CASELOAD ADVISING AS TEACHING: AN ADVISING-TEACHING MODEL

TO IMPROVE RETENTION AND PERSISTENCE

OF FIRST YEAR STEM STUDENTS

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ABSTRACT

At the collegial level, academic advising has long been advocated as a scholarly activity based on its parallel to teaching. In fact, the National Academic Advising Association (NACADA) has promoted the parallel between Developmental Advising and Teaching as its primary contribution to the education community and to its claim as a scholarly profession. While there are similarities between the two, this study seeks to contribute to the body of research by probing this theory via the restructuring of the CST 1001 freshman seminar course offered within the College of Science & Technology at a large, urban public research institution. By implementing a caseload-teaching model of the course for first year freshman STEM students, the study sets out to illustrate whether caseload advising within a classroom/teaching setting can improve students' first semester GPA, success with foundation-based Math and Science coursework, first year retention and persistence to graduation.

This evaluation study is two-fold: Not only does it set out to "treat" students within a section of the course via the application of constructive and intrusive advising/teaching practices, and track student persistence to graduation in four, five and six years, it also examines the increasing demand on the academic advisor role and its place within the higher education landscape. In search for its place in the higher education community and its claim as a profession, the study examines the advisor role to determine whether the advising practice offer more than its student service function, which is designed to carry out the mission of the institution.

ACKNOWLEDGEMENTS

I am deeply indebted to my Dissertation Committee for coming together to serve and support me after the loss of my Mentor, Dr. Vivian Ikpa. Dr. Ikpa was precise to lead me to her colleagues in the College of Education, Dr. Ducette and Dr. Sanford-DeShields to serve on my committee. Along with Dr. Varnum and Dr. Najera, I am grateful of this committee's collective knowledge and experience, as they transformed my Dissertation Defense into a teacher-student platform, where I learned more about the impact this research can have in the higher education realm. I was inspired by the committee's insight about my Dissertation topic, and the balance of Education and STEM knowledge that will inevitably help me become a better educator and facilitator to serve and advance our students.

DEDICATION

This research is dedicated to the late Dr. Vivian Ikpa, Associate Professor, for sharing her expertise in education with me through teaching, advising, guidance and mentorship. It was her knowledge of K-16 programs that enhanced my vision and interest to pursue doctorate-level research that would apply my K-16 experience to an area of student need in higher education.

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CHAPTER 1

STATEMENT OF PURPOSE

The purpose of this evaluation study is to examine the first year College of Science & Technology's CST 1001 freshman seminar course offered at a large, urban public research university. For purposes of the study, the urban, public research institution will be referred to as the "University." Specifically the range of this evaluation study stems from the fall, 2010 semester to spring, 2017 semester. This study explores the parallel drawn between Developmental Advising and Teaching. It examines the implementation and application of constructive and intrusive teaching/advising strategies and its impact on attending students' first year experience and beyond. Guided by research, the study explores and expands upon teaching as a conceptual strategy that not only aids first year transition from high school to college, but first year retention and persistence to graduation.

For purposes of this study, retention is defined as a student's continuous matriculation at the university after his/her first full year of study. While there has been favorable institutional research relative to first year seminars at the University, the first year experience for declared STEM majors is not only unique, but has been a continuous challenge. To appropriately align with this body of research, the literature review predominantly focused on four core areas:

1. Investigating the scholarly claim made by the National Academic Advising Association (NACADA) of a parallel between academic advising and the teaching profession, particularly the claim that advising is teaching.
2. Investigating Academic Advising as a profession, and (for purposes of this study) the institution's expectations of advising as it relates to student services.

3. Student transition from high school to college, with specific emphasis on STEM majors. For purposes of this study, the target population was the 2010 incoming freshman class entering the College of Science & Technology at the University.
4. Implementing an advising-teaching model for a section of the first year seminar course (treatment group), compared to: 1) students enrolled in other sections of the course, and 2) to (CST) students who did not enroll in the course.

The design of the study is a three group quasi-experimental design:

Group 1: CST students assigned to section 006 of the CST 1001 course (treatment group)

Group 2: CST students who registered for other sections of the CST 1001 course

Group 3: CST students who did not take the course.

Can academic advising be embraced as a scholarly activity that not only track student outcomes, but also improves first year retention and time to degree completion? As the design of the study seeks to measure these outcomes, it was also essential to probe the following questions:

1. Will advising as teaching improve the academic success of STEM majors?

2 Relative to first year retention, will the results of the study reflect an overall academic improvement (GPA) for freshman students in the treatment group compared to those students enrolled in other sections of the course, and to those students who did not take the course?

3 In terms of student persistence to graduation (six year span: fall 2010 – spring, 2017) will there be a higher percentage of degree completion for the treatment group (Group 1), compared to those students who enrolled in other sections of the CST freshman seminar course (Group 2) and to those students who did not enroll in the course (Group 3)?

This study also set out to illustrate whether a caseload advising-teaching model can improve a student's first year GPA, success with foundation-based Math and Science coursework, first year retention, retention within the College of Science & Technology, and persistence to graduation.

From a broader perspective, this research also attempts to bridge the high school to college experience for incoming STEM majors, and to track a students' first year higher education experience and beyond. Further this research attempts to identify those variables that can impact a student's readiness and subsequent success in college. This is important to the study, as a student's prior educational experiences are contributing factors to the first year student experience. Fostering the high school to college transition is the impetus for the curriculum changes presented to the treatment group in the study.

The primary goal of the CST 1001 first year Freshman Seminar course was to connect students to the informational resources available on campus. Through the implementation of a caseload-teaching model, this study set out to evaluate whether adding an instructional component that promoted early interventions, particularly with math and science coursework improved student's first year academic performance. Further, the study tracked student academic progress, student retention and student persistence to graduation.

Ultimately, the goal is to have this study contribute to the body of research by going beyond the advising-teaching rhetoric, which is an essential focal point of the literature review. Unlike teaching, a review of the research reveals there is no theory that supports academic advising as a profession, contributing to why many advising practitioners view the assignment as a "stepping stone" to other careers (Johnson, Larson & Barkemeyer, 2015).

Statement of the Problem

Service to first year incoming freshman students is the focus of this research. It has been an annual (and consistent) statistical trend that nearly 60% of high school graduates in the United States find themselves underprepared for college, despite being fully eligible to attend college (ACT, 2012). While institutions of higher education have continuously promoted their commitment to the functional trio of institutional research, teaching and student service, these areas are rarely assigned equal merit (Boyer, 1987). Further, since the economic downturn in America in (2008) many higher education institutions are forced to operate on a significantly reduced budget. As a result, many institutions have cut student services to the degree that it not only impacts an institution's brand, but also its ability to survive.

Referencing the United States Economic Stimulus Plan under President Barack Obama (2009) Higher Education institutions are now confronted with quantifiable demands for accountability, particularly in the area of student service. For example, there is an increasing demand for institutions to lower student debt, improve graduation rates and speed student rates to degree completion. As budgetary constraints have become the "new norm" at large institutions across the country, an institution's equitable balance of its functions (particularly as it relates to fiscal management) warrant more oversight.

At the same time, on too many campuses today, academic advisors are trying to cope with a large number of advisees (Ryan, 1991). This is particularly true for colleges that service the STEM population. In 2010, the University (in an effort to address this problem) made a huge investment into its collegial advising services. Academic advisors now serve as the primary institutional compass that help students navigate and stay on course for a timely graduation.

To reverse the trend of underprepared college students, academic advisors are predominantly charged with the responsibility to serve as the student service "hub" from the point of a student's inception into the university, to graduation. Yet that burden is reinforced by an ever-increasing institutional demand that literally positions academic advising as the "default stop" to remedy most student needs. While other campus departments contribute to the student experience, too often departments routinely refer students to their academic advisor for solutions. In turn, the advising role and the students' road to degree completion have become inseparable.

A university's full commitment to academia should be to seek an efficient balance among campus departments that would produce an optimal level of effectiveness to the student experience and (ultimately) to student success. Yet a search for that optimal level of effectiveness is also tested by a myriad of academic and non-academic challenges that students bring with them to the university. This includes (but is not limited to) the inexact science of choosing a major, high school-to-college readiness, economics, financial literacy, access to college resources and implications that stem from the impact of restrictive academic policies that may very well have an adverse impact on student academic performance and student retention.

These factors reinforce the demands on the academic advisor role. With a multitude of issues to contend with, in what ways can we measure an advisor's impact on student development, student success, persistence and retention, and student graduation rates?

Examining new student orientation programs is a start. Traditionally, facilitating incoming student's transition from high school to college has been serviced by the continuous promotion of a "one size fits all" approach to orientation and seminars. From the outset, advisors are charged with an inordinate number of advisees to serve. This demand on advisor time and availability can inhibit advisors from exploring the developmental side of their jobs. This may also include inhibiting opportunities to teach.

Academic advisors provide services through a number of outreach initiatives in an attempt to proactively serve matriculating students. While the key to success is to take on a more responsive role and work with students, and to build on their strengths, there is a hidden danger: policy enforcement and procedural practices are often implemented from a deficit model (approach), which places emphasis on student inadequacies. By definition, the deficit model focuses on the student as the major problem, neither looking within the environment nor the instructional practices in the class room (Shernaz & Guerra, 2004).

The deficit model is more prevalent in public schools. However focus on the student exclusively as a determining factor of his/her success or failure is evident in higher education as well. Unlike public education where there is a pedagogical focus to teaching, at the university level, there is a tendency for professors to be married to content. This is compatible to a scholarly approach to teaching and a commitment to research. Ask most college faculty what's wrong with the first college year, and they will zoom in on the student deficiencies themselves (Barefoot, 2000).

Along with the onus of academic accountability for student success overwhelmingly the responsibility of the college-level student, this may very well foster the hidden dangers of a deficit model that define student inadequacies.

One of the major responsibilities of advisors is to attempt to meaningfully convey to freshman students the correlation between math placement and readiness for STEM coursework.

While student grades can reinforce the deficit model approach to address what is “wrong” with the student, this study was designed to provide the treatment group with instructional and informational resources to combat any math/testing challenges students may encounter.

After more than two decades of federal legislation relative to addressing a deficit model approach to education, there are now mounting concerns about the outcomes of students served in this manner (Shernaz & Guerra, 2004). Yet many institutions subconsciously continue to foster a deficit model approach to serving students as they matriculate.

The Research Context

Academic advising has long advocated itself as a scholarly activity based on its parallel to teaching. Founded in 1979, the National Academic Advising Association has championed the advising-teaching parallel. Yet “good advising” techniques are evaluated by the accuracy of highly prescriptive advising services that are rendered to students, not teaching. A review of the literature draws the comparison between teaching and advising. While there are contextual similarities, its demarcations are apparent when examined as an actual professional practice. An awareness of ideological differences between advising and teaching was critical to developing an advising-teaching model designed to improve retention of first year students.

For a developmental approach to advising to extend beyond a rhetorical parallel to teaching, it would require a shift in culture. Paramount to this change in culture is to train academic advisors to embrace a more relational, intrusive role towards student development, and to think pedagogically about measurable academic outcomes that link advising to learning.

This was the approach to the course, and central to the treatment received by the control group in the study. While prescriptive advising and developmental advising are arguably not mutually exclusive, there is a difference between merely offering students a matriculation roadmap (what courses to take), as opposed to actually servicing students (teaching them *how* to learn).

As part of the Literature Review, a comparison was made between the delivery of instruction between high school teachers and university professors. This was extremely important to the treatment group in the study. Many first year students are challenged by the transition from a pedagogical approach to teaching in high school to a scholarly approach to teaching in college. Training advisors with pedagogical skills can foster this transition and enhance student development.

Implications of Policy

Recent changes in academic policy were implemented at this large, urban institution that directly impact this study. Significant to this study are those policy changes that directly impact student academic performance, student retention and student persistence to graduation.

University Grading Requirements for STEM Coursework

No better predictor of college enrollment (and completion) exists than the rigor of high school courses, specifically advanced mathematics (Adelman, 1999). At the University, recent changes in academic policies also directly impact STEM coursework. For STEM majors, students must earn a minimum C grade to further matriculate along the math curriculum. A minimum C grade is also required for General Chemistry to satisfy the prerequisite to start introductory Biology coursework, coursework required to pursue medical school careers.

As difficulty with math coursework is embedded in a student's K-12 experience, this presents the need to have proactive advising metrics in place to immediately address the anticipated academic challenges a number of students will encounter.

Math Repeat Coursework: Impact on STEM Majors

Within the College of Science & Technology, the math discipline is overwhelmingly the most repeated course for students and for student remediation. This often weeds out many students who aspire to pursue a STEM major and who simultaneously aspire to follow a pre-health track. As there is no greater indicator of college success than a student's success with math coursework in high school (Adelman, 1999), success with math coursework at the collegial level is more a result of what skill set students initially bring with them into college, as opposed to how course content is delivered at the institution.

In terms of a university's mission, high academic standards should be the standard, supported by a rigorous curriculum that not only aligns with the mission of the institution, but also promotes the university brand by producing highly qualified graduates. High student standards should also be reinforced by academic advisors. Yet the challenge to high standards promotion is the realization that a student's choice of major is not a declaration of possessing the skill set that is necessary to tackle the rigorous curriculum that comes with being a STEM major.

The lack of initial student success with foundation-based calculus coursework is marked by repeat course rates. Unsuccessful completion of introductory STEM coursework (generally a C- grade or lower grade) will require a repeat of that course. This slows the rate to degree completion. Graduation rates also affect an institution's brand. At the University, instruction and testing are not considered, nor embraced as causal to this lack of student success. Professors can (instructionally) remain steadfast with content, without ever addressing a student's "deficit" or the need to develop pedagogical skills that are essential for their learning and academic success. It would require effective advising to have students take ownership of their education and seek available campus resources and tutorial support to achieve academic success.

The University's Repeat Course Policy: Impact on STEM Majors

The University has also made revisions to its Repeat Course Policy. Pursuant to these revisions, a student has three (3) attempts to successfully pass a course. The policy is compulsory in nature. In most cases, an unsuccessful third attempt at a course would compel a student to change his/her major. However, a third attempt at a course is not immediately guaranteed. Rather a student must petition for that third attempt. Further the decision-making process is purely administrative (top-down) and is usually arbitrarily justified by what is deemed to be "in the best interest of the student". This is significant to the advising practice, to the advising-advisee relationship and to this study, as the College of Science & Technology has been heavily committed to enforcing this policy. In the majority of instances where students find themselves in third repeat course status with math and science coursework, students are required to engage in some form of remediation.

Remediation may result in having to repeat a course they have already successfully completed. The rationale is that a student's initial passing grade may not be reflective of his/her mastery of content. This brings into question whether the means behind remedial coursework justify the ends. Is it wise for students to repeat coursework and add to student debt, with no guarantee for success within a chosen STEM major? While only a student's best grade in a course is calculated in the overall GPA, the rate to degree completion is further delayed by repeat coursework. Further, students are compelled to take remedial steps in a major in which they have not demonstrated the ability to successfully persist. As students ultimately brunt the cost of remediation, remediation may invariably promote entrapment in the wrong major, which certainly hinders persistence to graduation.

Choosing a major is not an exact science. This heightens the importance of college readiness. Of the students who enter college, nearly a third drop out after their first year. Moreover, studies clearly indicate that remedial students are most likely to drop out (Bowler, 2009). Nevertheless, the effectiveness of remedial coursework at the university is in a state of flux, as it certainly does not improve a student's rate to degree completion and will undoubtedly add to a student's college debt.

The University's Fly in 4 Initiative: Impact on Academic Advising

To combat growing student debt and improving a student's rate to degree completion, the incoming freshman class of 2014 was presented with the university's Fly in 4 Initiative. Fly in 4 is designed as a monetary incentive to combat student debt and to also place students on a pathway to complete their degree in four years.

Tracking these students will weigh heavily on the advising units at the institution. Yet again, advisors are charged to be the source that will service the needs of this population.
First implemented in the fall, 2014 semester, the advising response to the Fly in 4 initiative has been to serve these students through the prescriptive practice of group advising.

The predominant function has been for each advising unit to meet with its Fly in 4 student population to ensure appropriate course selection and credit completion goals for the year.

Adherence and compliance to Fly in 4 requirements rest with the student. However (beyond a student's first year), the real challenge to this initiative is whether the University will have the capacity and means for long- term sustainability to effectively serve this population. While money can be a motivator, whether this initiative translates into academic gains for students (and particularly with STEM students) to increase graduation rates remain to be seen.

This is not to conclude advising innovation(s) and growth are inherently stifled by the increasing demands that come with new student service initiatives. Rather it is apparent that the demand on the advising practice is contributory to advising resorting back to its roots- a prescriptive approach to advising.

With change, resistance is quite common and often backed by the urge to resort back to a familiar practice. This stated, change just for the sake of change is not to be mistaken for innovation that produces change that actually leads to growth.

List Of Terms

To reinforce the statement of purpose for this study, and to investigate the advising-teaching parallel, Burns B. Crookston (1972), provides the most widely accepted operational terms that are key to the Developmental Advising as Teaching theory:

Prescriptive Advising	The practice of prescriptive advising is characterized by the provision of rote information about courses and classes, and telling students what they should do. Once advice is given, the advising responsibility is largely fulfilled.

Developmental Advising	A developmental counseling approach to advising that is not only concerned with a specific vocational decision, but also with facilitating a student's rational processes, environmental and interpersonal interactions, behavior awareness, problem-solving, decision-making and evaluation skills.
Caseload Advising:	For purposes of this study, caseload advising is the grouping of a designated cohort of students (advisees) that are assigned to a specific advisor who oversees student matriculation needs.
Grade Point Average (GPA):	A measure of academic achievement based on an average of all grades received. The average is calculated by dividing the number of grade points earned by the number of credits attempted. For purposes of this study, student GPA's are referenced by semester.
Retention:	The number of freshman students who return to the University for his/her Sophomore year.
Persistence:	Continued enrollment in a degree program at the same institution, in continual pursuit to degree completion.

CHAPTER 2

BACKGROUND/REVIEW OF LITERATURE

Political trends strongly dictate the direction of education at all levels. In higher education this is evidenced by current dialogue and heated debate that harbors the question: Is a college education worth it? It is a viable question that challenges many higher education institutions to answer. It also threatens an institution's brand, as debate has emerged that challenges institutions to navigate budget cuts from the recent economic downturn in this country, while developing ways to make a college education more affordable to its students.

While colleges often stress an equal commitment to teaching, research and student service, the reality is that equitable enforcement of these educational objectives is rare (Boyer, 1987). This expands on the initial question to further ask: Are colleges charging students more for less service? While both questions immediately point to the rising cost of a college education, the impetus of the problem is deeply embedded in our current K-12 system of educating our students.

Obtaining a high school diploma and facilitating a student's rate to obtaining a college degree should be a shared vision by educators at both ends of the spectrum. While budgetary constraints are challenging higher education institutions to do more with less, this is a common challenge for many K-12 public education institutions, particularly in urban and rural America, where distributive policies all too often restrict educational resources. Funding is affixed to High Stakes Accountability, where low performing K-12 school districts are continuously subjected to and defined by the regulatory policies associated with standardized test results (Lipman, 2004).

There is a growing demand for accountability in higher education as well, particularly with connecting student outcomes to state and federal funding. This reinforces the need for a shared vision to ensure adequate programs are in place to foster the transition from high school into college. Upgrading freshman seminar courses is one option that is worth trying.

With respect to this evaluation study, all of these factors have an impact on the first year college experience. To improve first year student retention in higher education, educators must move beyond education reform to reframe their thinking of a K-16 education. There is an undeniable correlation between a college education and upward mobility (Petrilli, 2016). To compete in a global economy, attending college has become more of a necessity than an option.

The First Year Experience: Transitional Tribulations

For incoming freshman college students, successful transition from high school into college may not be as fluid as a mere promotion from grade 12 to grade 13. In fact, higher education institutions experience student attrition most frequently during the first year in college (Tinto, 1993). Adjustment to a higher education experience is indeed a unique, individualized experience for each student. Creating an environment where students are expected to achieve academically and are encouraged and supported to do so is an essential precondition for college attendance (McDonough, 2004).

Student characteristics contribute to the complexity of the first year student experience. To aid students with adjustment into the college mainstream, many universities across the country offer a myriad of student support services for freshman students. Understanding the development of matriculating students is essential to those seeking to make a difference in students' lives. Vincent Tinto outlines three stages students move through: separation, transition and incorporation. Students first go through a separation stage in which they move away from their home environment. Although this can be quite traumatic for students, most eventually are able to move to the second stage: transition. During this stage students are torn between their old environment and the new one. They may not feel they belong in their own environments but have yet to find their place in the new one. Finally, students move into incorporation when they have achieved full membership into the social and academic communities of the institution (Tinto, 1993).

Relevance for Research

What does the scholarly research say about first year seminar courses, and its impact on first year student retention? A review of the literature illustrates a positive impact on persistence by improving student academic and social integration (Cuseo, 1991). Further research has shown that seminar participants get better grades and progress more smoothly in first year classes than non-participants (Cannici & Pulton, 1990).

Research that is more recent has linked seminars with improved performance and transition as well as persistence. Yet there remains a need for a more systematic attempt to explore and theorize the totality of the first year experience. Thus, a clear implication for the research is that institutions should do more with the data they collect that relates to a student's first year experience (Harvey & Drew, 2006). This reinforces the need for continued inquiry into this body of research.

This research is also relevant, as enrollment and retention are currently very active functions at the University. A myriad of first year initiatives heighten the need for such research.

Under the auspices of the Senior Vice Provost's office and Office of Institutional Research, a Retention Project, an experimental program designed to target students at risk of leaving the University prior to their sophomore year was undertaken (2007).

In reference to the Retention Project, a prediction equation was designed to identify which first year students were most at risk of leaving the university prior to the beginning of their sophomore year. Interestingly the gathered data consist of many variables that are not specifically grounded in a student's higher education experience. Rather a list of variables is used to compute a "risk score" for first year students. Many of these variables are embedded in a student's K-12 school experience.

The Risk-based Retention Project is built around a customized statistical model. Factors such as demographics (high school attended), SAT verbal scoring, SAT essay sub-scores, Math and English Placement tests, gender, etc. factor into the equation. Immediately evident are those factors that bridge the high school to college experience. The risk model identifies those K-12 and socioeconomic factors that have traditionally impacted students' funnel entry into higher education, with greater access into college granted to those least restricted by these traditional barriers. As with the role of the Academic Advisor, it is both anticipated and expected to require a more intrusive advising approach to service these students.

Intrusive advising has emerged in higher education as one of the most effective tools to help students, particularly students who are at risk. Intrusive advising typically involves some combination of recommended or required advising sessions for students on a regular basis, embracing the dual objectives of a) increasing the motivation and academic success of students and b) reducing attrition from the college or university (Schwebel, 2008).

While institutions of higher learning readily acknowledge the importance of the academic advisor towards student development, (historically) this recognition had been rhetorical at best. Until recently the academic advising role had not been recognized, nor supported as important, compared to other scholarly and/or student service based roles, such as research, teaching, recruitment, enrollment and retention.

The University has recently made efforts to commit to its academic advisors, and to also increase its academic advising base to better suit the needs of its students. This is evidenced by active recruitment of new advisors, and the development of an Advisor Career Ladder (2010).

The Advisor Career Ladder was also implemented as a model to combat advisor turnover and to improve advisor retention at the University. It also seemed plausible, as academic advisors were targeted to play a key role in the University's Retention Project, particularly as it related to a student's first year experience.

Academic advisors would implement these retention interventions, to include a number of outreach initiatives in an attempt to proactively serve the target population. Specific to these outreach initiatives and interventions, this study redesigned the first year seminar course for STEM majors, to evaluate its impact on retention and persistence goals.

The First Year: Enrollment /Orientation/Retention

Enrollment and retention initiatives continue to be significant in higher education. In response to declining enrollment at colleges during the late 1970's), academic advising was viewed as a strategy to combat declining enrollment rates (Crockett, 1978). An issue of continuous concern is student's immediate entry into higher education, coupled with the large amount of information given to students during orientation. There is extensive literature on student development in higher education that identifies orientation as a time of perplexity and confusion for students (Astin, 1999). Orientation is a mundane, generic, prescriptive process. It is the institution's "information highway" source for incoming students.

During orientation, it is difficult to forge relations due to time constraints, as advisors and advisees are engaged in, and disengaged by, several group advising sessions throughout a long, arduous day. In turn, students are overwhelmed by the intensity of the orientation program; new people putting information into their heads and hands at every stop (Fleming, 2002).

Many institutions continue to invest more time in the orientation process and may even extend this period of time for incoming freshman students. Yet there is no profound evidence that link extending orientation to improving a student's retention of this information, as it can't account for experiential learning that is unique to the individual student.

Streamlining the orientation process by determining what is most important for students to retain, and more precise information about the institution itself may be the best way to serve incoming first year students. Yet, reforms to this process are subject to the college orientation/induction agenda, as it will certainly compete for time with other campus departments to promote their services and opportunities for incoming freshman students.

Student enrollment is predominantly a rote, prescriptive process that encompass testing, placement, orientation and a series of informational sessions and /or PowerPoint presentations, which culminate with the assignment of courses and registration for each student. Student intake is also a prescriptive process that is predominantly performed by college advisors.

Yet, the primary focus of academic advising should be on the student. The student-advisor relationship should be a well-defined process, with a student-centered focus. While orientation is essentially the time to promote access to resources, and to also encourage freshman students to enroll in the optional freshman seminar course, it is heavily process-oriented and negates any time to develop advisor-advisee relations.

Relative to student support services, it would appear advising practices that link enrollment to recruitment and retention would aid student retention in a student's chosen field of study. However, governments and quality agencies take retention rates as performance indicators, and regard withdrawal from programs as indicative of poor quality provision (Harvey & Drew, 2006).

In addition, enrollment and retention initiatives are not to be mistaken for well-defined responsive practices that have an impact on the quality of a student's experience. What is needed is an approach that sees the first year experience as holistic and evolving, an approach that match changing student expectations with their experience (Harvey & Drew, 2006).

The caseload-teaching methodology to the CST 1001 course (treatment group) set out to do just that, adding a teaching construct to the informational sources that would facilitate and build on each student's first year foundation, and guided by advisor-advisee relations to degree completion.

Advising and First Year Student Development

There is published evidence that seems to suggest that to de-contextualize the first year from the entire student experience deflects from a need to ensure a positive learning experience suited to the evolutionary stage of the student. Further research suggests that institutions do not focus on the first year experience separate from the experience of other years (UNESCO, 2002).

During this evolutionary stage the role of a college academic advisor can facilitate a student's learning experiences as well as support a positive adjustment to college. It appears this responsibility is in line with the advisor role at the institution. (UNESCO, 2002) defines the purposes/functions of an academic advisor as follows:

1. To assist students with developing educational plans that are in line with their life goals.
2. To provide students with accurate information about academic progression and degree requirements.
3. To assist students with understanding academic policies and procedures.
4. To help students to access campus resources that will enhance their ability to be academically successful.
5. To assist students with overcoming educational and personal problems.
6. To identify systemic and personal conditions that may impede student academic achievement and to recommend appropriate interventions.
7. To review and use available data about student academic and educational needs, performance, aspirations and problems.
8. To increase student retention by providing a personal contact that students often need and request, thereby connecting them to the institution.

From a student's inception into college, it appears the college academic advisor is best-positioned to meet the multiple needs of incoming students, and to embrace that position as students persist. At the same time UNESCO's outlined description of the advisor role is predominantly informational and prescriptive.

In terms of student development, the advisor's "job description" essentially does not link advising functions to student academic outcomes, much less academic success. What is also glaring is the exclusion of teaching, a parallel to advising that is widely marketed by NACADA.

Prescriptive vs. Developmental Advising

Historically, the distinction and subsequent movement from prescriptive advising to developmental advising is well documented. Referencing advising as a profession, the desired goal in the industry is to have advisors connect more with the developmental side of the profession. Because training and performance are the ultimate goals of advisor training programs, it is imperative that those responsible for training engage in the development side of their jobs by providing support and assistance to advisors.

Building a relationship between advisor and advisee is tantamount to a student's first year experience and beyond. But how can this relationship be forged and established throughout a student's college career? Most researchers and policy makers are calling for a college preparatory curriculum to be the default high school curriculum in the United States (McDonough, 2004).

Research also shows that high expectations and access to caring and knowledgeable adults who monitor students' educational success are key precursors to their academic achievement in high school and subsequent college years (Gumport, 2007). In this manner, accountability towards student success can be embraced as a shared responsibility between the student and higher education practitioners who work directly with the student population.

The intricacies of the advisor-student relationship are highlighted by Burns B. Crookston's (1972) classic article in the Journal of College Student Personnel. Teaching, not counseling is the essence of Crookston's approach to advising. He described the process as concerned not only with a personal and vocational decision, but also with facilitating the student's rational processes, environmental and personal interactions, behavioral awareness, and problem-solving, decision-making and evaluation skills.

Prescriptive advising is characterized by the provision of information about courses and classes and telling students what they should do. Crookston equates prescriptive advising to the following medical analogy: Patients (advisees) are people who seek the advice of doctors (advisors) when they realize they have medical (academic) problems, and doctors are the authorities who prescribe treatments to cure the patient's problems. According to Crookston, a prescriptive adviser assumes that "once advice is given, the responsibility is largely fulfilled; now it is up to the student to fulfill his responsibility to do what is prescribed". Unlike traditional approaches to academic advising, developmental advising requires advisors to do more than assist students with scheduling classes. Rauschi (1993) stressed that academic advising is both goal-centered and student ownership based, and that its focus is on the whole person and on working with the student at the person's life stage of development. The advising process is about guiding, not directing students toward which personal goals to set and how to achieve them (Kadar, 2001). Developmental advising is an open-ended, shared relationship between advisor-advisee. The goal is to ground student interest through inquiry and experience so as to allow all students to make informed decisions as they matriculate to degree completion. The National Academic Advising Association (NACADA) heavily advocates the Developmental Advising approach to advising students. While claims of the benefits of Developmental

Advising are industrial-motivated and overblown, the role of the academic advisor has continued to trend from an information-dispensing, "telling" approach, to an approach that involves working with students to help them clarify and achieve their educational goals (Gabb, 2007). While the movement from an authoritative (prescriptive) to shared (developmental) relationship between advisor and student (advisee) is both fashionable and desired, a wealth of scholarly research reveal freshman students actually prefer the prescriptive approach to advising, as they relate the practice of advising to their experiences with high school guidance counselor services, rather than with a teacher.

Kadar (2001) views advising as more of a counseling role, noting a Counseling Liaison model to advising. The advising process encompasses more than academic issues. It also includes addressing students' personal concerns and their adjustment and integration into campus life. Citing a holistic, human development (advising) perspective, counselors are not only knowledgeable about student coursework, but are also trained and capable to appropriately address a myriad of personal issues that are vital to student success.

Richardson (2008) presents a case management approach to academic advising. The Case Management Society of America describes case management as a "collaborative process" of assessment, planning, facilitation and advocacy for options and services to meet student needs through communication and available resources to promote quality, cost-effective outcomes. With Richardson's Case Management Model, the process begins with the students knowing who the assigned advisors are from the outset. This project was undertaken at Southern University's Department of Social Work. Students were assigned a faculty advisor upon enrolling in the second sophomore-level course offered in the social work curriculum.

The process was designed to forge a relationship between advisor-advisee, set up ongoing outreach services, to include outreach, referral services, ongoing assessment and evaluation, and allow for student involvement and feedback.

Academic Advising vs. Professional Teaching

What is academic advising? Before making an advising-teaching comparison, it is best to secure an advising philosophy, particularly amid the transition from prescriptive advising to developmental advising: As a best practice institutional initiative, advising undergraduate students incorporates far more that a prescriptive approach to a student's academic planning as they matriculate towards a degree. Advising is far more than a mere focus on assisting students with planning and making decisions affecting their academic progress. Advising encounters far more than assisting students with academic pre-requisites, course of study, transfer credits (where applicable) and degree requirements. While meeting these objectives are essential to the professional role of the academic advisor, the ultimate goal is student growth and success. To this end, a philosophy for advising undergraduate students can be viewed as a provision of a proactive, systemic approach to advising and programming that is grounded in teaching, counseling and student support services. A foundation for student support services should be built on an unwavering premise of being able to make a positive difference in the lives of each student.

Undergraduate advising should address the human side of education (Evans, 1996). The primary goal of advising is not merely about the process (sharing accurate information with the student), but to build relationships with the product (students). Taking a stake in each student's academic journey is very much an integral part of a student's overall collegial experience.

Along with academic advising, student support initiatives such as caseload and group advising, individualized guidance and counseling, teaching, coaching, tutoring, career services and networking are all essential components of a student support system that is designed to facilitate a student's access to success. Experientially, it is the developmental approach to student advising that offers the framework to foster long-term experiential growth for students.

Prescriptive advising compromises this philosophy and vision. Not only is prescriptive advising "user-friendly" and convenient for advisors to implement, this efficient method of "checking boxes" to accurately service students from one semester to the next is reinforced in the advising community as the evaluative measure of an "effective" academic advisor. Guided by a student's "place" on the matriculation chart, it can actually become the "sticking point" that doesn't allow advisors to see, much less help students along the road to degree completion. Without consideration of the challenges that come with the high school to college transition, the prescriptive advising practice can conceivably contribute to a student's "deficit."

To further make the case regarding the advantages of a developmental approach to advising students, and to strengthen the relationship between advisor-advisee, this was the core approach to redesigning the CST 1001 course for this study. Balancing the curriculum with informational and STEM-based instructional resources to improve student outcomes was the goal.

Teaching and advising share a great deal in common. If so, what are the common characteristics that the two professions share? Ryan (1991) introduces the teacher-advisor connection from a scholarly perspective. Ryan identifies characteristics of effective teachers and advisors:

Effective Teachers	Effective Advisors
Master their subject matter.	Possess accurate information about the policies, procedures, resources, and programs of their departments and institutions.
Plan, organize and prepare materials for classroom presentation.	Are well prepared for advising sessions.
Engage students actively in the learning process.	Enable advisees to actively participate in the advising process by challenging them with new, more demanding learning tasks involving alternative ideas or choices.
Provide regular feedback, reinforcement, and encouragement to students.	Provide timely feedback, reinforce learning that has taken place, and applaud student successes.
Create an environment conducive to learning.	Create a good learning climate within advising sessions.
Help students learn independently.	Encourage advisees to become self-directed learners.
Relate course content to student experiences.	Assist students in the consideration of their life goals by helping them relate their experiences, interests, skills, and values to career paths and the nature and purpose of higher education.
Personalize the learning process.	Help students gain self-understanding and self-acceptance.
Are approachable outside the classroom.	Provide accessible and responsive advising services.
Stimulate learning at higher cognitive levels	Help students move beyond rote memorization or recall, help advisees test the validity of their ideas, and challenge students to confront their attitudes, beliefs and assumptions.

Source: The Mentor: An Academic Advising Journal

By making a comparison of the knowledge skills and characteristics of effective teachers and advisors, Ryan is able to synthesize a great deal of overlap between these two activities. To some degree developmental advising helps students improve their interpersonal skills and, when students are empowered in this manner, they are engaging in the scholarship of pedagogy by using findings of psychological research to improve their students learning and their own teaching (Appleby, 2001).

Yet, can academic advising qualify as a scholarly activity? Can effective teachers and effective advisors do the same things (Appleby, 2001)? While there is a litany of information that attempts to parallel advising and teaching, it is also important to note what academic advising is *not*. Academic Advising is not synonymous with the exemplary practice of teaching, i.e. the characteristics and attributes that define an outstanding teacher.

So what are the attributes of the teaching craft that distinguish teaching from academic advising? It is the skilled and precise balance of course design, lesson planning, class preparation, delivery of lesson objectives and goals, classroom management, establishing an environment that is conducive to learning, student feedback, and the gift of recognizing "teachable moments" that expand the student learning experience.

The exemplary teacher is equipped (via theory-based education and training) to understand student learning is not governed by a pre-constructed process, but a constructivist understanding that experiential learning is unique to each student (Dewey, 1902). To identify and connect with each individual student's point of educational progression serves as the foundation to build upon each individual student's academic growth. The exemplary teacher prides him/herself as a life-long learner and takes advantage of educational-based professional developmental opportunities to improve both personally and professionally.

The teaching profession is grounded in theory and supported by a multitude of theoretical frameworks. Such is not the case with academic advising, an assignment that is predominantly in place to align with and drive the mission of the institution. Current research is beginning to forge the position that brings into question whether academic advising should even be considered as a profession (Johnson, Larson & Barkemeyer, 2015). Professions require a long and tertiary education that is steeped in theory (Evetts, 2003). The theoretical background reinforce the fact that skills required of a profession are not prescriptive, cannot be learned on the job, and often require years of formal hands-on training that allow the professional to apply theory to practical situations (Evetts, 2003).

As a profession, academic advising is not grounded in theory, much less education theory. This debunks NACADA's claim that college advising is a parallel to teaching. While embraced as an essential collegial activity, the academic advising role cannot stake its claim as a scholarly activity. It is unclear if practicing academic advisors agree, know or even understand they are not part of a profession or if they can articulate the future direction for making change (Shaffer et al., 2010). Whether an advisor chooses to embrace the developmental side of his/her role is a matter of choice.

Yet, application of the advisor's role, purpose and position is as valuable an asset to students as teaching is in higher education. The evolution of advising into teaching would require much training to position advisors to serve as effective teachers. Essential to student development is for both teaching and advising to have a positive impact on the student experience. To theoretically parallel academic advising to teaching gives rise to more questions than answers. Yet, to have academic advisors serve as a liaison that transitions students from high school to college may very well currently serve as best practice. If institutions are to improve retention and graduation rates, attention to student services via the strengthening of the advising practice should come with the same commitment made to teaching and research.

High School to College Transition

The chart below lists the varying teaching approaches between high school teachers and University Professors:

High School Teachers	**University Professors**
Teachers check your completed homework.	Professors may not always check completed homework, but they will assume you can perform the same tasks on tests.
Teachers remind you of your incomplete work	Professors may not remind you of incomplete work
Teachers approach you if they believe you need assistance.	Professors are usually open and helpful, but most expect you to initiate contact if you need assistance
Teachers are often available for conversations before, during and after class.	Professors expect and want you to attend their scheduled office hours.
Teachers have been trained in teaching methods to assist imparting knowledge to students.	Professors have been trained as experts in their particular areas of research.
Teachers present material to help you understand material in the textbook.	Professors may not follow the textbook. Instead, to amplify the text, they may give illustrations, provide background information, or discuss research about the topic you are studying, or they may expect you to relate the classes to the textbook readings.
Teachers often write information on the board to be copied in your notes.	Professors may lecture nonstop, expecting you to identify the important points in your notes. When professors write on the board, it may be to amplify the lecture, not to summarize it. Good notes are a must.
Teachers impart knowledge and facts, sometimes drawing direct connections leading you through the thinking process.	Professors expect you to think about and synthesize seemingly unrelated topics.
Teachers often take time to remind you of assignments due and due dates.	Professors expect you to read, save and consult the course syllabus; the syllabus spells out exactly what is expected of you, when it is due, and how you will be graded.

Source: The University, College of Science & Technology

Higher learning institutions charge academic advising departments with the responsibility to serve as the bridge that fosters incoming freshman students' transition into the higher education mainstream. An adjustment and adaptation to the varying teaching methodologies in higher education can be facilitated by an advising-teaching approach to a first year seminar course. Beyond just the differences in the delivery of instruction, there is also a shift of student expectations from high school to college. Relative to this study, this was an extremely important component to restructuring the curriculum of the CST 1001 course, and the treatment received by the control group.

Unlike high school, where there is a focus on individual student performance (i.e. high stakes testing), preparatory and connective strategies are increasingly important in higher education. Progressive learning is essential to STEM student development and success. Particularly with STEM majors, note-taking and preservation of notes (freshman year to graduation) is important to student success. Collaboration and group learning is also a change from the high school learning experience. Consistent reference is made to formulas and tables. Formulating study groups is also critical in the sciences. Getting student to think about a shared learning experience is not automatic. It comes with developing new friendships, work-school balance, time management, advising and leaning on the expertise of faculty, as needed.

To summarize a review of the research, an academic advisor's job knowledge (while paralleled to teaching) is not guided by professional teaching preparation and practice. Rather it is predominantly evaluated by its prescriptive advising functions, i.e. knowledge of course pre-requisites, course of study, institutional policies and procedures and an understanding of cross-departmental student service functions.

K-16 Student Learning and Development

Evaluating a student's first year experience would not be complete without reference being made to a student's K-12 experience. Research suggests there is a disconnect between a student's pedagogical growth in grades K-12 and the student learning experience in higher education (Stoltzfus et al., 2015). If so, this immediately gives rise to several questions:

1. Is the apparent disconnect with teaching and learning an inherent obstacle students must overcome that differentiates, and potentially hinders the transition of integrating K-12 (pedagogical) learning to higher education learning and academic success?
2. In terms of retention (as a university-wide initiative), is college admissions a process that incorporates student academic characteristics as admittance qualifiers that fall short of the experiential transition from high school to college?
3. Are the academic and non-academic factors that students bring with them into higher education obstacles that inherently marginalize higher education retention goals?

While many higher education institutions grapple with the challenge to improve first year retention, if more accountability is to be charged to higher education institutions relative to student outcomes, the importance of college readiness and the role of K-12 institutions in this process cannot be overlooked. Relative to student retention, first year transitional initiatives, bridge programs and access to campus resources are essential to support this effort. Seeking ways to improve the first year seminar course is an option. The instructional treatment received by the control group in the study was designed to familiarize students with high school to college differences, to ensure this didn't become an obstacle that could have an adverse impact on student academic performance.

While academic advising services are positioned to bridge this gap, how advising services are measured towards actual student academic success is obscure. In fact to charge advisors with accountability toward student outcomes and academic success (particularly considering the "de-professionalization" of its role) is arguably unfair.

To expand the advisor role through innovation is to better prepare them through developmental training. Teacher training is that innovation However, with the current training programs that are in place, it is not likely to overcome the convenience and efficiency of prescriptive training modules that work well with driving the mission of the institution.

Helping students become more successful academically has been an educational goal at every educational level. Programs and initiatives that are designed to close the gap in educational equity and educational opportunity continue to be at the forefront of reforms in public education. However, those efforts need to be scaled up and replicated across all college and university types, and also include remedies that bridge the college access gap (McDonough, 2004).

The pathway to college is marked by vast disparities in college preparation. The current structure of middle and high schools is all too often inadequate to prepare minority, low income and first generation students to attend college. Reforms would require significantly transforming high schools, possibly reinventing education as a more encompassing K-16 system (Martinez & Klopott, 2003). As a result, many students have difficulty negotiating the high school-to-college transition, given many K-12 school systems' limited capacity for college preparation. This poses the question: Can colleges and universities provide a bridge for equal access for all students while sustaining and/or improving its institutional brand? The answer must be embedded in the strength of a first year college readiness agenda and programming that offers access to classes such as first year seminars, academic resources that include access to student advising, and university-wide assessment metrics that are designed for students to persist beyond their first year in college.

The “educational challenge” to the student did not begin at the higher education level. In terms of educational equity, too often this issue becomes labeled and/or “racialized” at the higher education level, not taking into consideration those traditional barriers that quantifiably determines one’s “funnel entry” into higher education. In terms of student perceptions, higher education institutions are often faced with balancing a fine line between fairness and failure. Yet, the student struggle is common to all students that are underprepared, to include those students who initially choose a major that doesn’t immediately align with their skill set. Arguably, it is even more dangerous to categorize students, as services based exclusively on student inadequacies reinforce the deficit model in education.

Keeling (2003) references the emergence of today’s traditional-aged students, a population he coins as “millennial” students. Millennial students are students born between 1982 and 2003. According to Keeling, these students often have lofty goals and high expectations but often lack realistic plans for achieving their goals. This is particularly true for current students who are pursuing degrees within the College of Science &Technology, and common to STEM majors who seek careers in the medical/health profession. Ideally, the motives of these millennial students must not only be nurtured, but also channeled and aligned with realistic goals. This delicate process will likely be pivotal to these student’s satisfaction or dissatisfaction with their overall advising experience.

This wave of students must also be accounted for early in their academic careers. Many students are attracted to the College of Science & Technology because of the Pre-pharmacy and Pre-Health tracks, as the science majors (Biology, Chemistry, Biochemistry, Neuroscience, etc.) are closely aligned with the pre-professional tracks. They are attracted to these majors as they see them as pathways to making a lot of money.

However, an early indicator of student success can immediately be identified by their math and science foundation. A student's foundation with required math and science coursework can be traced directly back to its roots, that is, how well he/she performed with math and science coursework during his/her K-12 school years (Adelman, 1999). Whether a student invests in the necessary campus resources to improve academically (to include advising services), or come to the realization to change their degree path, time is a factor. And time has a direct impact on student persistence to degree completion.

Students who do not have access to an Advanced Placement (AP) curriculum during their high school years are placed at a distinct college-preparatory disadvantage, as college placement exams will most certainly examine a student's ability, and factored as an equal access measure for college entry. In response to this issue, the University has already implemented alternative means, i.e. essays, in lieu of standard SAT scores for college entry consideration. Yet, an alternative to admissions requirements for first year students does not negate the necessity of a strong math/science foundation to take on the rigorous math/science curriculum at the university. This presents a challenge for students, particularly those students who were not exposed to calculus coursework in high school. It is also a challenge to the advising practice, to have students take ownership of their education and put forth the effort required for college success.

Theoretical Framework

Since 1972 first year seminar courses have been widely implemented at institutions all over the country. It has been widely used to aid orientation and induction (Gardner, 1986). At universities across the country the first year seminar course are used in a way to extend induction and aid student transition into the higher education mainstream.

First year seminars are usually taught in an active classroom environment using peer activities and instructor guidance. It provides an ideal setting to implement developmental advising practices and teaching metrics to improve the first year student experience. Developmental advising takes a holistic approach and involves working with students to clarify their goals and to help achieve them (Rauschi, 1993). Developmental advising therefore aligns well with a constructivist approach to teaching and the fact that it uses interactive teaching strategies that enhance the advising-teaching parallel. This provided the theoretical framework for the study.

Academically focused programs that are aimed at improving students' academic performance increase the likelihood of them staying in school. While first year seminars are conceived to be non-academic, this study implemented an instructional and pedagogical approach, and set out to improve student academic performance and retention.

By implementing a more balanced instructional-informational structure of the CST 1001 freshman seminar course (treatment), advisors (as teachers) can engage in the developmental side of their job. The goal was to foster teacher-student engagement, built on the premise that the student-advisor relationship will enhance student achievement. For purposes of this research, the classroom presented an environment to track the performance of incoming freshman students in their natural collegial environment. Prior to any data assessment, this study was constructed where data regarding student academic outcomes in their first year of college could be easily collected and referenced later. This positioned the study for evaluation, to compare first year academic outcomes and first year retention, taking into account variables such as student grades in the course, as well as their first year performance with math and science coursework. First year retention rates and student persistence to graduation were variables that were also set for comparison and evaluation. The classroom was also an integral part of the advising-teaching construct. The classroom is the first place where an entering college student can find a sense of continuity. Classes occur in the same place at the same time every week. This kind of monotony is welcomed for new students (Fleming, 2002). Familiarity also serves as a springboard for new relationships. Building a relationship between advisor and advisee is tantamount to a student's first year experience and beyond. The classroom also provided the basic parameters for this research. With the CST 1001 freshman seminar course, students can be assigned by caseload. This positioned the role of the researcher to take on a dual role as advisor and teacher from the outset. But how can this relationship be forged and established throughout at student's college career? To examine this goal, the purpose of this research was to track a section of the CST 1001 course. Unique from other sections, the section (treatment group) was designed to be an intrusive learning experience for students, an engagement of cooperative teaching and learning experiences, informational sessions and access to campus resources. Theoretically, by balancing instructional pedagogy (teaching) with informational resources (advising), the goal of the course was to situate advising to have a lasting impact on the student experience, this to ensure students would seek out advising (resources), even if students elected to change majors.

CHAPTER 3

METHODS

Research Questions

The success of an institution and success of its students are inseparable. Student persistence to the completion of educational goals is the key indicator of student satisfaction and success (Noel & Levitz, 2002). With this in mind, can enrollment in the CST 1001 freshman seminar course serve as a predictor for student success with math and science foundation coursework, second year retention and persistence towards graduation?

To investigate the Theory of Developmental Advising as Teaching, quantitative methods were implemented, with a focus on the following questions:

1. Is there an overall academic difference (GPA) for freshman students in the treatment group (Group 1) who took the CST 1001 seminar course compared to those students registered into other sections of the course (Group 2)?
2. Is there an overall difference in first year student retention in the treatment group (Group 1), compared to those students registered in other sections of the course (Group 2)?
3. Is there an overall difference in the rate to degree completion for those students in the treatment group (Group 1), compared to those students registered in other sections of the course (Group 2)?
4. Is there an overall difference in the rate to degree completion for those students in the treatment group (Group 1), compared to those fall, 2010 CST freshman who did not take the course (Group 3)?

Methods and Procedures

The target population for this study was the fall, 2010 freshman class that entered the College of Science & Technology at the University. As with past practice, students voluntarily registered for the one credit freshman seminar course (CST 1001).

Within the College of Science & Technology, academic advisors are part of a centralized Office of Student Services. The departmental approach to advising was advising students via an assigned (alphabetized) caseload. While advisors were assigned an alphabetized caseload to advise students, this was <u>not</u> the structural design of the CST 1001 freshman seminar course.

Pursuant to this study, the alphabetized caseload of students (students whose last names begin with letters M, N and O) were grouped together (Group 1- Treatment Group). Thirty-two (32) students were registered into section 006. Prior to 2010, students who registered for the course signed up for sections that were suitable to their class schedule. This registration practice remained consistent for all other sections of the course.

The non-alphabetized sections represented Group 2. To complete the quasi-experimental design for the study, those incoming CST freshman students who did not register for the CST 1001 course represented Group 3.

While professional advisors within CST were assigned to “teach” all sections of the course (as noted) assigned advisors taught the course to randomly assigned students. This undermined the caseload advising philosophy, where the primary function of the academic advisor was to be each student’s primary point of contact as he or she matriculates. Structuring the CST 1001 course in this manner would support building the advisor-advisee relationship at each student’s point of inception in college.

This study sought to change this break in the advising-student relationship. A major aim of American post-secondary education has been to improve students' ability to think critically (Pascarella & Terenzini, 1996). With respect to the study (treatment group), getting students to think critically and embrace their education as a progressive learning experience to graduation was the goal. With respect to teaching the freshman seminar course, a review of the literature has determined that academic advisors are in a position to serve as teachers, and guide instruction regarding the differences between the high school and college experience. Advisors (as teachers) are in a position to facilitate and monitor a student's adaptation to these changes, have students provide feedback during this inevitable adjustment period and to administer proactive advice as needed.

From a developmental advising perspective, the dual advisor-teacher assignment would enable advisors to service students both in a proactive and responsive manner. However, this approach raise questions relative to the theory of Developmental Advising as Teaching:

1. What impact does the advising role in the form of teaching a 1st year seminar course have on student development, first year retention and college persistence to graduation?
2. Can the role of academic advisor serve in a teaching capacity, to deliver true teaching pedagogy as students orient themselves to college, specifically via the freshman seminar course?
3. What would an instructional/informational syllabus for the seminar course look like?

To address these questions, curriculum design was also an integral component of this study, as it determined the treatment received that differentiated this section of the course from all other sections.

Rooted in Experiential Theory, the curriculum stressed progressive education modules: experiential learning, projects, collaborative/group activities and the development of life-long learning and social skills via these teaching modules. With the changes in the curriculum and course design, a comparative analysis (evaluation) can be made between the control group, as compared to the other sections of the freshman seminar course. The evaluation study will also compare the treatment group to those 2010 incoming freshman CST students who did not take the course.

The instrument used to collect data for this study consists of the attendance logs of those students who took the CST 1001 freshman seminar course. Supplemental instruction that monitors and supports student performance (particularly with math and science coursework) was implemented via a more instructional approach to the first year seminar course.

A shift from a learning environment wherein teachers know you personally, to a more impersonal environment, i.e., lectures with more than 200 students can be intimidating. This is particularly true with required chemistry course lectures at the University.

To facilitate the students' transition to the their new learning environment, the college advisor can serve as the bridge that fosters each student's adjustment and adaptation to the varying high school to college teaching styles as well. A review of the research has revealed the classroom is the place that serves as a vehicle to forge new relationships in a safe, community-oriented learning environment.

The classroom also provides a setting to implement caseload advising-teaching model for the CST 1001 freshman seminar course. Further the model would allow for and enhance advisor-advisee relations via formal and informal collaboration.

Design of the Study

A quasi-experimental research design was used for this study. Thirty-two (32) student participants were assigned to section 006 of the CST 1001 freshman seminar course during the Fall, 2010 semester.

Quantitative data were collected regarding:

- First semester grade point average (GPA)
- First year grade point average (GPA)
- First semester academic performance with math and science coursework
- First year academic performance with math and science coursework
- First year retention at the university
- Student persistence in their chosen major towards graduation
- Student academic performance and persistence towards graduation.

Data Collection

The data collected for the study are reflective of the changes in the dynamics of the course. As noted, the original purpose of the CST 1001 Freshman Seminar course was to assist first year students by connecting them to the university-wide informational resources available on campus. Powerpoint presentations from campus departments were common, and paralleled the approach of the university-wide course for freshman students.

Referencing the course design, the course syllabus outlined the implementation of STEM-based instructional resources (teaching) and more intrusive advising practices to go along with the college-specific informational resources that are accessible to the students.

The following outlines the various instruments that were employed for the collection of data in the evaluation study:

- Design of the course curriculum (syllabus). Maintain its integrity as a 1-credit course.
- Classroom assignments and feedback.
- Weekly blog entries via Blackboard relative to student experiences in the course, as well as interactions with various campus resources.
- A specific blog (week 6) which had students provide feedback relative to their experience in math and science coursework.
- A mid-semester progress from each student's Math professor.
- Developmental Advising Appointment. Beyond the prescriptive requirements of course selection and scheduling, the 30 minute Developmental Advising session is an intrusive, academic approach that extends beyond prescriptive advising. The advising session included an inquiry into each student's current feelings, perceptions and attitude about college life. The advising session was used to review each student's mid-semester course ratings, with a particularly focus on math and science coursework. Notes of the advising session were affixed to the University's Academic Advising Database.
- An Understanding Diversity lecture was added to the course curriculum. The lecture was specifically designed to foster student's adaptation to the collegial environment.
- Focus 2 Online Career Assessment instrument.
- Summary of each student's experience in the course.
- Student grades in the course.
- Student grades in math and science coursework.

- Walk-in advising session privileges.
- Student (SFF) course evaluation feedback.

An end of semester Blog Questionnaire (Student course feedback), requesting the following:

In rank order (1-3), with 1 being the highest ranking, how would you categorize this course?

I. _____ As an instructional, college-level course that is taken for credit.

_____ As an optional course for students to consider as they matriculate

_____ As an informational that transitions students from high school to college

II. How do you feel about your class instructor serving as your academic advisor?

III. Would you recommend this course to future freshman students?

The data collected reflects the structural and instructional changes made to the course.

The Blog Questionnaire was the only source (data) that was referenced as a contributory source to the study. It is noted that the qualitative feedback received from the students was not implemented to assess student performance. Rather it was implemented to assess the course itself (teaching methodology/treatment), and to determine whether there was satisfactory value to students for the course to be delivered in this manner. From this, it was determined what the student expectations were regarding these advising-teaching advising interventions. Pursuant to each student's first choice (categorization) of the course, 22 of 32 students (68.8%) viewed the course as an informational course that transitions students from high school to college.

My role in the research was to teach section 006 of the CST 1001 freshman seminar course (treatment group). I served in a dual capacity: As teacher of the freshman seminar course and assigned caseload advisor for each student. Having served in public education for fourteen years, ten years of service was accrued as a state certified teacher in New Jersey, which included a five-year assignment as a middle school mathematics teacher. With four years of experience in educational leadership and supervision in a public school setting as a school principal and assistant principal, this experience is anchored by a second Master of Science degree in Education Administration and certification as a school principal in both New Jersey and and Pennsylvania. My successful transition into higher education is evidenced by administrative assignments at two community colleges in Pennsylvania. Both assignments were direct, student service positions. Currently assigned as an Assistant Professor within the STEM ED Network-College of Science & Technology, I also serve as Co-Director and Faculty Advisor for the University's TUteach Program. This program allows me to put the advising-teaching parallel into practice, with the goal of ensuring matriculating students would complete his/her degree in a timely manner, and obtain their certification to teach in the state of Pennsylvania. This current assignment was preceded by an 8 1/2 year assignment as an advisor at the University.

Limitations to the Study

This study set out to measure academic gains for students in their first year and beyond. However this study did not control for those non-academic factors that impact student performance. Referencing the University's Retention Project, variables that define students who are at risk, i.e., socio-economic background, high school attended, cultural background and gender are tabbed as contributing factors to a student's overall pathway to academic success. How these non-academic factors impact student academic performance is subject to a wealth of scholarly research, and contributory to the education field on its own accord. As all participating students had been accepted into the University and had successfully enrolled and began their studies at the college, this study was structured on the premise that all students can learn and reach their full potential. Another limitation to the study is an advisor's readiness or willingness to embrace the developmental side of his or her job. A prescriptive advising model is the script that is followed to train academic advisors, which is consistent with carrying out the duties that are in line with the mission of the institution.

The caseload methodology to teaching the course was strengthened by a developmental approach to advising and embracing the advisor-teacher relationship. This was reflected in the design of the course (curriculum) and course syllabus. At the same time the commitment to developmental advising is marginalized by an increasing demand on the advisor role, and the expansion of that role to carry out university-wide initiatives. Unfortunately, this doesn't necessarily translate into providing the best services for students, much less providing advising services that would actually be in the best interest of the student. In addition, training advisors as teachers has not been embraced by the College of Science & Technology. Rather, training is heavily invested in prescriptive modules, i.e., learning sequenced, semester-based course layouts for specific majors, course prerequisites, college and university-wide policies, and policies that are unique to the college.

The goal of this study was to contribute to the educational body of research regarding first year seminars. Can this study provide useful data that can be implemented to enhance the advising advisor assignment, particularly via teaching theory and teacher preparation? This reinforced the need for a review of the literature to have a heavy focus on the advising practice and its parallel to teaching, student high school to college transition, the first year college experience, student retention and the impact of policy on student persistence.

The University does offer a Teaching in Higher Education Certificate through its Center for Advancement in Teaching (formerly the Teaching and Learning Center). The two-semester certificate program exposes college practitioners to pedagogical training and instructional teaching practices. Through my Doctoral studies, I have earned the Teaching in Higher Education certificate, and deem it to be quite useful towards professionalizing the advising practice. The certificate training provides theory-based learning and training that will begin to have advisors and supervisors think about advising as a practice that doesn't just hone in on student "deficits", but connect academic advising to student learning.

There is also timely significance for this study. Despite documented success of first year seminar courses (not only via scholarly research, but at the University as well), the College of Science & Technology has committed to marginalizing the need for the seminar course by significantly reducing the number of sections that are offered.

The College of Science & Technology's Office of Student Services did coordinate a recent survey of the CST 1001 course. However, the survey set out to track the familiar informational sources offered through the course, not teaching. Much like many students in public education having a preference for art and gym over science and mathematics, the services students "like" may not be commensurate to what is essential toward student success.

For students to become successful STEM majors, it would require a strong math and science foundation. It is an endeavor that will be experienced by all STEM students as they matriculate to degree completion. And improvements in academia, retention and persistence to graduation is a student service function that is a collaborative venture for professors, advisors and higher education practitioners alike.

CHAPTER 4

RESULTS

The purpose for the study was to determine what impact advising as teaching has on student outcomes, specifically student academic performance, first year student retention and persistence to graduation. While the College of Science & Technology implemented an alphabetic caseload advising model, there was a historic disconnect between students who took the CST 1001 Freshman Seminar course and alignment with their assigned caseload advisor. To reflect the historical disconnect between students who registered for the CST 1001 freshman seminar course and their assigned caseload advisor, data from the fall, 2009 incoming CST freshman class were compiled. Historically, registration into the CST freshman seminar course was based on which section suited each student's schedule. Tables 4.1 and 4.2 reflect the misalignment between students who registered for the course and the assignment to their caseload advisor.

Table 4.1

Fall, 2009 CST 1001 Registration

Advisor	Alphabetic Caseload	Enrollment	# Assigned to Caseload Advisor	%
Advisor A	A – C	23	6	26%
Advisor C	Hf-L	30	1	3%
Advisor D	M-O	35	3	9%
Advisor E	P-Se	37	6	16%
Advisor F	Sf-Z	28	4	14%

The caseload advisor (Advisor B) assigned to students whose last names ended in letters D-He did not teach a section of the CST 1001 freshman seminar course. The chart below reflects these students' alphabetic distribution throughout each section of the course.

Table 4.2 Fall, 2009 CST 1001: Distribution of Caseload D - He				
Advisor	Caseload	Enrollment	Students (D-He)	%
Advisor A	A-C	23	6	26%
Advisor C	Hf-L	30	4	13%
Advisor D	M-O	35	10	29%
Advisor E	P-Se	37	11	30%
Advisor F	Sf-Z	28	2	7%

Table 4.1 shows that only 9% of the fall 2009 course was assigned Advisor D (letters M, N & O). It was to remediate this problem that the current study was created.

The study employed a quasi-experimental design. The three groups are:

Group 1 Treatment Group: CST 1001, Section 006

Group 2 Other Sections of the CST 1001 Freshman Seminar Course

Group 3 Fall 2010 CST Students who did not enroll in the Freshman Seminar Course

Tables 4.3 and 4.4 present the descriptive, demographic configuration of the groups in the study:

Table 4.3 Race/Ethnicity of Students in the Study													
Group	N	White	%	Black	%	Asian	%	Hispanic	%	Indian	%	Other	%
1	32	14	43.8	5	15.6	9	28.1	2	6.3	-	-	2	6.3
2	173	82	47.4	43	24.9	25	14.5	8	4.6	1	.006	14	8.1
3	671	319	47.5	90	13.4	189	28.2	22	3.3	1	.001	50	7.5

Table 4.4 Gender of the Students in the Study				
Group	N	Male	Female	% Female
1	32	16	16	50
2	173	77	96	55.5
3	671	345	326	48.6

Pearson chi squared tests were computed to ascertain the equivalence of the three groups in terms of race/ethnicity and gender. The chi squares were not significant.

Counter to traditional risk model approaches that utilize demographics to track student performance, this study did not use demographics to profile the student population in advance. Rather, the study took on a more holistic approach to student-advising relations, the impact caseload advising as teaching has as a “treatment”, and the role of the advisor as a student resource amid the increasing collegial demand on its role. Risk models are also a deficit model approach toward efforts to increase student retention and student persistence.

The approach is to track and “treat” those students who are most likely to *leave* the University. If risk model interventions work, they are deemed useful. If they do not work, the results are viewed as consistent with research data that support the demographic “deficits.”

The research questions were as follows: Is there an overall academic difference for freshman students in the treatment group who took the CST 1001 Freshman Seminar course compared to those registered into other sections of the course and compared to those students who did not take the Freshman Seminar? Is there an overall difference in first year student retention in the treatment group, compared to those registered in other sections of the CST 1001 freshman seminar course and those students who did not take the Freshman Seminar?

Is there an overall difference in the rate to degree completion for those students in the treatment group, compared to those students assigned to other sections of the CST 1001 Freshman Seminar course and to those 2010 CST freshman who did not take the course?

Table 4.5 reflects the first semester academic performance of the treatment group.

Table 4.5

Fall 2010 CST 1001 First Semester Math/Science Grades & GPA

Student	Major	Math	Grade	Science	Grade	CST 1001	Sem. GPA
*Student A	Biology	0701	B-	None	-	A	3.02
Student B	Biology	1041	B	1031/1033	B-/A	A	3.47
Student C	Biology	1021	B	1027	B+	A	3.42
*Student D	Biology	1021	C+	1027	B	A	2.56
Student E	Chemistry	1021	C+	None	-	A	3.22
Student F	Biology	1021	B+	None	-	A	3.21
Student G	Chemistry	1021	C+	1027	B+	A	3.24
*Student H	Biology	1022	C	1031/1033	W/W	A	2.44
Student I	Biology	1022	B-	1031/1033	B/B+	A	3.07
Student J	Biology	1022	B+	1031/1033	C/B-	A	3.20
Student K	Chemistry	1022	C	1031/1033	C/B	A	2.73
Student L	Biology	1021	A-	1027	A-	A	3.42
*Student M	Biology	1022	D	1031/1033	D/F	A	2.14
Student N	Biology	1022	B	1031/1033	D/A-	A	2.97
Student O	Chemistry	1022	C-	1031/1033	D/C-	A	3.04
Student P	Biology	1022	A	1031/1033	C/B+	A	3.29
Student Q	Biology	1021	A	1027	A	A	4.00
Student R	Chemistry	1041	B+	1031/1033	B+/A	A	3.27
Student S	Comp. Sci.	1021	D+	None	-	A-	2.26
Student T	Biology	1021	F	None	-	A-	2.61
Student U	Biology	1022	W	1031/1033	W/W	A-	2.12
Student V	Biology	None	-	1031/1033	C+/B	B	2.57
Student W	Undeclared	1022	C	1031/1033	C/A-	A	2.84
Student X	Biology	1022	A	1031/1033	A-/A-	A	3.48
Student Y	Biology	1022	A	1031/1033	A-/A	A	3.80
Student Z	Chemistry	1022	B	1031/1033	B+/A-	A	3.24
Student AA	Biology	1041	A	1031/1033	A/A	A	3.87
Student AB	Neuroscience	1022	A	1031/1033	A/B+	A	3.81
Student AC	Neuroscience	1041	B+	1031/1033	A-/B	A	3.69
*Student AD	Biology	1022	C	1031/1033	C-/B	A	2.33
*Student AE	Chemistry	1021	C	1027	B+	A	2.69
*Student AF	Biology	1022	A-	1031/1033	B+B-	A-	3.40

*** Students deemed at Risk (University Retention Project)**

All 32 students (100%) attained satisfactory academic standing after their first semester.

Grade Point Averages Between Groups

Research Question # 1: Is there an overall difference (GPA) for freshman students in the treatment group (Group I) who took the freshman seminar course compared to those students who registered in other sections of the course (Group 2) or to those students who did not take the freshman seminar?

Table 4.6 compares the academic standing between groups after the fall 2010 semester.

Table 4.6

Comparison of Student Academic Progress: Fall Semester, 2010

Group	Total	Students on Warning	% in Good Standing
Group 1	32	0	100 %
Group 2	173	15	91.3%
Group 3	671	112	83.3%

Academic warning is defined as those student's whose semester GPA is below 2.0 (C average). Satisfactory (academic) standing refers to students' whose GPA is 2.0 or above.

University data indicate that 14.5 % of the entire freshman class were on academic warning after the first semester. As shown in Table 4.6, none came from the treatment group. Also of note was the fact that all seven students (21.9%) in the treatment group designated "at risk" by University standards attained good academic standing. A one-way ANOVA was used to determine whether there was a statistically significant difference between the means of the three groups on first semester GPA.

Table 4.7 presents the means and standard deviations and Table 4.8 presents the ANOVA results.

Table 4.7

Group Means and Standard Deviations of GPA

Group	Mean	Standard Deviation
Group 1	3.13	.56
Group 2	3.11	.54
Group 3	2.87	.65

Table 4.8

ANOVA Summary Table for GPA

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	1.583	2	.791	6.457	.002	.015
Error	107.005	873	.123			

As shown in Table 4.8, there is a significant difference among the means with the treatment group having a slightly higher GPA as compared to the other two groups; the effect size (the partial eta squared), however, is small. A post hoc Tukey Honestly Significant Difference (HSD) test was performed. Table 4.9 presents these results.

Table 4.9

Tukey Post Hoc Results on GPA

Group	Mean	Group 3	Group 2	Group 1
Group 3	2.87	-		
Group 2	3.11	.020	-	
Group 1	3.13	.023	NS	-

While there is a nominal difference between the treatment group (Group 1) and the other assigned CST 1001 Freshman Seminar sections (Group 2), the significant statistical difference is realized with Group 3-- those freshman students who did not take the CST 1001 Freshman Seminar course. Consistent with a review of the literature, the results show that students who took the first year seminar academically out-perform those students who do not.

There is no difference, however, between the students in the treatment group and the students who took a different section of CST 1001. Data on the second semester grades for students in Group 1 are presented in Table 4.10.

Table 4.10 reflects the treatment group's 2nd Semester Math/Science grades and GPA:

Table 4.10

CST 1001 2nd Semester Math/Science Grades & GPA: Spring, 2011

Student	Major	Math	Grade	Science	Grade	Sem. GPA	Year GPA
*Student A	Biology	1021	C-	1027	C	2.58	2.80
Student B	Biology	1042	B	1032/1034	B-/B+	2.88	3.16
Student C	Biology	1022	B	1031/1033	B/A-	3.27	3.34
*Student D	Biology	1022	D	1031/1033	C+/C-	2.97	2.73
Student E	Chemistry	1022	D+	1031/1033	C+/C+	2.65	3.16
Student F	Biology	1022	C	1031/1033	C+/B	2.67	2.94
Student G	Chemistry	1022	B+	1031/1033	B+/A	3.71	3.48
*Student H	Biology	None	-	None	-	3.38	2.98
Student I	Biology	1041	W	1032/1034	C/C+	2.25	2.70
Student J	Biology	1041	D+	1032/1034	C-/C	2.10	2.97
Student K	Chemistry	1041	D	1032/1034	C/C+	1/92	2.37
Student L	Biology	1022	B	1031/1033	A-/B-	3.25	3.33
*Student M	Biology	***1022***	***C***	***1031/1033***	***W/C-***	3.14	2.77
Student N	Biology	1041	W	***1031***	***C+***	2.77	2.88
Student O	Chemistry	***1022***	***B***	***1031/1033***	***C-/A-***	3.05	3.05
Student P	Biology	None	-	None	-	3.87	3.59
+Student Q	Biology	1022	A	1031/1033	A-/B+	3.89	3.94
Student R	Chemistry	1042	C	1032/1034	B-/B+	2.46	2.85
Student S	Comp. Sci.	***1021***	***C***	None	-	2.26	1.97
Student T	Biology	***1021***	***D+***	None	-	1.73	2.61
+Student U	Biology	***1022***	***F***	***1031/1033***	***D/C+***	1.67	1.82
Student V	Biology	1041	F	1032/1034	W/W	1.82	2.24
Student W	Undeclared	1041	C-	1032/1034	C-/B	2.22	2.88
Student X	Biology	1041	A	1032/1034	A-/B+	3.85	3.63
Student Y	Biology	1041	A	1032/1034	A-/B+	3.71	3.76
Student Z	Chemistry	1041	C	1032/1034	B/B	2.67	3.08
Student AA	Biology	1042	A	1032/1034	A/A-	3.90	3.88
Student AB	Neuroscience	1041	A	1032/1034	A/A-	3.56	3.69
Student AC	Neuroscience	1042	C	1032/1034	B+/B+	3.08	3.38
*Student AD	Biology	1041	D	***1031***	***C+***	2.52	2.42
*Student AE	Chemistry	1022	B	1031/1033	B/B	2.76	2.73
*Student AF	Chemistry	1041	C+	1032/1034	B/B	2.25	2.81

*** Students deemed at Risk (University Retention Project)**
+ Students who left the University after the 1st year
. *(Italicized) Repeated coursework from Fall 2010 semester*

An evaluation of the data reveals two of 32 students within the treatment group left the University after the first year. Only one (Student U) left for academic reasons. The other (Student Q) left with the highest GPA amongst the group. Also of note was the fact that 93.8 % of the students within the treatment group remained at the University, and all 30 (100%) remained as STEM students within the College of Science & Technology. Further, the first year retention percentage was higher than the overall University retention average for the fall, 2010 freshman class (91.1%). Also of note is the first year academic performance and retention of the treatment group in General Chemistry I & II coursework. There were 21 of 32 students (65.6%) who placed into General Chemistry I coursework. Three (3) students identified in the study (identified as students M, T and U) experienced the need to remediate after the first semester. One was unsuccessful with remediation, resulting in 19 of 21 (90.5 %) completing General Chemistry I and/or General Chemistry II coursework after the first year.

Retention Rates Between Groups

Research Question #2: Is there an overall difference in first year retention in the treatment group (Group 1) compared to those students registered in other sections of the course (Group 2) and compared to those students who did not take the Freshman Seminar course? Table 4.11 reflects the number of CST students who were retained at the University after the first year. The ANOVA analyzing these data is presented in Table 4.12.

Table 4.11

First Year Student Retention

Group	N	Retained at University	%
1	32	30	93.8
2	173	156	90.2
3	671	609	90.7

Table 4.12

ANOVA Summary Table for Retention

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	1.55	2	.775	.960	.324	.002
Error	704.51	873	.807			

As shown in Table 4.12, there is no difference in retention among the three groups. As before, Group 1 has a slightly better retention rate, but the difference is not statistically significant.

Graduation Rates Between Groups

Research Question #3 was: Is there an overall difference in the rate to degree completion for those students in the treatment group (Group 1), compared to those students registered in other sections of the course (Group 2) and to students who did not take the course?

Relative to persistence to graduation, this study tracked graduation rates, specifically the percentage of those students who graduated in four years (2014), five years (2015) and six years (2016). Table 4.13 presents the data for four-year graduation.

Table 4.13

2010 CST Freshman Class Rate to Degree Completion: 2014 Calendar Year

Group	N	2014 Graduates	%
1	32	13	40.6%
2	173	74	42.8%
3	671	221	32.9%

The results of the one-way ANOVA are presented in Table 4.14.

Table 4.14

ANOVA Results for Four-Year Graduation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	1.431	2	.715	3.149	.043	.007
Error	198.277	873	.227			

As shown in Table 4.14, there is a marginally significant difference in the four-year graduate rate. The Tukey post hoc test results are presented in Table 4.15.

Table 4.15

Tukey Post Hoc Results on Four-Year Graduation

Group	Mean	Group 3	Group 1	Group 2
Group 3	32.9	-		
Group 1	40.6	.646	-	
Group 2	42.8	.041	.972	-

As shown in Table 4.15, the only significant difference is between Group 3 and Group 2.

Data on five-year graduation are presented in Table 4.16.

Table 4.16

Five Year Graduation Rate Degree Completion: 2015 Calendar Year

Group	N	2015 Graduates	Percentage (%)
1	32	21	65.6%
2	173	93	53.8%
3	671	296	44.1%

Table 4.17

ANOVA Summary Table for Five-Year Graduation Rate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	2.456	2	1.228	4.971	.007	.011
Error	198.277	873	.227			

Table 4.18

Tukey Post Hoc Results on Five-Year Graduation Rate

Group	Mean	Group 3	Group 2	Group 1
Group 3	44.1	-		
Group 2	53.8	.060	-	
Group 1	65.6	.045	.459	-

As shown above, students in the treatment group had the highest five-year graduation rate, with a significant difference between Groups 3 and 1. Data on six-year graduation are presented in Table 4.19, and the ANOVA results in Table 4.20.

Table 4.19

Six-Year Graduation Rates

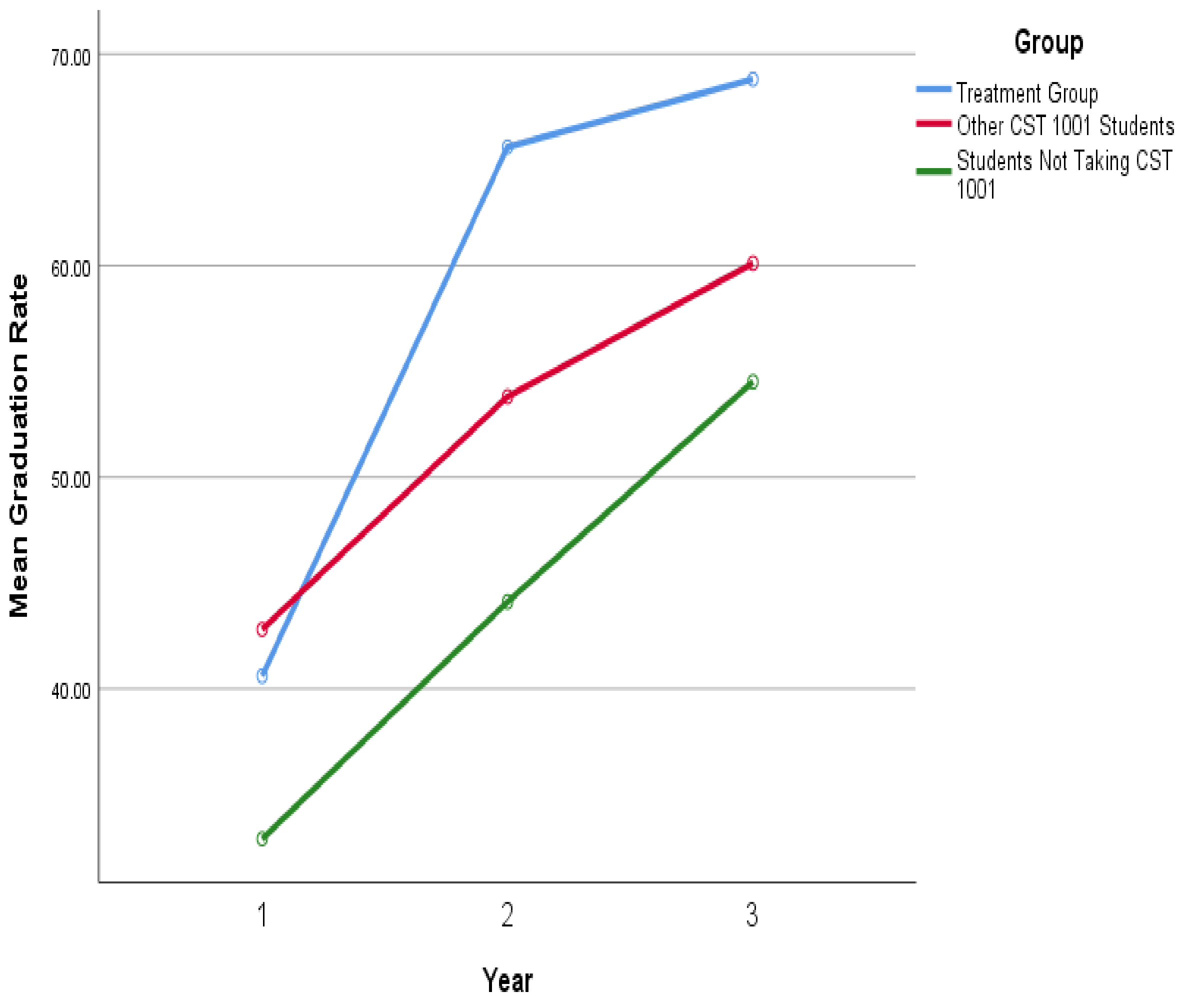
Group	N	2016 Graduates	Percentage (%)
1	32	22	68.8%
2	173	104	60.1%
3	671	366	54.5%

Table 4.20: ANOVA Summary Table for Six-Year Graduation Rate

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Group	.953	2	.476	1.937	.145	.004
Error	214.718	873	.246			

As shown in Table 4.20, there is no difference in the six-year graduation rate. A graph of the data is presented in Figure 1.

Figure 1 Mean Graduation Rates by Group



Mean Graduation Rates by Group.

A summary of the graduation results for the treatment group is presented in Table 4.21

Table 4.21

CST 1001 Student Persistence Chart: Fall 2016

Student	Major	Semester of last Major change	Completed Credits	GPA	Matriculation Status
Student A	Social Work	Fall, 2012	151	3.05	July, 2015 Graduate
Student B	Speech/Language	Fall, 2012	141	3.17	May, 2014 Graduate
Student C	Ther. Recreation	Fall, 2012	146	3.51	May, 2015 Graduate
Student D	Public Health	Fall, 2012	144	3.08	May, 2015 Graduate
Student E	Chem.w/Teaching	No Change	130	3.13	May, 2015 Graduate
Student F	Biology	No Change	134	2.75	May, 2016 Graduate
Student G	Chemistry	No Change	147	3.28	May, 2015 Graduate
Student H	Advertising	Fall, 2011	124	3.49	May, 2014 Graduate
Student I	Finance	Fall, 2011	124	3.25	May, 2014 Graduate
Student J	Int. Business	Sum I, 2013	175	2.99	December, 2014 Graduate
Student K	Finance	Fall, 2011	134	3.07	May, 2014 Graduate
Student L	Biology	No Change	127	3.31	May, 2014 Graduate
Student M	Education	Fall, 2012	176	3.46	December, 2014 Graduate
Student N	Neurosci. (CLA)	Spring, 2012	123	2.78	December, 2014 Graduate
Student O	Risk Mgt.	Spring, 2012	131	2.89	December, 2014 Graduate
Student P	Strat. Org. Dev.	Fall, 2011	129	3.61	December, 2014 Graduate
Student Q	Biology	-	30	3.94	Left University after 1st year
Student R	Chemistry	No Change	97	3.02	Accepted to TU Pharmacy School, Fall, 2013
Student S	Elec. Engineering	Spring, 2012	27	1.41	Academic Dismissal, Spring, 2012
Student T	Psychology	Fall, 2015	114	2.02	Inactive after Fall, 2016 semester
Student U	Biology	-	20	1.82	Left University after 1st year
Student V	Finance	Spring, 2012	124	2.38	Inactive after Fall, 2016 semester
Student W	Chemistry	Spring, 2013	123	2.58	December, 2015 Graduate
Student X	Chemistry	Fall, 2012	127	2.76	May, 2015 Graduate
Student Y	Biology	No Change	30	3.76	Temple Dental School entry Fall, 2014
Student Z	Chemistry	No Change	83	3.38	Accepted to TU Pharmacy School, Fall 2013
Student AA	Biology	No Change	124	3.92	December, 2014 Graduate
Student AB	Neuroscience	No Change	124	3.47	May, 2014 Graduate
Student AC	Neuroscience	No Change	129	3.22	May, 2014 Graduate
Student AD	Kinesiology	Sum II, 2014	131	2.53	Inactive after Fall, 2016 semester
Student AE	Chemistry	No Change	48	2.25	Left University after Sum I, 2012 semester
Student AF	Elec. Engineering	Fall, 2013	138	3.04	May, 2015 Graduate

CHAPTER 5

DISCUSSION

First year student retention and graduation rates at four year institutions have been a major area of interest in higher education for a long time. In recent years pressure at the national and state levels have increased the demand for higher education institutions to illustrate progress in these areas. By 2014, 80% of universities offered first year seminars and students who took the course were on average less likely to transfer to another school and more likely to receive higher grades. Research has shown that students who take a first year seminar course receive better grades than those who do not (Lake, 2012). Yet, the current drop-out rate at four year institutions continues to be a big problem. Despite innovative methods to increase access to postsecondary education, student readiness for college remains a concern. This is evidenced by the alarming number of students who do not remain or persist to degree completion. Nationally, one in four (25%) of first year freshman do not return for their sophomore year. In terms of persistence to graduation, only 50% enrolled in a 4 -year degree program graduate within six years (Jaijairman, 2016). This cites the need for this study.

The results of this study encompassed an evaluation of student outcomes, specifically first year GPA, first year retention and persistence to graduation in four, five and six years. The results of this study also presented an evaluation of the advising practice, specifically a caseload advising/teaching methodology that was designed and implemented to determine what impact the advising practice had on student performance outcomes. It was determined that there was not a statistically significantly significant difference with first semester GPA, and not a statistically significant difference in first year retention. The results did reflect better persistence to graduation in the long run for the treatment group, particularly graduation in 5 years.

What this evaluation study also set out to do was to examine an alternative approach to tracking student academic performance, retention and improving graduation rates, particularly an alternative to Risk Model assessments. While heavily administered to track student outcomes, the limitations to the functionality and effectiveness of Risk Model assessments wane in their usefulness after the first year. Risk Models heavily rely on student demographics, with a focus on those students who are most likely to leave the university after the first year. Risk Models also assumes the neutrality and objectivity of advisors as skilled service providers that can address the needs of this population in an intrusive, effective manner.

Unlike traditional Risk Models, the approach to this study did not look at descriptive, demographic factors in advance. While these factors have an impact on student performance and survival in college, the effort and investment should be in programming services that benefit all students, and to move away from deficit model programming. In terms of student development, sustainable models that seek strengthening services to the student, inclusive of an assessment of programming and advising metrics that parallel a student's overall student experience and journey to degree completion should be the goal. This is consistent with research that has shown effective programming practices make long-term investments in students, rather than short-term interventions (Gandara & Bial, 2001).

The data produced in the study reveal a definitive, sustained advisor-advisee relationship that is established by a Caseload Advising methodology. The research study also advances the discussion about methods that improve student success and student retention, producing raw data results that simply cannot be ignored. What if the college fully committed to a caseload-teaching model that would produce an across the board 65.6% graduation rate in 5 years? What if the College of Science & Technology would have fully invested first year advising interventions that feed off proven first year seminars, anchored by student-advising relationships embedded in a caseload advising approach? What if there was university-wide programming in place that could consistently produce an 81.5% return on a six year investment in students who graduate and/or successfully enter into and complete pre-professional school?

Building a strong foundation for students through first year programming is essential, as the student collegial experience is literally a moving target. Of note (and evidenced in this study) are the number of students that began as CST (STEM) students who eventually changed their major outside of CST. As choosing a major is not an exact science, major changes are not only common, but expected. In fact, in the last decade, 72% of college students changed their major at least one time (Lake, 2012.) This alone produces a challenge to research-based approaches that seek to improve student academic performance, retention and persistence to graduation.

While tracking students to degree completion incorporates this influx of change, it does not overshadow the importance of the first year seminar course as a jumpstart initiative. As noted, his evaluation study took on a holistic approach that was not limited to student performance outcomes, but also sought to improve the advising practice. The latter was an integral part of this study. Much like teacher-student relations, the advisor-student relationship is not mutually exclusive. As a first year initiative, this study modified the first year seminar course as a platform to improve (student) first semester GPA's, first year student retention and student persistence. Of note is the useful raw data produced from the evaluation study. All 32 students in the treatment group achieved good academic standing (minimum 2.0 or better GPA) after the first semester. All 30 students who remained at the university after the first year were also retained as STEM students within the College of Science &Technology.

In terms of producing an overall significantly-significant difference for the treatment group (perhaps a result of its small sample size), the study ultimately reflects the importance of retaining the freshman seminar course. This is consistent with, and supported by, the research. Further review of the Group 1 (treatment group) data reflects 26 of 32 (81.5%) of the students who began their collegial journey by taking the CST 1001 freshman seminar course either completed his/her four year degree at the University or have been accepted into the University's Pre-Health schools (Pre-pharmacy or Dental School).

Relative to the University's current Budget Model, would further research and an increase in sample size reveal a statistically significant difference if the CST 1001 first year course was heavily marketed for incoming freshman, and compare those students who remain as STEM majors to graduation, to those students who persist, but elected to change majors? It should also be noted, the desire and commitment of this writer was to be constructively critical of advising as a means to improve the advising practice, *not* teaching. Teaching was explored as an intervention (tool) and route for improvement and professionalizing the advising practice. Innovations to the advising practice over this same six year time span may very well have factored into the results of the evaluation study, perhaps even more so than the teaching intervention.

I am also not married to my research. As the University will likely continue to track first year students via Risk Model assessments, it broadens the perspective and need to improve the advising practice to become more accountable to improving the experiences of students at the University. While the evaluation study over a six year period did not reveal an overall significantly-significant difference from the teaching "effect", it probes the theory of Developmental Advising as Teaching. In the K-12 system of education, teachers inherit and adapt to accountability measures relative to student academic performance through High Stakes Standards (Lipman, 2004). Comparatively, what would advisor accountability to student academic performance look like? How would it get measured? Relative to teaching pedagogy, a student's learning curve has as much to do with skill as it does with pace. With this in mind, and particularly with STEM majors whose skill set may not be immediately aligned with their choice of major (perhaps skills never covered in a student's K-12 experience), it is unrealistic to have college advisors held accountable for an advisee's "learning curve" within a semester-based structure. Justifiably and mercifully, advising is not teaching.

Serving on the University's Retention Committee since 2009, I have implemented a number of first year advising initiatives and first year interventions that reinforced the importance of the freshman seminar course. As noted, the department adopted the caseload-teaching model between 2011–2014. This provides a nucleus for further research on the impact of caseload advising and student performance outcomes. Along with the Caseload-Teaching model, I implemented a Strategic Planning Timeline for first year advising, Developmental Advising appointments for those students enrolled in the CST 1001 Freshman Seminar course, interventions for at-risk students and further integrated the use of Academic Contracts into first year interventions for students at risk.

However, there have been challenges to these interventions. The college abandoned its caseload-teaching approach to the first year seminar course after the fall, 2014 semester. This was (in part) due to administrative changes, high advisor turnover and the ratio of advisor-student appointments. Advisor turnover continues to be a major concern. Despite the progressive first year initiatives amid these concerns, a new, less collaborative approach to first year programming was undertaken that does not take into account this proven research. Further there is a need for more effective interventions that would alleviate the University demands on the advisor role.

There are also university-wide policy implications. Changes to the University's repeat course policy, coupled with the aggressive approach taken by the College of Science & Technology to enforce this policy factored into a number of students electing to change their major out of the STEM-related fields. This had a particular impact on student AE in the study, who left the University in good academic standing, having been denied a 3rd attempt at taking a math course. The student opted not to take the compulsory route of completing remedial coursework, especially since the recommended remediation would have been a course he/she already passed.

As noted earlier in the study, remediation incurs a cost to the student and it also impacts a student's rate to degree completion. The student was also designated as a student at risk. In this instance, it had an adverse impact on the greater benefit, which is retaining students at the University.

Conclusion

Ideologically, the claim that advising is teaching is debunked by educational theory and training that professionalizes the teaching profession, theory that distinguishes teaching from academic advising. Yet colleges heavily depend on the role of the academic advisor to serve as the 'gatekeeper" to student's academic life in college. How students fare academically is linked to a student's ability to navigate the higher education landscape; it is essential to student retention and persistence to degree completion. Connecting advising to student learning via the teaching practice is an intervention, and a way of bridging student transition from high school via a teaching methodology, and to formulate some understanding and consistency with the expectations of college professors. The similarities between advising and teaching does offer a platform for professionalization of the advising practice. Pursuant to the results of the study, while a pedagogical approach to teaching and learning can have an immediate, positive impact on student performance in higher education, the challenge is to establish concrete methods for student *and* advisor sustainability.

There is research that attempts to theoretically connect advising and teaching. The 2005 NACADA Journal was devoted entirely to theories that help advisors build their practice and explain their work (Drake, Jordan, & Miller, 2013). However, the connection to teaching is assumed or implied, absent any theoretical and practical applications of teaching, much less professional teacher training. Further, most of the advising interventions commit to the student as the glaring need to "fix", not advising.

Key indicators that influence academic progress in higher education are impacted by a myriad of academic and non-academic factors, all of which weigh in on the challenges first year students immediately face to achieve these goals. Students being held accountable for their academic success in higher education represents a transitional shift from high school to college. They need help making this transition, and advisors are best positioned to provide this help.

The implications of the evaluation data presented in Chapter 4 is consistent with the body of research regarding first year seminars, and its positive impact on student performance. As higher education institutions are (in part) ranked by student's rate to degree completion and graduation rates, those traditional factors that impact a student's readiness for college will always be statistically significant.

Relative to this study, in the short term where the gains are evident relative to first year student retention, persistence to graduation takes on a myriad of factors that puts a strain on advising-student relations over time. This is particularly true for incoming millennial students as STEM majors, who tend to set lofty goals, yet the plans to achieve these goals are often challenged by a disconnect with their own academic skill set.

In the education profession, the real challenge is to bring into question our own credibility, commit ourselves to being lifelong learners, and to ensure impediments to our learning and support of students is not subject to, or imprisoned by, our own values and beliefs. What is needed is continuous programming that encourages collaborative planning and a collective, college and university-wide vision towards the end goal: Graduation.

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Figure 2

CST 1001 Section 006 Course Syllabus

College of Science and Technology
Introduction to Academics in the Sciences
Fall 2010

Course: CST 1001
Section: 006
Date(s): Monday & Wednesday
Time: 2:00PM - 2:50AM

Instructor: **Kenneth Ruff**
Phone: **(***) ***-*******
Email: **kruff@----------**
Office: **1810---------------**
Office Hours: **Mon 3:30PM- 4:30 PM**

Course Overview and Goals
The course is designed to prepare students for the academic requirements of science curricula, and to provide guided exploration of potential careers. Students will regularly engage in group discussions and work collaboratively to complete group projects. The course is also designed to advance the theory of *developmental advising as teaching*, to include curriculum instruction, caseload advising, guest speaker presentations, career development services, and exposure to a myriad of campus resources.

Location
All classes will take place in xxxxxx Hall, Room xxx, unless you are informed otherwise by the instructor.

Attendance
Participation is a significant component of your grade. Regular attendance is expected. You will only be allowed one excused absence. Each additional absence will result in 5 points subtracted from your attendance/participation points for the semester.

Textbook
Gardner, J. Your College Experience: Strategies for Success. Wadsworth Cengage Learning, 2009 (**Teacher Reference Only**).

Additional Resources
Throughout the semester, please take the time to review the resources and services available at the following websites:

1. College Success Tips and Strategies: http://www.studygs.net/index.htm
2. Math & Science Resource Center: http://www.---------------------/
3. Writing Center: http://www.---------------------------/
4. T******** Counseling Services: http://www.---------------counseling/
5. Disability Resources & Services: http://www.------------------/disability/

Assignments

Reflection Blogs: **Due Every Monday by Midnight (5 Points per Blog)**
A reflection blog must be posted every Sunday throughout the semester by midnight. The collages should reflect on the information you learned and the assignments you completed for that week's classes. Explain how each lecture, guest speaker, campus resource and/or assignment helped prepare you for your academic and professional careers.

Express Yourself Presentations: In-Class Session, **Due September 20th**
There are multiple methods acceptable to express yourself, so choose the one you will enjoy. You can write an essay, make a poster-board collage, create a video, perform a skit, etc. that represents the different interests in all aspects of your life that show past, present and future goals. Be creative in your portrayal of yourself. You will be graded on effort, creativity and your oral explanation of assignment.

Bulletin Review: **Due Wednesday, September 15th**
Complete the worksheet given in class. This is to make sure you are comfortable with the online University Bulletin for 2014-2015 found at http://www.temple.edu/bulletin/

Time Grid: **Due Monday, September 27th**
You will be given a time grid in class. Fill out all of next week's activities. Use your syllabi from all of your classes to record assignment due dates, test dates, etc. Record study time, meetings, classes, etc. Also make note of when you plan to have your meals, go to the gym, etc. Allow for free time as well. Make a copy of your next week's activities and turn it in on the due date. We will conduct a peer review of each other's schedules in small groups.

Career/ FOCUS 2 Individual Assessments: **Due Monday, November 1st**
You will take the focus assessment online at http://www.temple.----------------careercenter/vcc.htm (scroll down a little). FOCUS is a career assessment tool for students. It will enable you to evaluate your personal qualities and explore career and study options that are most compatible with your personality. FOCUS can help you make decisions about your career goals.

Resume: **Due Wednesday, November 3rd**
Create a personalized resume. Utilize Career Development Services for resume templates and critiques.

Group Presentation(s): **Due Monday and Wednesday, November 3rd and 5th**
You will be divided into groups of three to four. Groups will be assigned a major to explore associated with careers in the sciences. The group will give a presentation on the chosen major. The group will need to interview a professional associated with that major and include that information in the presentation. Each group will present a have a PowerPoint presentation, as well as a project summary handout for the class. The presentation must be 7-10 minutes. A rubric will be given out providing more details on the assignment.

Grading

Assignment	**Maximum Point Value**	**%**	**Cumulative Points**	**Grade**
Attendance/Participation	50	20%	235-**250**	A
Reflection Blogs	60	24%	225-234	A-
Express Yourself Activity	20	8%	218-224	B+
Bulletin Review	10	4%	210-217	B
Time Grid	10	4%	200-209	B-
Focus On-line Assessment	15	6%	193-199	C+
Group Presentation: STEM Majors	60	24%	185-192	C
Resume	10	4%	175-184	C-
Developmental Advising Appointment	15	6%	150-174	D
Total	**250**	**100%**	0 – 149	F

For this course we will be using Blackboard: https://---------------------/
Please note that all assignments, lecture materials, student resources and grades can be found on Blackboard.

Student and Faculty Academic Rights and Responsibilities
Freedom to teach and freedom to learn are inseparable facets of academic freedom. The University has a policy on Student and Faculty Academic Rights and Responsibilities (Policy #03.70.02) which can be accessed through the following link: http://policies.----------getdoc.asp?policy-----------.

Disability Services
Any student who has a need for accommodation based on the impact of a disability should contact me privately to discuss the specific situation as soon as possible. You can directly access these services at the following address:

Disability Resources and Services

-------------http://----------/disability.

Course Schedule

Week/Dates	Topic	Assignments/ Due Dates
Week 1		
8/30	The College Experience. CST Benchmarks: Building a strong Math & Science foundation	
9/1	Instructional Differences: High School Teachers v University Professors (Critique)	
Week 2		
9/6	Labor Day	
9/8	Academic Dishonesty. Plagiarism: It's a Question of Character	In-Class Writing Activity
Week 3		
9/13	Listening and Note-Taking with Math and Science Coursework	
9/15	Lecture/PowerPoint: Goal-Setting and Time Management (*Time Grid Distributed*)	Bulletin Review
Week 4		
9/20	Express Yourself Presentations	Express Yourself Activity
9/22	Understanding Diversity: Appreciating the Differences Among Us	
Week 5		
9/27	Lecture/PowerPoint: Studying and Test-taking Skills (Focus: Math & Science Coursework	Time Grid
9/29	Presentation: Student Activities & Study Abroad	
Week 6		
10/4	Lecture/PowerPoint: CST Major/Parallel Planning; Banner Registration Overview	
10/6	Presentation(s): Campus Resources- DRS & MSRC	
Week 7	***** Developmental Advising Office Appointments (10/6 – 10/10) *****	*Advising Sessions Begin*
10/11	Lecture & PowerPoint: Student Presentations: STEM Majors	
10/13	Presentation: Understanding Diversity	
Week 8		
10/18	Presentation: SFS (Financial Literacy): Smart Money Management	
10/20	Career Development and Resume Critique (Class Meeting Mitten Hall- 2nd Floor)	

Week 9		
10/25	Presentation: Career Development Follow-up: Focus Online Assessment and Your Career	Career Exploration Worksheet
10/27	Presentation: Undergraduate Research Program (URP)	
Week 10		
11/1	Presentation: Library Presentation (Location TBA)	FOCUS 2 Assessments
11/3	Presentation: Wellness Resource Center: Stress Management	
Week 11		
11/8	Group Presentations: Having Success in my STEM Major Part I	Group Presentations
11/10	Group Presentations: Having Success in my STEM Major Part II	Group Presentations
Week 12		
11/15	Student Evaluation: Course Feedback Forms	
11/17	Open Date	

CST 1001 Section 006 Course Syllabus.

Figure 3

CST 1001 Mid-Semester Academic Progress Report

Academic Progress Report

STUDENT NAME______________________________________ ID#____________________

Last First MI

Advisor/Instructor_______________________________________ Date____________________

COURSE: **CST 1001** SECTION: **006**

Check the appropriate area(s)

STUDENT PROGRESS

- ◻ Excessive Absence
- ◻ Lacks Motivation/Interest
- ◻ Missing Assignments
- ◻ Poor Work Habits
- ◻ Missing Exams
- ◻ Inappropriate Behavior (Comments)
- ◻ Needs Tutorial Assistance
- ◻ Other (Comments)

STUDENT STATUS

- ◻ At Expected Level
- ◻ In Danger of Failing Course
- ◻ Performing Below Expectations
- ◻ Current Grade (If applicable) ______

Advisor/Instructor Recommendations

____

____

____

Student Feedback: Math Coursework (Advisor Notes)

____

____

____

_________________________________ _________________________________

Advisor/Instructor Signature Student Signature

CST 1001 Mid-Semester Academic Progress Report

Figure 4

Math Mid-Semester Academic Progress Report

MATHEMATICS

Academic Progress Report

STUDENT NAME___________________________________ ID#__________________

Last First MI

FACULTY NAME ____________________________________ Date__________________

COURSE# ___________________ SECTION ______

Check the appropriate area(s)

STUDENT PROGRESS

- ◻ Excessive Absence
- ◻ Missing Assignments
- ◻ Missing Exams
- ◻ Needs Tutorial Assistance
- ◻ Lacks Motivation/Interest
- ◻ Poor Work Habits
- ◻ Inappropriate Behavior (Comments)
- ◻ Other (Comments)

STUDENT STATUS

- ◻ At Expected Level
- ◻ Performing Below Expectations
- ◻ In Danger of Failing Course
- ◻ Current Grade (If applicable) ______

Comments/Recommendations

________________________________ Faculty Signature

________________________________ Student Signature

________________________________ Academic Advisor

Math Mid-Semester Academic Progress Report

Figure 5

Strategic Planning Timeline: First Year Advising

CST RETENTION INTERVENTIONS

Strategic Planning Timeline
"12 Months, 12 Steps to Success"

June – August

- Freshman Student Orientation/Registration sessions scheduled.
- Students encouraged to register for CST 1001 Freshman Seminar course.
- Freshman Seminar course curriculum designed for Developmental Advising/Teaching Students will enroll in the course that is instructed by his/her caseload advisor
- Additional sections available for those students with student/advisor scheduling conflicts

July

- CST Orientation Session held for RCC Students. Students are made aware of their assigned caseload advisor. Students are also encouraged to enroll in CST 1001

September

- University Retention List is made available. Risk Levels 1 and 2 students are identified. *2011 – 2012 Enrollment Data: Percentage of freshman class: 191 of 888 (21.5%)*
- Level 1 – 2 risk students identified for CST 1001 seminar course. *2011 – 2012 Enrollment Data*: *Percentage of risk list students enrolled in seminar course: 39 of 180 (21.7%). Percentage of overall (1 -2) risk population: 39 of 191 (20.4%)*
- ***Step I***:
- Welcome letters distributed to risk list students
- ***Step II***:
- E-mail correspondence forwarded to risk students. Students are scheduled for October/ November appointments with their caseload advisor

October

- University progress reports for 1st year students made available via Self-Service Banner
- ***Step III***:
- Risk List students are scheduled for appointments throughout the month
- Developmental Advising appointments scheduled for all CST 1001 students
- Student's spring (2012) schedules are projected. Students made aware of registration date

November

- Risk List students are scheduled for appointments throughout the month

December

- ***Step IV***
  Follow-up appointments are scheduled for students prior to final examinations

January

- ***Step V*:**
- University Academic Standing report is made available.
- Congratulatory postcards mailed to those freshman students who achieved a minimum 3.0 overall GPA, to include a B- or better grade in all courses
- List of CST first year freshman students on Academic Warning compiled. Levels 1 – 2 students identified
- 2011 – 2012 Levels 1 -2 risk population on Academic Warning: 50 of 191 (26.2%)
- Percentage of all (CST) freshman on Academic Warning: 50 of 124 (40.3%)

February

- ***Step VI***:
- Outreach letter sent to *all* freshman students on Academic Warning
- ***Step VII***:
- Academic Contract appointment. are scheduled for students on Academic Warning
- Students complete pre-appointment Intake Form/ Self-Assessment Inventory
- ***Step VIII***:
- Students enter into an Academic Contract with his/her advisor

March

- ***Step IX***:
- Academic Contract Appointment continue
- Follow-up contract appointments scheduled where applicable
- Appointment scheduling deadline for students (2012 Deadline Date: March 16th)
- Students who have not met or scheduled with an advisor will have a *HOLD* placed on his/her account

April - May

- ***Step X***:
  Contracted students receive fall (2012) priority registration appointment. Students will register with his/her advisor the day they are eligible to register
- Registration Access Pin (RAC) #'s given at the discretion of Advisor
- Follow-up Academic Contract appointments continue
- Follow-up Academic Contract appointments continue
- All follow-up interventions take place prior to final examinations
- Intrusive Advising interventions include academic profile overview, progress in major overview career planning, IUT considerations, etc.
- ***Step XI***:
- Students summer (if applicable) and upcoming fall schedules are revisited
- Spring 2012 grades reviewed. Select student appointments are set based on results
- ***Step XII***:
- Team (Group) Advising recommended to overview SFS credit eligibility/ academic planning for students who fit criteria

Strategic Planning Timeline/ First Year Advising