence (Astin, 1984; Astin, 1993; Braxton, Sullivan, & Johnson, 1997; Horn, 1998; Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006; Pascarella & Terenzini, 2005; Peltier et al., 1999). In fact Pascarella and Terenzini suggested the preceding factors were components of broader processes of engagement. In their review they stated, “The evidence reviewed to this point could be said to have focused on special cases [such as academic performance, academic major, residence, or faculty and peer interactions] of broader, theoretical frameworks presumed to be at work” (Pascarella & Terenzini, 2005, p. 425) . Their statement suggests engagement is the overarching framework leading to persistence; while the other factors are specific instances of engagement.

### Engagement Theory and Retention Research

#### *Discussion of Retention Research*

Retention research has a long and rich history. Beginning in the 1960s, research on student retention, which was heavily influenced by psychology, focused on individual attributes, skills, and motivations that made students less likely, able or motivated to defer the benefits that college graduation was believed to bestow (Tinto, 2007). In the 1970s, retention research took into account the role of the environment,

particularly the institution, in the student's decisions to stay or leave. Tinto's interactionalist model made explicit connections between the environment, academic and social systems of the institutions, and the individuals within those systems. Central to this model were the concepts of academic and social integration, which described the patterns of interaction between students and other members of the institution, of students during their first-year of college, and the stages of transition that marked that year (Tinto, 2007).

In the 1980s, retention research focused on involvement. Astin (1984) reinforced the importance of student contact or involvement to a range of student outcomes including student retention. This research led to increased focus on the first year of college (i.e., transition to college) and the nature of student contact with faculty (i.e., out-of-classroom). There are some important critiques and limitations of earlier research on student retention: 1) it lacked complexity, 2) it consisted mostly of quantitative studies at residential universities, 3) it focused on students from majority backgrounds, and 4) it did not focus on the experience of students in other types of institutions or from different backgrounds (Upcraft, Gardner, & Barefoot, 2005).

Current retention research attempts to address some of the limitations cited above. The objectives of current research on student retention is to: 1) understand the retention of students from different backgrounds, 2) understand how the process of retention differs in different institutional settings, 3) understand the limits of early retention models, and 4) examine the importance of involvement, or engagement, during the critical first year of college (Upcraft et al., 2005). The new perspective on student retention research suggests that for some students their ability to remain

connected to past communities is critical to their persistence, the progress of student retention differs in different institutional settings, and classroom involvement is important to student retention.

More research is needed to understand the role of engagement in retention, in particular, an important area of inquiry includes how to make engagement happen in different settings (e.g., non-residential institutions) and for different students (e.g., commuting students who work) in ways that enhance their retention and graduation (Tinto, 2007). For example, research on learning communities is an attempt to link institutional practice to increased engagement and student persistence. One of the challenges found in retention research is the definition and usage of three key terms- involvement, engagement, and integration.

#### *Distinguishing Terms: Involvement, Integration and Engagement*

Retention research often uses involvement, engagement, and integration to describe the mechanism by which students persist in college. While these terms are often used interchangeably, some researchers have suggested this practice is inappropriate because it fails to account for their distinctiveness (Wolf-Wendel, Ward, & Kinzie, 2009). Involvement is defined primarily as the responsibility of the student to participate in the college experience, and it considers the institution's role in this process minimal. This term seems to focus more on the amount of energy students allocate to educational activities. In contrast, integration is defined as a reciprocal relationship between the student and the institution. This term assumes students have learned to adapt to the norms of the institution in order to experience a sense of belonging within the community; moreover, the institution is influenced by this

interaction but to a lesser degree. In regards to engagement, this term characterized the institution as being primarily responsible for facilitating a positive college experience, while the amount of time and energy a student expends in this experience is considered secondary. All three concepts have extended our understanding of student retention within the context of higher education; however, each one has contributed to this understanding in unique ways (Wolf-Wendel et al., 2009).

### *Engagement of Undergraduate Students*

Engagement represents how institutions allocate resources and organize learning environments to facilitate student participation in educationally purposeful activities. Engagement also refers to the amount of time and effort students put into their studies and other activities that lead to retention (Wolf-Wendel et al., 2009). Previous research has indicated that student engagement corresponds with positive educational outcomes such as increased persistence and graduation rates.

The development of engagement was influenced by earlier retention research by Astin, Tinto, Kuh, and others; moreover, the underpinnings of this concept have been in the literature for more than 70 years (Kuh, 2009b). For example, Robert Tyler in the 1930s found a positive link between time-on-task, which is the amount of time performing an activity, and learning. In the 1960-1970s, Pace investigated students' quality of effort and found students gained more from their studies as well as other aspects of the college experience when they invested more time and energy in educationally purposeful tasks such as studying, interacting with their peers and teachers about substantive matters, and applying what they were learning to concrete situations and task (Pace, 1980; Pace, 1990). Astin's (1984) theory of involvement

added more details to the quality of effort concept by highlighting the psychological and behavioral dimensions of time on task and quality of effort. He also underscored the importance of involvement to student achievement by empirically demonstrating the links between involvement and a range of attitudinal and developmental outcomes. Other researchers have examined the relationship between student engagement and other desired outcomes of college such as persistence: Tinto's (1987, 1993) theory of social and academic integration and Pascarella and Terenzini's examination of student outcomes (Pascarella & Terenzini, 2005; Terenzini & Pascarella, 1991).

Chickering and Gamson (1987) examination of the good practices in undergraduate education has also contributed to the formation of engagement research because it described the components of a quality undergraduate experience that were foundational to the conceptualization of engagement. Chickering and Gamson condensed the discussions about the features of high-quality teaching and learning settings into seven good practices, which they believed led to high levels of student engagement. The seven good practices included: 1) encouraging contact between students and faculty, 2) developing reciprocity and cooperation among students, 3) encouraging active learning, 4) giving prompt feedback, 5) emphasizing time on task, 6) communicating high expectations, and 7) respecting diverse talents and ways of learning. Each of these practices represented different dimensions of engagement (Chen, Ingram, & Davis, 2007; Kuh, 2009b).

Kuh and others examined student engagement and created ways to measure the concept, systematically report the results, and incorporate the findings into institutional practice (Kuh, 2009a). The NSSE instrument provided data on the student experiences

related to positive outcomes. The development and use of NSSE demonstrated that the student engagement concept could be reliably measured across large numbers of institutions; moreover, data could be used by college administrators to improve the undergraduate experience at their institutions. NSSE has three purposes: 1) to provide high-quality, actionable data that institutions can use to improve the undergraduate experience, 2) to discover more about and document effective educational practice in postsecondary settings, and 3) to advocate for public acceptance and use of empirically derived conceptions of collegiate quality (Kuh, 2009a). Moreover, Kuh described the role of NSSE and the importance of student engagement research:

Institutions cannot change who students are when they start college. But with the right assessment tools, colleges can identify areas where improvements in teaching and learning will increase the chances that their students attain their educational and personal goals. (p. 14)

Student engagement consists of two main components. The first component of student engagement is the amount of time and effort students devote to participation in a series of academic experiences, social encounters, and other activities, within the academic and social communities that influences their decision to persist until degree completion (Astin, 1993; Kuh, 2009b). This component involves an assessment of the amount of time and effort students put into their studies and their level of involvement or integration in the institution's academic and social systems (Wolf-Wendel et al., 2009). The literature has established a link between the amount of time and energy undergraduate students put forth in educationally purposeful activities and positive educational outcomes (Kuh, 2001; Kuh, 2009b). Kuh (2009a) explained the manner in which these practices result in positive outcomes:

The more students study a subject, the more they know about it, and the more students practice and get feedback from faculty and staff members on their writing and collaborative problem solving, the deeper they come to understand what they are learning and the more adept they become at managing complexity, tolerating ambiguity, and working with people from different backgrounds or with different views. (p. 5.)

A second component of student engagement involves the manner institutions allocate resources and organize learning environments to facilitate student participation in educationally purposeful activities that leads to persistence (Kuh, Kinzie, Schuh, & Whitt, 2005). This involves an assessment of the educational practices that effectively promote persistence. Kuh described this component as, “The ways institution allocates its human and other resources and organizes learning opportunities and services to encourage students to participate in and benefit from [engagement] activities” (Kuh et al., 2005, p. 4). Moreover, the literature suggested students’ perceptions of the institutional environment may also influence student engagement (Chen et al., 2007). Student engagement is one aspect of the student’s experience that institutions can directly influence to some degree by developing policies and practices that induce higher levels of engagement across various kinds of educationally purposeful activities (Kuh, 2009b).

Kuh et al. (2006), summarized the key points of engagement research: 1) engagement is positively related to grades and persistence, 2) engagement at comparable institutions can vary widely, 3) engagement varies more within an institution or institutional type than between them, 4) engagement is unrelated to institutional selectivity or a student’s academic preparation, 5) some student groups are generally more engaged than others, 6) single-mission institutions confer more engagement advantages, and 7) students’ perceptions of the college environment influences

engagement. While all seven points are critical to understanding the nature of student engagement, this study focuses on the finding that some groups are generally more engaged than others as related to transfer students. Previous research indicated transfer students are considered less engaged than non-transfer students (Duggan & Pickering, 2008; National Survey of Student Engagement, 2008); however, some evidence suggest there may be important and significant variations among transfer students that may promote their engagement and persistence (Duggan & Pickering, 2008; Ishitani & McKitrick, 2010). There is a vast amount of research describing the engagement of undergraduates; however, these studies tend to focus on first-time full-time students.

The effects of engagement are generally in the same positive direction for all students; however, some students are more engaged than others (Kuh, 2009a). Engagement tends to have conditional effects, with students with certain characteristics benefiting from some type of activities more so than other students. In addition, the variance within any group of students is almost always greater than between the groups (Kuh, 2009a). For example, vertical transfers, students in 2-year colleges who move to 4-year universities, were more engaged than lateral transfers, or students who move between 4-year universities, in all the engagement area except in terms of student faculty interactions (Kirk-Kuwaye & Kirk-Kuwaye, 2007). These findings emphasize the need to examine the effect of student type on engagement score as this may provide insight into unique engagement experiences among different types of transfer students.

According to the literature, engaged students have greater probability of persisting and graduating than their counterparts (Deil-Amen, 2011; Fuller, Wilson, &

Tobin, 2011; Hu, 2011; Kuh et al., 2008; Pascarella & Terenzini, 2005; Pascarella, Seifert, & Blaich, 2010). There is continued interest in understanding the engagement experiences of sub-groups such as transfer students particularly since the literature has indicated they appear less engaged than non-transfer students; moreover, some researchers argue this group's lack of engagement may be related to deficiencies in their graduation and persistence rates (National Survey of Student Engagement, 2008). The NSSE survey provides an opportunity to create discreet transfer subgroups of 2-year (i.e., vertical), 4-year (i.e., horizontal), and swirl (i.e., attended both 2- and 4-year institutions). This study seeks to determine if engagement experiences are different among non-transfers and the three transfer subgroups. By examining the engagement experiences of different types of transfer students in comparison to non-transfer, this research provides an estimate of how each group, attending 4-year institutions across Texas, perceive their engagement; moreover, it may provide insight into the effect different enrollment backgrounds may have on their engagement. These data may inform future practice and research targeting institutional practices related to improving specific engagement experiences for each type of transfer.

Researchers should consider the merits of examining the engagement experience of certain types of students, within various environments, and the manner in which they attain specific knowledge, skills, or dispositions. Some research has indicated engagement may be conditional. Students with different characteristics may have different engagement experiences; moreover, students with similar characteristics may benefit from engagement in different ways. Consequently, institutions cannot assume that all transfer students will demonstrate similar patterns of engagement or

respond to certain educational practices in the same way. Kuh (2009a) stated, “We must be ever vigilant to be sure we continue to learn more about what forms of engagement work best under what circumstances for different groups of students” (p. 15). Other authors have supported his argument; for example, Axelson and Flick (2011) argued that assessing engagement must include specific learning goals, learning contexts, types of students, and the processes through which they become engaged.

NSSE (National Survey of Student Engagement) is a proxy used to evaluate students’ institutional engagement; subsequently, a voluminous amount of research examining the engagement of traditional students has emerged but more research is needed that examines the nature of engagement among other groups (Kuh, 2001). The NSSE benchmarks measure the level of student’s involvement in educationally purposeful activities, during their college experience, that lead to positive outcomes.

The five benchmarks include academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment. Academic challenge describes the institutional efforts to promote high levels of student achievement by emphasizing academic effort and setting high expectations. Active-collaborative learning describes a student’s level of involvement in their education and their collaboration with others. Student-faculty interaction describes the level and nature of students’ interactions with faculty. Enriching educational experiences describes the students’ participation in activities that broaden their knowledge. Supportive campus environment describes the students’ perceptions about the institution’s commitment to their success. The items within each benchmark deal with such issues as the students’ perceptions of their campus environment, their

involvement in extracurricular activities, and the amount of time they spend working on class assignments.

The instrument also collects pre-college information that may impact their engagement experiences. Over 700 higher education institutions, representing a diverse group of institutional types, across the U. S. and Canada, participate in the annual NSSE survey administration. They utilize the NSSE benchmarks and other data from this instrument to develop programs and assess institutional effectiveness. With more than 2.7 million students having completed the survey since 2000, NSSE provides an opportunity to conduct dynamic comparisons of student engagement among various subgroups within the undergraduate population and between institutional types.

A few studies have examined the engagement of transfer students. In general, they reported that transfer students appear to be less engaged than non-transfer students (Kuh et al., 2006; McCormick et al., 2009; National Survey of Student Engagement, 2008); however, other studies have found evidence that certain types of transfers are more engaged than others. Adding more complexity to this area of research is the evidence proffered by some studies that transfers are more engaged than non-transfers under certain conditions. A review of this research shows that the evidence on the engagement experiences among transfer students appears mixed. For example, Roberts and McNeese (2010) found there were differences in engagement between non-transfers and two transfer groups (i.e., 2-years and 4-year); however they did not find significant differences in engagement between the two transfer groups. Ishitani and McKittrick (2010) examined the engagement of 2-year transfers enrolled at 4-year higher education institutions and they found non-transfers were more engaged

than 2-year transfers; however, they reported differences in the engagement scores of transfers were related to the student's classification at the time of transfer, which means sophomore transfers were more engaged than junior transfers. Another interesting finding from their study was that transfers and non-transfers reported similar engagement experiences when other factors were considered such as part-time enrollment.

Fugard (2009) compared the engagement of non-transfers with 2-year transfers attending 4-year higher education institutions in Florida and she found non-transfers were more engaged than transfers; however, she reported that, in terms of the student-faculty interaction benchmark, 2-year transfers scored higher than non-transfers. McCormick, Sarraf, BrckLorenz and Haywood (2009) found non-transfers were more engaged than transfers on the following NSSE benchmarks- student-faculty interaction, quality of campus relationships (i.e., supportive campus environment), and overall satisfaction with college. They also found difference among the transfer groups as 4-year transfers were more engaged than 2-year transfers on all three NSSE benchmarks; however, 2-year transfers reported more interaction with faculty and staff members than 4-year transfers. Moreover, they reported that while non-transfers were more likely to participate in activities promoting student engagement the differences between them and 4-year transfers were small. These inconsistent findings highlight the complexity of examining the engagement of transfer students and the necessity to contribute another set of findings that confirm either the presence or absence of differences in engagement scores among different types of transfer students. Moreover, these studies excluded from their analysis a significant portion of the transfer population

referred to as swirl transfers or students who attended multiple institutions before transferring. This study examined the nature of their engagement experience by comparing their benchmark scores with non-transfers and other types of transfer students.

In conclusion, the population in the state of Texas is steadily increasing, and becoming increasingly diverse, but there are predictions that the educational attainment rates will not keep pace resulting in an uneducated workforce. One response to this dire situation is the development of the Closing the Gaps 2015 plan that attempts to increase the number of students who enroll in and graduate from the state's higher education system. The transfer function, particularly between 2-year and 4-year institutions, plays a critical role in addressing the predicted educational attainment gaps. While developing articulation agreements and admissions programs to facilitate the transfer process are important, 4-year institutions should also consider the engagement experiences of different types of transfer students as part of efforts to facilitate their positive psycho-social adjustment.

In general, the literature has reported that engaged students are more likely to persistence and have higher graduation rates; however, transfer students consistently score lower on engagement variables and appear less engaged than non-transfer student. Juxtaposed to this body of evidence are other studies examining transfer student engagement that suggest there may be differences in engagement among different types of transfer students and that transfers may be more engaged than non-transfer under certain conditions. These findings highlight the complexity of engagement among transfer students and the necessity to examine their experiences from different

perspectives and settings. This study extends previous research by comparing the engagement scores of different types of students (i.e., 2-year transfers, 4-year transfers, swirls, and non-transfers) to determine if differences exist among these groups and if these differences persist after controlling for individual and institutional covariates. The literature suggests non-transfer students will be more engaged than transfer students- this study seeks to validate this claim. Moreover, this study seeks to contribute evidence that confirms whether or not transfer students differ on their engagement.

## CHAPTER 3

### METHODS

This study incorporates a quantitative research design; I analyzed data collected and provided by National Survey of Student Engagement (NSSE). The data consisted of responses from college seniors attending 4-year higher education institutions in Texas who participated in the 2008 NSSE survey. The purpose of the study was to compare the engagement scores of 2-year transfers, 4-year transfers, swirl transfers, and non-transfers to determine if there were any differences among these groups, and if these differences persisted after controlling for individual and institutional covariates.

#### Instrument

The NSSE survey is administered annually to freshman and senior students to measure their level of engagement during their time in college. It collects data on the type and frequency of educationally purposeful activities students participate in during their college experience. The survey consists of 135 questions divided into four major sections. The first section is titled “College Activities” and it includes questions on the amount of time and energy students allocate to participation in educationally purposeful activities. Seniors report whether they took advantage of these activities while first-year students indicate whether they have done or plan to do these things. The second section, “Institutional Actions and Requirements,” includes questions that ask students about what institutions requires of them or their perceptions of the institution’s environment. The third section, “Reactions to College,” includes questions that ask students about their perceptions of features of the college environment associated with achievement, satisfaction, and persistence including the extent to which the institution

offers the support students need to succeed academically and the quality of relations among various groups on campus. The final section, "Student Background Information," includes demographic information such as parental education, ethnicity, living situation, and major. Students also estimate their educational and personal growth since starting college in the areas of general knowledge, intellectual skills, written and oral communication skills, personal, social and ethical development, and vocational preparation.

The validity and reliability of the NSSE instrument has been analyzed thoroughly, yet some researchers continue to question its usefulness in understanding student success. NSSE's validity refers to the instrument's ability to measure accurately the engagement experiences of students. Developers of the NSSE instrument tested its content validity by conducting interviews and focus groups to determine respondents' understanding of the survey items; moreover, many of the items were acquired from other surveys, such as CIRP and CSEQ, in which validity was established (Kuh, 2001; Ouimet, Carini, Kuh, & Bunnage, 2001).

The results of these tests demonstrated that the NSSE instrument has produced valid responses for students from different backgrounds and that the respondents understood the survey items. Additionally, NSSE reported the instrument's known group validity, or the ability of the instrument to detect differences between two or more groups (i.e., non-transfer and transfer), and they found the NSSE benchmarks were able to detect statistically significant differences among the groups by both individual-level and institutional-level characteristics- non-transfers were statistically significantly higher than transfers on all benchmark scores (National Survey of Student Engagement,

2011b). These findings suggest the NSSE instrument is a valid measure of engagement and is able to detect differences between groups of students.

NSSE's reliability refers to the instrument's ability to produce consistent results across various settings. NSSE reported the reliability measures of the 2008 survey for each benchmark as follows: academic challenge (Cronbach's alpha = 0.76), active-collaborative learning (Cronbach's alpha = 0.68), student-faculty interaction (Cronbach's alpha = 0.75), enriching educational experience (Cronbach's alpha = 0.66), and supportive educational environment (Cronbach's alpha = 0.80) (National Survey of Student Engagement, 2011a). These values reveal that the items for three of the five benchmarks on the instrument appropriately measured their respective constructs. However, the Cronbach alpha values for active-collaborative learning and enriching educational experience were below 0.70, which indicates a lower internal consistency for these variables, thus caution must be taken when interpreting the result of statistical analysis involving these benchmarks.

Although NSSE has systematically analyzed and published its instrument's validity and reliability, there are studies in the literature that questioned the instrument's construct validity, particularly the validity of the five-benchmarks, (Campbell & Cabrera, 2011; Dowd, Sawatzky, & Korn, 2011; Porter, 2011). Porter (2011) reported several limitations of the instrument's validity: 1) the content domain is widely defined and any survey item can be included under the key concepts, 2) students do not understand the terms utilized in the NSSE instrument, 3) other researchers have had difficulty replicating the five-benchmarks, and 4) the results have weak correlations with other outcome variables (i.e., GPA). Porter and others argued these issues weaken the

validity of the instrument and suggested the instruments, and its subsequent results, do not accurately assess engagement among college students. In response to these critiques, McCormick and McClenny (2011) agreed with their call to modify survey items to spark recall by respondents and conceded the need to examine the utility of asking students to assess their level of engagement during various time periods. In regards to Porter's main critique regarding criterion validity, the McCormick et al. argued that Porter erroneously focused on one type of validity to the exclusion of other important validity considerations. For example, they suggested NSSE's validity is based on its intended use, which has been accepted by other researchers, thus Porter's critique unfairly devalues NSSE's validity claims and holds it to an unrealistic perfect survey.

McCormick and McClenny also argued that NSSE was a valid instrument because many of the items were adaptations from the CSEQ, CIRP, and other college student surveys. Moreover, the instrument was rigorously field tested and psychometric analysis indicated most items were reliable (Ouimet et al., 2001). The authors acknowledged the survey has limitations because of the trade-offs researchers make in developing and implementing these instruments in "real world" conditions (McCormick & McClenny, 2011); however, these limitations must be considered in light of the benefits of having large-scale data collection, using a standardized instrument, that allows intra- and inter-institutional comparison of student behaviors. Moreover, NSSE data provide insights into educationally effective practices, facilitating in-depth analysis of subgroups, across multiple years and institutional settings. Interpretations of these data must be made with the arguments posed by Porter and others in mind; however, NSSE

is a systematic and well utilized data source of student behaviors that informs practice and policymaking.

### Procedure

The NSSE data for this study were drawn from the 2008 NSSE survey administration. The response rate for this survey administration was 37%. I acquired the data by contacting the Indiana University Center for Postsecondary Research and complying with its data sharing procedure (See NSSE data sharing form in Appendix A). The parameters of the data sharing agreement includes the following: 1) the data excludes student and institutional identifiers to ensure anonymity, 2) data is shared with others three years after the annual report is published, 3) NSSE shares 20% of the respondents from the original dataset, and 4) respondents are randomly selected based on the criteria I provided. NSSE provided me with a data set from the 2008 survey consisting of 2,000 respondents who attended a 4-year higher education institution in Texas.

### NSSE Benchmarks: The Engagement Variables

Table 1 shows the variables and covariates selected for this study. The NSSE instrument assesses student engagement, which is the dependent variable for this study, utilizing five benchmarks. The five NSSE benchmarks, or engagement variables, are a proxy to evaluate students' institutional engagement. The first benchmark, academic challenge, describes the extent to which higher education institutions promote high levels of student achievement by emphasizing the importance of academic effort and setting high expectations for student performance. Active-collaborative learning, the second benchmark, describes a student's level of involvement in their education and

application of knowledge to different settings, as well as, collaborating with others in solving problems or mastering difficult material that prepares students to deal with “real world” problems. Student-faculty interaction, the third benchmark, describes the level and nature of students’ interactions with faculty both inside and outside the classroom. Enriching educational experiences, the fourth benchmark, describes the students’ participation in activities that broaden their knowledge, and more meaningful learning, such as complementary learning opportunities, diversity experiences, and technology use. Supportive campus environment, the final benchmark, describes the students’ perceptions about the institution’s commitment to their success and their cultivation of positive relationships among different groups on campus. Appendix B lists the survey items associated with each benchmark.

Table 1

*List of Variables and Covariates*

	<b>Description</b>
Independent Variable	<ul style="list-style-type: none"> <li>• Student Type (non-transfer, 2-year transfer, 4-year transfer, and swirl transfer)</li> </ul>
Dependent Variables	<ul style="list-style-type: none"> <li>• Engagement (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment)</li> </ul>
Covariates	
<i>Individual-level</i>	<ul style="list-style-type: none"> <li>• Enrollment Status (part-time or full-time)</li> <li>• Residential Status (on-campus or off-campus)</li> <li>• Ethnicity</li> </ul>
<i>Institutional-level</i>	<ul style="list-style-type: none"> <li>• Institutional Control (private or public)</li> <li>• Institutional Selectivity (high, medium, or low)</li> <li>• Carnegie Classification</li> </ul>

## CHAPTER 4

### DATA ANALYSIS AND RESULTS

Data collected from the 2008 NSSE was analyzed using two related multivariate analysis statistical procedures- multivariate analysis of variance (MANOVA) and multivariate analysis of covariance (MANCOVA). This study assessed whether or not difference exists on the dependent variables (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment) by student type using the procedures cited above. Student type, the independent variable, has four levels that include non-transfers, 2-year transfers, 4-year transfers, and swirl transfers. Individual and institutional-level covariates were entered into separate analyses to control their influence on the dependent variable thus making it easier to see the effect of student type on the engagement variables.

#### Hypothesis

H<sub>0</sub>: There is no difference among the dependent variables (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment) by student type (non-transfers, 2-year transfers, 4-year transfers, and swirl transfers) who were seniors at 4-year higher education institutions in Texas.

#### Research Questions

RQ<sub>1</sub>: After controlling for individual-level covariates (enrollment status, residence, and ethnicity), is there a significant difference among the dependent variables (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment) by

student type (non-transfers, 2-year transfers, 4-year transfers, and swirl transfers)?

RQ<sub>2</sub>: After controlling for institutional-level covariates (control, selectivity, and Carnegie Classification), is there a significant difference among the dependent variables (academic challenge, active-collaborative learning, student-faculty interaction, enriching educational experiences, and supportive campus environment) by student type (non-transfers, 2-year transfers, 4-year transfers, and swirl transfers)?

### Description of Sample

Data from 2,000 seniors attending 4-year institutions in Texas were analyzed. The sample was composed primarily of females (65%) and students enrolled full-time (74%). In terms of age, the largest group were 20-23 year olds (47%) followed by 24-29 (25%), 30-39 (16%), and 40-55 (11%). Most of the respondents were enrolled at public institutions (72%) and lived off-campus (75%). Most of the respondents worked less than 15 hours a week; however, a large percentage of 2-year and swirl transfers worked over 30 hours a week (30% and 37% respectively). Similarly, most respondents spent less than 15 hours a week taking care of dependents; however, about 25% of both 2-year and swirl transfers cared for dependents more than 30 hours a week. The first statistical analysis of the data involved a MANOVA to test the hypothesis of no difference among dependent variables by student type.

## Testing the Hypothesis

The first analysis determined if there were any differences among the groups (i.e., non-transfers versus transfers) in terms of the dependent variables while not controlling the influence of any covariates. This hypothesis was tested using a MANOVA. The assumption of homogeneity of covariance was met ( $F = 1.415$ ,  $p = 0.035$ ); moreover, the assumption of homogeneity of variance was met for all the dependent variables except enriching educational experience ( $p = 0.022$ ). A significant value indicates this assumption has been violated, so enriching educational experience did not meet this assumption and was removed from further analysis. The Wilks' Lambda statistic was significant for the overall model ( $F = 7.126$ ,  $p > 0.001$ , and  $\eta^2 = 0.018$ ).

Table 2 shows the means and standard deviations for each of the dependent variables by student type without the influence of the covariates. These are estimated means that may change after the addition of covariates in subsequent analyses. The data indicated that non-transfers have higher scores on active-collaborative learning, student-faculty interaction, and supportive campus environment. There were no significant differences among the groups in regards to academic challenge. Among the transfer groups, the means appear to differ as well. For example, 2-year transfers have higher scores on supportive campus environment and student-faculty interaction than 4-year transfers and swirl transfers. Additional tests were performed to determine if these differences were statistically significant.

Table 2

*Means and Standard Deviation of Engagement by Student Type*

	Student Type	<i>M</i>	<i>SD</i>	<i>N</i>
Academic Challenge	Non-transfer	55.07	13.72	491
	2-year transfer	55.42	14.69	495
	Swirl transfer	55.80	14.19	491
	4-year transfer	55.01	15.37	492
Active-Collaborative Learning	Non-transfer	52.29	17.65	491
	2-year transfer	51.66	18.99	495
	Swirl transfer	51.01	18.71	491
	4-year transfer	50.99	17.69	492
Student-Faculty Interaction	Non-transfer	49.57	22.88	491
	2-year transfer	45.57	21.92	495
	Swirl transfer	45.04	22.22	491
	4-year transfer	47.92	21.97	492
Supportive Campus Environment	Non-transfer	61.90	19.18	491
	2-year transfer	59.26	20.09	495
	Swirl transfer	58.27	20.21	491
	4-year transfer	57.97	20.68	492

Table 3 shows the effect of student type on the five engagement dependent variables. Student type had a significant effect on student-faculty interaction ( $p = 0.004$ ) and supportive campus environment ( $p = 0.008$ ). The effect sizes for both were small ( $\eta^2 = 0.007$  and  $\eta^2 = 0.006$  respectively) according to Cohen's guideline for small effects (i.e., 0.01) (J. Cohen, 1988). There were no significant differences between the 4 groups for academic challenge ( $p = 0.822$ ) and active-collaborative learning ( $p = 0.636$ ). The hypothesis of no difference among the engagement scores by student type

is partially rejected because the data indicated significant differences existed for two of the five engagement variables.

Table 3

*MANOVA Analysis of the Engagement Variables*

	SS	df	MS	F	p	$\eta^2$
Academic Challenge	192.76	3	64.25	.31	.822	.000
Active-Collaborative Learning	568.57	3	189.52	.57	.636	.001
Student-Faculty Interaction	6552.30	3	2184.10	4.41	.004	.007
Supportive Campus Environment	4718.59	3	1572.86	3.91	.008	.006

Table 4

*Comparisons of Means by Student Type for Student-Faculty Interaction and Supportive Campus Environment*

	Mean Difference of Student Type			p	
	(I)	(J)	(I-J)		
Student-Faculty Interaction	NT	2-yr	4.00*	.025	
		Swirl	4.53*	.008	
		4-yr	1.65	.653	
	2-yr	NT	-4.00*	.025	
		Swirl	.53	.982	
		4-yr	-2.35	.345	
	Swirl	NT	-4.53*	.008	
		2-yr	-.53	.982	
		4-yr	-2.88	.177	
	Supportive Campus Environment	NT	2-yr	2.65	.162
			Swirl	3.64*	.023
			4-yr	3.93*	.011
2-yr		NT	-2.65	.162	
		Swirl	.99	.866	
		4-yr	1.29	.745	
Swirl	NT	-3.64	.023		
	2-yr	-.99	.866		
	4-yr	.30	.996		

\*. The mean difference is significant at the .05 level.

Note: 2-yr = 2-year transfer; 4-yr = 4-year transfer; NT = non-transfer

A post hoc comparison of means in Table 4 shows non-transfers ( $p = 0.25$ ) were significantly higher than 2-year transfers and swirl transfers on student-faculty interaction. Also, non-transfers were significantly higher than swirl transfers and 4-year transfers on supportive campus environment ( $p = 0.23$ ). There were no significant differences among transfer students for any of the engagement variables.

#### Detecting Differences in Engagement using Covariates

The following assumptions of the MANCOVA were tested before performing the analysis. First, a correlation analysis was run to determine if the covariates were linearly related to the dependent variable. A linear relationship between the covariates and dependent variables is a key assumption for this statistical procedure and the literature recommends assessing the covariates suitability for inclusion in the MANCOVA by determining if they are related to the dependent variables, not related to the independent variable, and moderately related to each other (Gall, Gall, & Borg, 2007; Huitema, 1980). A correlational analysis was performed examining the relationship between the six covariates (residence, enrollment status, ethnicity, control, selectivity, and Carnegie Classification) and the dependent and independent variables, as well as with each other. Three of the six covariates were statistically significantly related to the majority of the dependent variables and were thus retained for additional analysis- these covariates included residence, enrollment status, and institutional control see Appendix B for the correlation table. Moreover, it was determined through a subsequent correlational analysis that the retained covariates were not related to the independent variable; however, they were moderately correlated with each other thus separate MANCOVA analyses were performed as the literature recommends (Huitema, 1980).

### Comparing Engagement using Individual-level Covariates

The first MANCOVA included residence as the covariate. The assumption of homogeneity of covariance was met ( $F = 1.48, p = 0.019$ ) and the homogeneity of variance assumption was also met for all the dependent variables except enriching educational experiences. The Wilks' Lambda for the overall model was significant for the independent variable student type ( $F = 4.408, p > 0.001, \eta^2 = 0.012$ ) and the covariate residence ( $F = 11.23, p > 0.001, \eta^2 = 0.029$ ).

Table 5

#### MANCOVA Analysis of the Engagement Variables with Residence covariate

		SS	df	MS	F	p	$\eta^2$
Residence	Academic Challenge	553.05	1	553.05	2.63	.105	.001
	Active-Collaborative Learning	1851.08	1	1851.08	5.66	.017*	.003
	Student-Faculty Interaction	11035.81	1	11035.81	22.50	.000*	.012
	Supportive Campus Environment	1155.03	1	1155.03	2.88	.090	.002
Student Type	Academic Challenge	304.75	3	101.58	.48	.694	.001
	Active-Collaborative Learning	225.90	3	75.30	.23	.875	.000
	Student-Faculty Interaction	2254.58	3	751.53	1.53	.204	.002
	Supportive Campus Environment	3730.34	3	1243.45	3.10	.026*	.005

\* significant at the .05 level

Table 5 shows the effect of student type remained significant for supportive campus environment ( $p = 0.026$ ) after controlling for residence; however, student-faculty interaction ( $p = 0.204$ ) was no longer significant. Also, the effect size for supportive

campus environment ( $\eta^2 = 0.005$ ) fell within Cohen’s guideline for small effects (i.e., 0.01). Table 6 shows non-transfers scored significantly higher than 4-year transfers on supportive campus environment. There were no significant differences among the transfer groups (i.e., 2-year, 4-year, and swirl) for this variable.

Table 6

*Comparisons of Means by Student Type for Supportive Campus Environment*

	Mean Difference of Student Type			<i>p</i>
	(I)	(J)	(I-J)	
Supportive Campus Environment	NT	2-yr	2.61	.308
		Swirl	3.24	.100
		4-yr	3.27*	.028
	2-yr	NT	-2.61	.308
		Swirl	.64	1.000
		4-yr	1.12	1.000
	Swirl	NT	-3.24	.100
		2-yr	-.64	1.000
		4-yr	.48	1.000

\*. The mean difference is significant at the .05 level.

Note: 2-yr = 2-year transfer; 4-yr = 4-year transfer; NT = non-transfer

The second MANCOVA included enrollment status as the covariate. The assumption of homogeneity of covariance was met ( $F = 1.43$ ,  $p = 0.032$ ) and the homogeneity of variance assumption was met for all the dependent variables except enriching educational experiences. The Wilks’ Lambda for the overall model was significant for the independent variable student type ( $F = 6.492$ ,  $p > 0.001$ ,  $\eta^2 = 0.016$ ) and the covariate enrollment status ( $F = 18.948$ ,  $p > 0.001$ ,  $\eta^2 = 0.046$ ).

Table 7

*MANCOVA Analysis of the Engagement Variables with Enrollment Status covariate*

		<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Enrollment Status	Academic Challenge	5708.51	1	5708.51	27.49	.000*	.014
	Active-Collaborative Learning	18351.56	1	18351.56	56.55	.000*	.028
	Student-Faculty Interaction	25074.41	1	25074.41	51.93	.000*	.026
	Supportive Campus Environment	1847.66	1	1847.66	4.60	.032*	.002
Student Type	Academic Challenge	497.54	3	165.85	.80	.494	.001
	Active-Collaborative Learning	198.54	3	66.18	.20	.894	.000
	Student-Faculty Interaction	3865.52	3	1288.51	2.67	.046*	.004
	Supportive Campus Environment	3956.27	3	1318.76	3.28	.020*	.005

\* significant at the .05 level

Table 7 shows the effect of student type was significant for student-faculty interaction ( $p = 0.046$ ) and supportive campus environment ( $p = 0.020$ ) after controlling for enrollment status. This finding is similar to the model with no covariates, but differs slightly from the model with residence as covariate. Student-faculty interaction was not significant in the model with residence as a covariate but it was significant in this model. The effect size for both variables in the enrollment model (student-faculty interaction,  $\eta^2 = 0.004$ ; supportive campus environment,  $\eta^2 = 0.005$ ) were similar to the effect sizes in the model with no covariates; moreover, the effect size for supportive campus environment in this model was identical to the one in the model with residence as covariate. Table 8 shows non-transfers scored significantly higher than 4-year transfers

on supportive campus environment, but significant differences among the groups were not detected for student-faculty interaction. There were no significant differences among the transfer groups (i.e., 2-year, 4-year, and swirl) for this variable.

Table 8

*Comparisons of Means by Student Type for Supportive Campus Environment and Student-Faculty Interaction*

		Mean Difference of Student Type				
		(I)	(J)	(I-J)	<i>p</i>	
Student-Faculty Interaction	NT		2-yr	3.22	.132	
			Swirl	3.31	.116	
			4-yr	1.10	1.000	
	2-yr		NT	-3.22	.132	
			Swirl	.09	1.000	
			4-yr	-2.12	.790	
	Swirl		NT	-3.31	.116	
			2-yr	-.09	1.000	
			4-yr	-2.21	.704	
	Supportive Campus Environment	NT		2-yr	2.36	.391
				Swirl	3.23	.073
				4-yr	3.71*	.023
2-yr			NT	-2.36	.391	
			Swirl	.87	1.000	
			4-yr	1.35	1.000	
Swirl			NT	-3.23	.073	
			2-yr	-.87	1.000	
			4-yr	.48	1.000	

\*. The mean difference is significant at the .05 level.

Note: 2-yr = 2-year transfer; 4-yr = 4-year transfer; NT = non-transfer

*Comparing Engagement using Institutional-level Covariate*

The final MANCOVA included institutional control as the covariate. The assumption of homogeneity of covariance was met ( $F = 1.415, p = 0.035$ ) and the homogeneity of variance assumption was met for all the dependent variables except enriching educational experiences. The Wilks' Lambda for the overall model was significant with the independent variable student type ( $F = 5.836, p > 0.001, \eta^2 = 0.015$ ) and the covariate institutional control ( $F = 24.70, p > 0.001, \eta^2 = 0.059$ ).

Table 9

*MANCOVA Analysis of the Engagement Variables with Institutional Control covariate*

		SS	df	MS	F	p	$\eta^2$
Institutional Control	Academic Challenge	5165.38	1	5165.38	24.83	.000*	.012
	Active-Collaborative Learning	16857.45	1	16857.45	51.81	.000*	.026
	Student-Faculty Interaction	35324.45	1	35324.45	74.01	.000*	.036
	Supportive Campus Environment	15276.10	1	15276.10	38.73	.000*	.019
Student Type	Academic Challenge	501.23	3	167.08	.80	.492	.001
	Active-Collaborative Learning	344.39	3	114.80	.35	.787	.001
	Student-Faculty Interaction	2965.94	3	988.65	2.07	.102	.003
	Supportive Campus Environment	3123.09	3	1041.03	2.64	.048*	.004

\* significant at the .05 level

Table 9 shows student type had an effect on supportive campus environment ( $p = 0.048$ ) after controlling for institutional control; moreover, the effect size was small ( $\eta^2$

= 0.004). This finding is similar to the model controlling for enrollment status which also found student type to be significant for supportive campus environment but not student-faculty interaction. Table 10 shows non-transfers scored significantly higher than 4-year transfers on supportive campus environment but the difference was nearly significant ( $p = 0.051$ ). There were no significant differences among the transfer groups (i.e., 2-year, 4-year, and swirl) for this variable.

Table 10

*Comparisons of Means by Student Type for Supportive Campus Environment*

		Mean Difference of Student Type			
		(I)	(J)	(I-J)	$p$
Supportive Campus Environment	NT		2-yr	1.609	1.000
			Swirl	2.686	.213
			4-yr	3.347	.051
	2-yr		NT	-1.609	1.000
			Swirl	1.077	1.000
			4-yr	1.738	1.000
	Swirl		NT	-2.686	.213
			2-yr	-1.077	1.000
			4-yr	.660	1.000

\*. The mean difference is significant at the .05 level.

Note: 2-yr = 2-year transfer; 4-yr = 4-year transfer; NT = non-transfer

## CHAPTER 5

### DISCUSSION

#### Summary of Results

This study compared the engagement scores of 2-year transfer, 4-year transfer, swirl transfers, and non-transfer students to determine if there are any differences among these groups, and if these differences persisted after controlling for individual and institutional covariates. The data used in this study only included seniors attending 4-year higher education institutions in Texas who participated in the 2008 NSSE survey. Two multivariate analyses were performed to test a hypothesis and answer two research questions.

The hypothesis of no difference among the engagement variables by student type was partially rejected. Statistically significant differences were found for supportive campus environment and student-faculty interaction by student type; however, there were no significant differences by student type for academic challenge or active-collaborative learning. Enriching educational experience did not meet the assumptions for the MANOVA statistical procedure thus it was excluded from further analysis. The post-hoc comparison of means revealed that non-transfers scored higher on student faculty interaction than 2-year transfers and swirl transfers; moreover, non-transfers were more engaged than swirl transfers and 4-year transfers on supportive campus environment.

The first research question sought to determine if, after controlling for individual covariates (residence and enrollment status), significant differences between student type and the engagement variables persisted. After controlling for residence, student

type had an effect on supportive campus environment but not on student-faculty interaction. Additionally, non-transfers scored higher on supportive campus environment than 4-year transfers. After controlling for enrollment status, student type had an effect on student-faculty interaction and supportive campus environment. Non-transfers scored higher on supportive campus environment than 4-year transfers; however, it was difficult to detect any differences among the groups in regards to student-faculty interaction.

The second research question sought to determine if, after controlling for institutional covariates (control), significant differences between student type and the engagement variables persisted. After controlling for institutional control (i.e., public or private), student type had an effect on supportive campus environment. Non-transfers scored higher on supportive campus environment than 4-year transfers.

Another interesting finding was the lack of difference among the transfer groups (i.e., 2-year, 4-year, and swirls) in regards to any of the engagement variables. Although, some of the transfer groups were lower in their mean score when compared to non-transfers there were no statistically significant differences in scores when compared to the other transfer groups. This finding appears to diverge from previous research suggesting possible engagement differences among the transfer groups (Fugard, 2009; Kirk-Kuwaye & Kirk-Kuwaye, 2007; McCormick et al., 2009).

The next section contains a comparison and discussion of the findings from this study with relevant findings from the review of related literature. Following this discussion is a review of limitations and recommendations based on this study's findings.

## Comparison and Discussion of Findings

This study confirmed the findings of others who reported that non-transfer students were more engaged than transfer students (National Survey of Student Engagement, 2008; Roberts & McNeese, 2010); however, it did not support the argument that transfer students differed in their engagement as reported by others (Kirk-Kuwaye & Kirk-Kuwaye, 2007; McCormick et al., 2009). This study found non-transfers were more likely to perceive their campuses as supportive environments. Students felt their campuses provided the support they needed to succeed academically, helped them cope with non-academic responsibilities, and helped them thrive socially. Additionally, non-transfers generally perceived the quality of their relationships with students, faculty members, and administrators as positive. Non-transfers also reported a greater likelihood of talking with instructors about grades and assignments. They also appeared more likely to work with faculty members on activities other than coursework such as serving on committees or participating in research projects.

While non-transfers appeared highly engaged in these two areas, no significant differences existed among the three transfer groups related to perceptions of their campus environment, interaction with faculty, or any of the other engagement variables. The findings of this study also indicate that controlling for residence, enrollment status and institutional control did not significantly improve the effect of student type on the engagement variables as the effect sizes were small in all cases.

In reviewing the literature, three studies closely resemble this study and provide an opportunity to compare and contrast findings- these studies include McCormick et

al., 2009; Ishitani et al., 2010; and Fugard, 2009. McCormick et al. compared the engagement experiences among non-transfers, 2-year transfers, and 4-year transfers; however they did not include students who attended multiple institutions (i.e., swirls). Ishitani et al. also compared the engagement of non-transfer with transfer students, but they focused only on 2-year transfer students. Finally, Fugard examined the differences between transfers and non-transfers attending public 4-year universities and she also focused only on 2-year transfers. This study examined the engagement of non-transfers and three types of transfer students (i.e., 2-year, 4-year, and swirl) attending public and private universities in Texas.

There were some similarities in regards to the findings of these studies. In general, McCormick et al. found non-transfers were more engaged than 2-year and 4-year transfers in student-faculty interaction, quality of campus relationships, which is a subscale of supportive campus environment, and overall satisfaction with college. Ishitani also found non-transfers students scored higher on student-faculty interaction than 2-year transfer students. Similar to both studies, this study found non-transfers were more engaged than 2-year and 4-year transfers in student-faculty interaction and supportive campus environment. Although the samples were different in size, each study found non-transfers were more engaged in student-faculty interaction or supportive environments than transfers. McCormick's study included 148,296 seniors of which 91,042 were non-transfers compared to this study consisting of 2,000 seniors of whom 500 were non-transfers and the 417 non-transfers out of the 535 seniors in Ishitani's study. A large majority of non-transfers (63%) for this study reported working fewer than 15 hours a week off-campus, so this may explain why they had more time to

interact with faculty members outside of class thus resulting in them being more engaged in this area compared to the transfer groups.

There were instances where the findings from this study and the others (McCormick et al., 2009; Ishitani et al., 2010; & Fugard, 2009) diverged. McCormick compared 4-year and 2-year transfers and found 4-year transfers were more engaged in terms of student-faculty interaction but less engaged in the quality of campus relationships and overall satisfaction with college. This study did not find any differences among the transfer groups for any of the engagement variables nor did it find an advantage of 4-years over 2-years as they reported. The findings of this study support the argument that transfer students, when compared to each other, do not appear to have significantly different engagement experiences. Ishitani found non-transfer students scored higher on active-collaborative learning and student-faculty interaction than 2-year transfer students; however, in this study active-collaborative learning was not a significant variable for any of the groups. Ishitani reported that 29% of his non-transfers lived on campus whereas the majority of non-transfers in this study lived and worked off-campus, thus it is possible their residential status prevented them from engaging in many activities that promoted this type of engagement. Fugard did not find a significant difference between non-transfers and transfers in terms of supportive campus environment; however, this study found a difference between non-transfers, 4-year transfers, and swirl transfers, after controlling for individual and institutional covariates, on this variable. Moreover, the differences between non-transfers and swirls were no longer statistically significant. Fugard also found a difference between the groups in terms of student-faculty interaction; transfers scored higher than non-transfers

on this engagement variable. However, this study found non-transfers scored higher than transfers possibly because they worked fewer hours than transfers. Fugard also reasoned the difference between non-transfers and transfers were due to transfer students seeking mentors among other staff at the university and the lack of alignment between transfer and faculty member schedules. The findings of this study suggest transfers did not have time to interact with faculty due to their off-campus obligations thus they were less engaged in these areas than non-transfers.

### Limitations

The limitations of this study are associated with conducting research using data collected and provided by a third-party. This first limitation of this study relates to the generic categorization of transfer types that did not permit analysis of differences associated with length of stop-out between institutions, number of credits transferred, prior achievement, or prior college experiences. The NSSE instrument does not collect this level of data; moreover, the parameters of the data sharing agreement limit the possibility of collecting this data from the institutions or students represented in this study. Additionally, the comparison of data across multiple institutions may be a limitation as institutional- or individual-level factors affecting the students' NSSE responses are unknown making it difficult to control for their influence. Other concerns include the low Cronbach alphas for active-collaborative learning and enriching educational experience. Since it appears these variables have a lower internal consistency, caution must be taken when interpreting the result of statistical analysis involving these benchmarks.

## Recommendations for Practice

Overall, the findings of this study confirm that non-transfers are generally more engaged than transfer students; moreover, it appears to suggest transfers have similar engagement experiences. While it is sometimes suggested that institutional practices consider the diversity of students and their backgrounds, as suggested by Kuh (2009a) and others (Axelson et al. 2011 & Upcraft et al. 2005), this appears less important when examining the engagement of different types of transfer students. The findings of this study indicate that the engagement of 2-year, 4-year, and swirl transfer students are similar. Moreover, the findings of this study reinforce the need for institutions to assess and modify efforts to improve engagement among transfer students without consideration of the type of transfer students. All types of transfer students appear equally less engaged than non-transfer students, so it does not appear necessary to treat these groups differently nor assume 4-year transfers need less assistance than 2-year transfer. Institutions can use this study to inform transfer students of the challenges they may face adjusting to their new institution and provide them with recommendations on how to become more engaged such as interacting with faculty and developing perceptions of the campus environment as supportive.

Additionally, institutions should consider the role of work or other off-campus obligations that may adversely affect transfer student engagement, particularly for 2-year and swirl transfers. Astin (1984) reported that working off-campus draws students away from college, thus they are less likely to participate in activities that promote their engagement. In this study, over 30% of 2-year and swirl transfer students worked off-campus and/or cared for dependents 30 or more hours per week, thus 4-year

institutions in Texas may consider modifying current practices that identify and deliver engagement opportunities to these students. This study supports the notion that institutions play a role in facilitating or hindering the engagement of all students, thus they must frequently assess the impact of their practices on transfer students.

#### Recommendations for Future Research

In addition, it would be valuable for future research to replicate this study using larger samples, other variables, and qualitative methods that probe deeper into students' responses. NSSE appears to provide valid and reliable data that can be used to examine transfer student engagement from different perspectives. This study yielded statistically significant results but the effect sizes were small suggesting the need for more power to detect greater differences at the 0.05 significance level. One possible explanation for this finding is the sample size was not large enough to generate sufficient power, thus a larger sample may be able to detect larger effect sizes. A G\*Power analysis was conducted to determine the suitable sample size to determine a medium effect for this study and the results suggested a sample equaling about 4,300 respondents is needed (Faul, Erdfelder, Lang, & Buchner, 2007).

Future research should examine the impact of other variables on engagement. This study was limited in the amount and level of descriptive data on the student and institutions in the interest of maintaining anonymity. The ability to compare engagement among the groups was limited because important institutional and individual characteristics were excluded. This lack of detail may hide the influence of other variables. Future researchers should utilize more descriptive data for comparison by examining the engagement experiences of transfers at individual institutions in Texas

and including other types of data that capture other student characteristics. For example, the students' prior academic experience may influence how they perceive their engagement at 4-year institutions. Students with high transfer GPAs may have been highly engaged at their previous school, thus their engagement experiences at new institution may differ from those with lower GPAs. Studies should include this variable to tease out its effect on the challenges transfer students face engaging with their new institution.

Future research should conduct both quantitative and qualitative studies of transfer engagement to gain more insights into students' responses by allowing researchers to probe deeper into the nature of their experiences. One benefit of having this type of data is that it may increase the precision of current measurements of effective institutional practice. Finally, THECB should also require institutions to collect and send engagement data along with other assessment measures of student outcomes to the state. The availability of student data from each institution provides an opportunity to examine the engagement experience of students, particularly transfer, across the higher education system.

### Conclusion

In conclusion, the findings of this study confirm the literature's argument that transfer students are less engaged than non-transfer students. Moreover, the study suggests that the engagement experiences among the transfers do not differ significantly thus they perceive these experiences in similar ways. Efforts to improve the engagement of transfer students must be informed by research that examines the barriers preventing their engagement. As part of overall efforts to accomplishing Texas'

Closing the Gap goals, institutions may consider modifying practices to improve the engagement of transfer students and reviewing institutional practices that may adversely affect it. The prevalence of transfer students in the Texas higher education system is growing and the characteristics of this group are evolving, particularly as more students earn college credit while in high school. This research indicates that efforts to increase the participation and success rates of Texans, particularly those identified as transfers, may be informed by how students perceive their engagement experiences.

APPENDIX A  
NSSE DATA SHARING FORM



### Indiana University Center for Postsecondary Research Data Sharing Agreement

This Indiana University Center for Postsecondary Research Data Sharing Agreement ("Agreement") defines the parameters for data sharing from the National Survey of Student Engagement ("NSSE") between the Research Institution and its Authorized Researchers named below and the Trustees of Indiana University on behalf of the Indiana University Center for Postsecondary Research ("IUCPR"). The terms below are intended to reflect and comply with the existing agreements between NSSE and the institutions that participate in the survey program. Under these participation agreements, NSSE may:

*"... make data, in which individual institutions or students cannot be identified, available to researchers interested in studying the undergraduate experience... NSSE results specific to each institution and identified as such will not be made public except by mutual agreement between NSSE and the institution."*

#### RESEARCHERS

The following researchers ("Authorized Researchers") of University of North Texas ("Research Institution") may make use of NSSE data pursuant to the terms of this Agreement:

Keith Fernander                      University of North Texas  
Dr. Ron Newsom                      University of North Texas

#### DATA DESCRIPTION

Under this Agreement, IUCPR will provide the researchers a data file delimited in the following ways ("NSSE Data File"):

- **Data Source:** NSSE 2008
- **Variables:** All survey items. In addition, some institutional characteristics (Carnegie classification, control, Barron's Admissions Selectivity, and enrollment size). These characteristics will each be in ranges/categories that include at least 5 institutions. All student and institution identifying information will be removed.
- **Cases:** There will be 3 different subgroups:
  1. 500 cases randomly sampled from non-transfer seniors who at the time of taking the survey attended Texas institutions
  2. 500 cases randomly sampled from seniors who transferred from 4-year colleges and at the time of taking the survey attended Texas institutions
  3. 500 cases randomly sampled from transfer seniors who transferred from "vocational or technical" schools or "community or junior" colleges and at the time of taking the survey attended Texas institutions



**PARAMETERS FOR DATA SHARING:**

1. IUCPR will provide a single copy of the NSSE Data File solely for non-commercial research by the Authorized Researchers.
2. The NSSE Data File will exclude the Unit ID code from Integrated Postsecondary Educational Data System (IPEDS), any other unique school or student identifiers, and any variables that IUCPR determines reasonably may permit the identification of a participating school or student.
3. The Authorized Researchers will not make any attempt, privately or publicly, to associate elements of the NSSE Data File with the individual institutions or individual students participating in the NSSE, nor will they share the data with anyone else who might do so.
4. In all publications or presentations of data obtained through this agreement, the Authorized Researchers agree to include the following citation: "NSSE data were used with permission from: The Indiana University Center for Postsecondary Research."
5. The Authorized Researchers agree to provide to IUCPR a copy of all reports, presentations, analyses, or other materials in which the data given under this Agreement are presented, discussed, or analyzed.
6. **The data should be encrypted when not in use by the above researcher and should be destroyed once this particular research project (dissertation) has been completed. If the researcher needs the data for any longer period than that which is necessary for completing the dissertation, the researcher is required to ask for an extension. Using the data for other purposes besides completing the designated project (dissertation) must be approved by the Director for the Center for Postsecondary Research at Indiana University at Bloomington.**
7. The IUCPR of Indiana University may, by written notification to the Authorized Researchers and the Research Institution, terminate this Agreement if it determines, in its sole discretion, that either the Authorized Researchers or the Research Institution have breached the terms of this Agreement. In the event that this Agreement is terminated, the Authorized Researchers and Research Institution shall return the originals and all copies of the NSSE Data File to the IUCPR, and securely destroy all NSSE Data File elements contained in any analyses or other materials created or maintained by Authorized Researchers, within ten (10) days of the receipt of the termination notice.
8. IU will not be liable to the Research Institution for any direct, consequential, or other damages, related to the use of the NSSE Data File or any other information delivered by Indiana University or IUCPR in accordance with this Agreement. The Research Institution shall defend, indemnify, and hold harmless The Trustees of Indiana University, their officers, employees, and agents, with respect to any and all claims,



causes of action, losses, and liabilities, of any kind whatsoever, arising directly or indirectly from the Authorized Researchers' use of the NSSE Data File.

9. FEES

In exchange for access to and use of the NSSE Data File, Keith Permander agrees to pay Indiana University the sum of \$525, by check upon execution of this Agreement;

SIGNATURES

The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

Marcia Landen

Digitally signed by Marcia Landen  
DN: cn=Marcia Landen, o=Indiana University, ou=Office of  
Research Administration, email=Landen@indiana.edu, c=US  
Date: 2012.01.24 13:26:22 -0500

Marcia Landen  
Director, Grant Services  
Office of the VP for Research Administration  
Indiana University

Date

Alexander C. McCormick  
Director,  
National Survey of Student Engagement

1/23/2012  
Date

For the Research Institution:

Name, Title, and Organization  
Authorized Institutional Official of Research Institution

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Acknowledgment of Authorized Researchers:

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Keith Fernandez  
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University of North Texas

1/20/2012  
Date

Ron Newsom

Dr. Ron Newsom  
Doctoral Advisor  
University of North Texas

1-20-12  
Date

APPENDIX B  
NSSE BENCHMARK QUESTIONNAIRE ITEMS

## **Academic Challenge**

- Hours spent preparing for class (studying, reading, writing, doing homework or lab work, etc. related to academic program)
- Number of assigned textbooks, books, or book-length packs of course readings
- Number of written papers or reports of 20 pages or more, between 5 and 19 pages, and fewer than 5 pages
- Coursework emphasizes: Analysis of the basic elements of an idea, experience or theory
- Coursework emphasizes: Synthesis and organizing of ideas, information, or experiences into new, more complex interpretations and relationships
- Coursework emphasizes: Making of judgments about the value of information, arguments, or methods
- Coursework emphasizes: Applying theories or concepts to practical problems or in new situations
- Working harder than you thought you could to meet an instructor's standards or expectations
- Campus environment emphasizes: Spending significant amount of time studying and on academic work

## **Active-Collaborative Learning**

- Asked questions in class or contributed to class discussions
- Made a class presentation
- Worked with other students on projects during class

- Worked with classmates outside of class to prepare class assignments
- Tutored or taught other students (paid or voluntary)
- Participated in a community-based project (e.g., service learning) as part of a regular course
- Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)

### **Student-Faculty Interaction**

- Discussed grades or assignments with an instructor
- Talked about career plans with a faculty member or advisor
- Discussed ideas from your readings or classes with faculty members outside of class
- Worked with faculty members on activities other than coursework (committees, orientation, student-life activities, etc.)
- Received prompt written or oral feedback from faculty on your academic performance
- Worked on a research project with a faculty member outside of course or program requirements

### **Enriching Educational Experiences**

- Hours spent participating in co-curricular activities (organizations, campus publications, student government, social fraternity or sorority, etc.)
- Practicum, internship, field experience, co-op experience, or clinical assignment
- Community service or volunteer work
- Foreign language coursework and study abroad

- Independent study or self-designed major
- Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, etc.)
- Serious conversations with students of different religious beliefs, political opinions, or personal values
- Serious conversations with students of a different race or ethnicity than your own
- Using electronic medium (e.g., listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment
- Campus environment encouraging contact among students from different economic, social, and racial or ethnic backgrounds
- Participate in a learning community or some other formal program where groups of students take two or more classes together

### **Supportive Campus Environment**

- Campus environment provides the support you need to help you succeed academically
- Campus environment helps you cope with your non-academic responsibilities (work, family, etc.)
- Campus environment provides the support you need to thrive socially
- Quality of relationships with other students
- Quality of relationships with faculty members
- Quality of relationships with administrative personnel and offices

APPENDIX C

CORRELATION TABLE FOR COVARIATES AND DEPENDENT VARIABLES

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	Residence	Enrollment Status	Institutional Control
Academic Challenge	-.032	.115**	-.106**
Active-Collaborative Learning	-.055*	.170**	-.161**
Student-Faculty Interaction	-.124**	.169**	-.199**
Enriching Educational Experiences	-.189**	.197**	-.235**
Supportive Campus Environment	-.059*	.053*	-.150**

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\*significant at .05 level

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