EVALUATION OF THE CENTER FOR EXPLORATORY STUDIES AT THE UNIVERSITY OF CINCINNATI

by

Robert J. Gray

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WE, THE UNDERSIGNED MEMBERS OF THE COMMITTEE,

HAVE APPROVED THIS DISSERTATION

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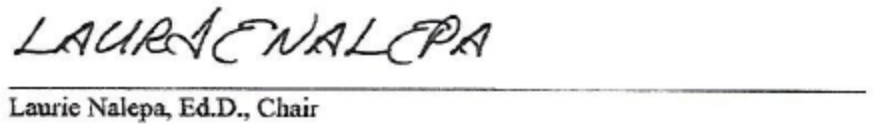
ACCEPTED AND APPROVED ON BEHALF

OF WILLIAM HOWARD TAFT UNIVERSITY

COMMITTEE MEMBERS



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Abstract

The Center for Exploratory Studies (CES) at the University of Cincinnati (UC) provides specialized advising that helps undecided students find their best-fit major and career pathways. Students in the exploratory studies major fall into either the undecided or decided category. Existing literature suggests that undecided students are considered at risk for multiple factors associated with their lack of being in a degree-granting major at the university. This at-risk categorization means undecided students would be retained at lower rates and grade point averages (GPA) of their decided counterparts. Undecided students at UC take a class named Discovering UC that focused on major exploration and a decision-making model. Descriptive statistics analyzed regarding Discovering UC prove the course is beneficial in assisting students through the decision-making process and the selection of a major. Quantitative data analyzed regarding student retention rates and GPAs determine that CES is an effective advising program at the university.

Dedication

I dedicate this dissertation to my Babydoll Grandma, Lois Boland. She was always proud of my academic achievements and bought me my first computer when I started college right after high school. I'll always remember the first time she saw me leading the marching band in a local parade. She was so excited and proud that she dropped her cane off of the curb and was yelling, "That's my grandbaby!" I know that I disappointed her by quitting college after my first year, but I also know she was proud of me for never taking no for an answer and for my professional achievements. She was so happy that I graduated with my bachelor's degree before she died in 2010, and I am sure she is proud of me for this accomplishment and is again yelling, "That's my grandbaby!"

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Chapter 1

Introduction to the Study

The research upon which this dissertation is based focused on this question: Is the Center for Exploratory Studies at the University of Cincinnati (UC) effectively retaining students and assisting them in transitioning into their new majors?

Every fall, high school graduates start the next chapter of their lives as college students. Some of these students have a clear goal in mind and start college in a specific major that is designed to prepare them for employment in a desired career field or to go on to graduate school while others do not. Today's PK-12 educational system has increased its focus on college and career readiness. As a result, there is a greater stress put upon high school students to know what major and career they want to pursue when entering college.

Obtaining an education that is the foundation for starting a career in a specific field is a major reason that students attend and graduate from college (Farrell, 2007). However, this is not the case for all students. More students are entering college undecided on a major. At least half of students change their major at some point during college (Tinto, 1993). About 75% of students are undecided during college (Noel, Levitz, & Saluri, 1985). Without a clear goal and sense of community with other students who share the same interests and goals, undecided students run a higher risk of dropping out, taking longer to graduate, and having lower GPAs from taking classes that have no real interest or value while being an undecided student (Austin, 2011; Folsom & Reardon, 2003; Peng, 2001; Reese & Miller, 2006; Ware, 1981). Undecided students need specialized academic advising support tailored to their needs (Gordon 2007; Gordon & Steele, 2015; Steele, 2003). With this in mind, the UC created the Center for Exploratory Studies (CES) in 2003.

Throughout the course of the past 16 years, CES has evolved from a university-wide advising unit designed to provide advising to any students seeking information on how to select and change their current major to an advising unit where advisors carry caseloads, work with openly exploring students regarding the selection of a major and career, and advise students who were denied admission into their first-choice major and were referred to the exploratory studies major. The advising unit provides academic and career advising, offers curricular support, and follows a structured approach designed to assist students who enter the university as an exploratory student on the selection of their best fit major.

History of the Center for Exploratory Studies

The exploratory studies major at the university has always been the major for students who did not know what they wanted they wanted to major in when they were beginning higher education journey. It has also been the major that students were referred to if they met the general university admission requirements, but did not meet the specific criteria of their first-choice major. The exploratory studies major has never been considered a remedial major. Students who did not meet the general university admission requirements were referred to the two regional campuses or other university programs that supported this population.

The CES was founded at the UC in 2003. As part of the College Structures Initiative (Fuller, 2003), the university established there was a need for an advising unit dedicated to students who entered college undecided on a major. Because students need to belong to a home college within the university to be considered a matriculated degree-seeking student, the undecided major was housed in the College of Arts and Sciences. Prior to the existence of CES, students in the undecided major were advised by the advisors in the College of Arts and Sciences. However, these advisors were not trained in career development theory, advising on a

university-wide level, or on how to work with undecided students. Because undecided students were not receiving the appropriate kind of advising associated with this special population, they were not being retained at a rate considered on par with their counterparts who were already in a declared major at the university (T. Warden, personal communication, March 26, 2018). The purpose of CES was to promote student retention among a group of students considered to be at risk for dropping out based on a lack of a specific college major.

Initially, there was a struggle when deciding to house CES under the division of enrollment management or in the College of Arts and Sciences. Since CES was to serve both students in the undecided major and any other student who was already in a declared major, but was considering a change of major, the university's first instinct was to place CES within the Division of Enrollment Management. This was in line with the overall goal of the advising unit being a retention-based strategy. Not being housed within a specific college provided CES advisors with the freedom to provide students with advising related to all of the university's majors without influence from a specific college's administration. However, it was ultimately decided to place CES within the College of Arts and Sciences because it was the college that owned the undecided major. The understanding was CES advisors would not be confined to influencing the decision-making process of students to only consider majors within the College of Arts and Sciences and not viewed negatively for assisting students with pursing majors within the university's other colleges.

At its founding, CES was staffed with a director, associate director, and two academic advisors. The first director had a background in career development within higher education and used theories of career development in order to establish the approaches the team would take when working with students. Advisors were able to meet with any student who requested an

appointment to discuss his or her options for the selection of a major or to discuss changing his or her major. The advisors did not carry the typical advising caseload nor did they assist students with course planning. The first CES staff also provided programming for undecided students such as alumni job shadowing, major mentoring, externships, and mini-experiences. The focus of this programming was to assist students in the major exploration and decision-making process. Advisors also developed and taught a class focused on major exploration and decision making, Discovering UC.

In 2006, CES was provided with funding to add an additional four advisors to the staff. With the addition of another set of advisors, responsibilities were divided among the new advisors and the original two. Educational levels of the advising staff varied between having bachelor's or master's degrees. The original two advisors did not maintain a caseload of students. Their advising appointments focused on the major exploration and decision-making process. These two advisors also met with students in other majors who were considering a change of major. The four new advisors were each assigned a caseload of students in the undecided major to assist with course planning. Caseloads were made up of students who were undecided and students who were considered decided, but were referred to CES to meet the transition admission requirements for their first-choice major. These four advisors were trained to provide advising regarding every major offered by the university, including the first year or two of the curriculum (depending upon the major) and the transition requirements students needed to meet to be eligible to gain successful admission into their new major. Students who were undecided started with one of the original two advisors. Once the student decided upon his or her best fit major, he or she was then assigned to one of the four new advisors to assist with course planning and his or her transition into his or her new major.

Also in 2006, the director of CES was promoted to the assistant dean of advising for the College of Arts and Sciences. The new assistant dean also maintained her director position over CES. With this promotion, she was able to convince university administration to change officially the name of the undecided major to exploratory studies. The change in name was to remove the negativity associated with being an undecided student. This change was to reflect a more positive approach to being undecided that was more in line with Krumboltz's (2008) Theory of Planned Happenstance. During this same time, it was decided that all six of the CES advisors would be responsible for maintaining a caseload of students and be able to assist in the major exploration process. This decision was made to provide students a more consistent advisor-advisee relationship while they were in the exploratory studies major through their transition into their new major. The caseload advising model has remained consistent in CES since 2006. CES was recognized by the National Academic Advising Association as an exemplary practice in programs for undecided students (Gordon, 2007).

The CES Today

The advising unit works with three primary populations of students. The first population of students served by CES are those who have self-identified as undecided and selected the exploratory studies major upon their application to the university. Some of this population already has a career in mind or a vision for their future, but are not committed to one major or another. The other part of this population is referred to as openly exploring and has not made a decision regarding their career and subsequently their major. The second population of students served by CES are those who met the overall university admission requirements, but did not meet the individual criteria for admission for majors housed in other colleges on campus. The final population of students CES serves is those students who originally started in one major, but

have decided to make a change. Some of this population knows what they want to pursue as their next major, but do not currently meet the individual transition requirements of the major housed in another college on campus. The other part of this population of students do not know what they want to major in next, but do know they do not want to be in their original major. CES is still not considered a remedial or college readiness-based program. Historically, exploratory studies is the largest major for incoming first-year students at the university and is also the largest overall major within the university.

Currently, CES employs one associate director of advising and eight full-time professional academic advisors. Combined, two staff members are pursuing doctoral degrees, six have a master's degree, and one has a graduate certificate and is enrolled in a master's program. The advisors are considered full-time staff members within the university community and hold adjunct faculty appointments.

Each advisor within CES maintains his or her own caseload of students representing the three primary populations of students. Each advisor maintains a liaison relationship with a different college, including the regional campuses, within the university. Advisors are responsible for maintaining a transition guide for their liaison responsibilities that provides students with the transitional requirements that need to be met in order to apply for their new major. Each advisor also has additional responsibilities to support the administrative functions of the department: oversight of Discovering UC curriculum planning and coordination, advisor representation at admission's events and other guest speaking events, partnering with international student services, maintenance of online resources and career assessments, equity and inclusion in advising, increasing the use of technology in advising, social media presence, and partnering with the orientation office.

The associate director and advisors also serve the university and advising community through their involvement in university-wide committees: Orientation Planning Committee, UC Advising Conference Committee, University of Cincinnati Academic Advising Association, Starfish Committee, Catalyst Subject Matter Experts, and Transfer Student Task Force. All CES staff are members of the National Academic Advising Association (NACADA). Several staff members have presented at state, regional, and national conferences regarding integrating career and academic advising, the use of learning communities, the need for inclusive practices in advising, and general academic advising.

Mission of the CES. The mission statement for CES is "We empower students to choose best-fit majors through highly personalized exploratory advising and innovative academic programming" (CES, 2018, para. 1). The unit's tagline is "Explore. Discover. Decide. Declare." (CES, 2018, para. 4).

Advising and services. The programming and advising offered by CES vary based upon the individual needs of each student. CES no longer offers major mentors, alumni job shadowing, or experiential learning opportunities as the center originally did. The decision to move these programming initiatives out of the department was to allow for advisors to spend more time in one-on-one advising appointments with their students.

The CES offers the following advising services to its students: each student is assigned to a one of the professional advisors in the unit; advisors assist students with course planning and selection based upon the categorization of the student referenced above; an individual advising plan is created by the advisor with input from the student to customize his or her learning experience, to assist in the selection of a best-fit major, and successful transition in to his or her decided upon major.

All advisors teach Discovering UC. This course offers a curriculum-based approach to the major selection process based on the Virginia Gordon Decision-Making Model (Gordon & Sears, 2010). The course is only open to first-year students considered openly exploring. Students go through a series of assessments to determine their personality, strengths, abilities, and values. Advisors teach students about how these individual attributes can be used when making a decision regarding a best-fit major. The course also provides a venue for students to hear from professors, students, and others associated with each college and major within the university. After each speaker, students are asked to assess whether they feel the individual major would be considered a good fit based upon their knowledge of themselves. Students complete self-reflections, a one-hour exploratory meeting with their assigned advisor, an experiential learning-based project, and an academic plan. The goal of Discovering UC is for students to have determined their best-fit major by the end of taking the semester-long course.

Students who were denied admission into their first choice major and offered admission into exploratory studies, work with their advisors to determine the best plan of action to meet the transition requirements of their intended major. Typically, students in this category are advised to take courses considered degree applicable by their intended major. This is done in an effort for students to graduate still in the same amount of time from the university as if they had started in their intended major at the start of their education.

Students who change from their original major into exploratory studies work with their advisor on an individual plan. The plan for these students may include completing the *Exploratory Studies Toolbox,* which includes the same series of assessments covered in Discovering UC. If students already know which major they want to switch into, their advisor assists them with course planning for degree applicable courses.

In 2015, CES piloted the use of learning communities with their exploratory studies students consistent with the practice of other colleges within the university and the declared majors within the College of Arts and Sciences. Learning communities provide students with the opportunity to take a group of classes that are required by their major and in CES case, intended major. Learning communities are led by designated peer leaders who meet with their group twice a week and follow a structured first-year experience-based curriculum that provides academic support, experiential learning, and promote a sense of belonging. Learning communities are typically a two-semester sequence of courses that last for the entire first year. The learning communities established by CES provide decided students who were referred to CES with the opportunity to take a cohort of degree applicable classes to their first-choice major while also receiving support from their peer leader who is typically a student who is already in the major. Learning communities were also established for openly exploring students, which include the Discovering UC class and two general education courses.

Initially, enrollment in a learning community was highly advised, but was optional for students. Because the number of learning communities for exploratory students was limited, not all students who wanted to enroll in one had the opportunity to do so once they filled early in the summer orientation cycle. Each year, the number of exploratory studies learning communities has increased, and in 2017, it was decided that all future exploratory students would be required to enroll into a learning community during orientation for their first year, starting with the fall 2018 semester.

Mandatory advising is also required by CES for certain populations of exploratory students. All first-year students meet for mandatory advising once per semester to review their goals, academic performance, transition to college, plan courses for the next semester, and

discuss major exploration or their transition into their decided-upon major. Sophomore exploratory students with a 2.3 GPA or below are required to meet for advising. Exploratory students with 60+ credit hours are also required to meet for advising. Students in the 60+ category are usually students who have changed majors after a year or two or students who have transferred to the university and still need to fulfill the requirements needed to transition into their major. All students in these categories are not permitted to register for courses until they have met with their advisor and participated in course planning for the next semester.

Exploratory students on academic alert, probation, or who fall within a specific range of GPAs are required to participate in services offered by the university's Learning Commons such as tutoring, academic coaching, or academic success workshops. These students may also be required to enroll into College Success Skills. They are not permitted to register for courses until they have fulfilled these mandatory requirements.

Plans for the 2018–2019 academic year included teaching an Exploratory Success Seminar during the spring semester. Students enrolled in a learning community for openly exploring students or one including Exploring Professional Paths were required to take the course to ensure there was a second semester touch point that provided first-year experience-based curriculum. Students enrolled into a major-specific learning community who decided they no longer wished to pursue that major were also required to take the course for the same reason since enrollment into the second semester of their learning community no longer made sense. The course was a one credit hour seminar-based course that was graded on a pass–fail basis. The curriculum was developed to focus on student learning outcomes associated with academic, financial, personal, and career success.

Statement of Problem

Multiple perspectives exist regarding the purpose of the CES at UC. This has caused three overall problems. These individual problems are broken down within this section. In addition to these existing issues, the program has not been assessed in a structured way since its inception in 2013.

The first problem is university administration views the exploratory studies major as a way for students to be admitted into the university even though it was not directly into their intended major. The act of referring students into the exploratory studies major is twofold: students can take degree-applicable hours and eventually transition into their intended major once they hit the required GPA and course prerequisites; these students are also advised to explore other options and to develop a plan B that encourages them to remain enrolled at the university, albeit not in their first-choice major. This is viewed as a retention-based initiative since the goal is to encourage these students to explore their options before deciding to transfer out of the university into their decided-upon major at another institution.

The individual colleges and majors within the university are responsible for setting their own requirements for students to meet in order to be eligible to transition. These requirements do not come from a centralized university administrative decision. Majors from which students are denied admission, but are referred to the exploratory studies major can be considered noncompetitive or competitive. A noncompetitive major is one that accepts all students who meet the minimum requirements for transition. Competitive majors are majors that only accept a limited number of transition students each application cycle based upon capacity issues related to physical spacing or ability to secure enough clinical or other experiential-related education spaces for students. Some competitive majors desire to remain selective in their admission of

transition students in order remain competitive on a national level by increasing or maintaining nationally ranked programs. The number of seats available in the competitive majors varies each application cycle and, in the past, majors have not been open to accepting any transition students.

The problem with this practice is the admissions department and division of enrollment management do not spend time educating students being referred to and admitted into the exploratory studies major on the requirements or competitive nature of the various first-choice majors to which students apply. Because of this, students referred to exploratory studies first learn about the competitive nature and other transition requirements of their intended major during their new student orientation when they meet with their academic advisor to review course requirements and register for classes. The following examples illustrate this:

- A student only applies to the Aerospace Engineering major without designating a second or third choice major and is automatically referred to and admitted to the exploratory studies major. This student comes to orientation and learns from their academic advisor that the only major they intend transition into is not an option.
- A student only applies to a design-related major and is referred to and admitted into exploratory studies. This student learns at orientation from his or her academic advisor that he or she will only be able to take three total classes that are considered degree applicable for the intended major during their first year, he or she can only apply to the major once during the spring semester, there are a limited number of seats for transition students each year, and if admitted, he or she will have to spend an additional five years in school based upon the requirements of the specific major.
- A student applies only to the Nursing major, but is referred to and admitted into exploratory studies. This student learns at orientation that they must take a specified

schedule of classes for both the fall and spring semesters, he or she can only apply to the nursing major once in the spring semester, there is a fee and exam associated with transitioning into the major, and there are a limited number of seats available for transition students each year based upon a limited number of clinical spaces for each cohort of students.

Some of the students in these and similar situations turned down a direct admit into these same majors at different institutions under the impression that they would be able to transition into their decided-upon major once they hit the minimum requirements. However, the examples above demonstrate this is not always the case.

CES has asked the admissions department to craft its admissions decisions differently and to include messaging to students indicating the realistic chances of transitioning into the majors deemed competitive. CES advisors have also asked to be able to send their own messaging to students who were referred to exploratory studies major. These requests were denied. The goal of this information being communicated to students prior to the annual nationwide confirmation deadline is so students and their families can make the best decision for their individual situation and future.

Another problem exists because students being referred to the exploratory studies major from these competitive majors do not have another set of criteria upon which to be evaluated for referral. As long as a student hits the minimum university requirements, he or she is referred to exploratory studies. The result is a group of admitted students in exploratory studies not being academically prepared to pursue specific majors. The following example illustrates this:

- A student is referred to exploratory studies from the College of Engineering and Applied Science based upon low ACT scores. This student is placed into a lower

> math course that is not in line with the existing prerequisites for other degree applicable classes. Even if the student performs well academically, he or she will run out of classes considered degree applicable before meeting the transition requirements in order to carry a full-time course load. If the student is required to be full-time in order to receive financial aid, he or she will have to take additional unnecessary classes while working toward meeting the transition requirements. This extends the time to degree completion and increases the amount of debt the student is incurring just to meet the transition requirements of the decided-upon major.

The above example is similar to students being referred to exploratory studies from other majors with specific math and science requirements such as those in the College of Allied Health Sciences.

A third existing problem is rooted in the differing perspectives from the various College of Arts and Sciences administration. Throughout the past decade, CES has received messages from administrators that it should only be encouraging students to explore majors housed in the College of Arts and Sciences. This perspective is rooted in the performance-based budgeting structure of the university in which the colleges are provided financial support based upon the number of students enrolled in their majors. Varying department heads with the College of Arts and Sciences feel as if they are not getting their fair share of exploratory students who declare their majors. These department heads work to influence the curricular structure of the various learning communities so that their courses are included to encourage students to consider their major as opposed to the students' original intents. This runs counter to the original and current purpose and mission of CES. It has been said that CES is a retention issue for the College of Arts and Sciences since a group of our students transition into majors housed in other colleges at the

university, even though this runs counter to the fact of retention being measured based upon a student continuing at the university in general not specific to his or her major or college.

Historically, CES maintained high retention rates and was often viewed as the group that carried the entire College of Arts and Sciences retention of first-year students (T. Warden, personal communication, March 26, 2018). This has not been the case for the past year or two. The falling retention rates of exploratory studies students has put stress on the department to determine what it is doing well and what it can do to better serve its student population influencing the purpose of this study.

Purpose of Study

The CES serves two primary populations of students: those who are undecided, considered openly exploring, and those who are decided, but were admitted to the major based upon their denial of admission from their first-choice major. The purpose of this study is to determine which specific population of students the center serves has the highest retention rates and compare this population of students to the students not in the major within the university. The study aims to provide answers regarding the effectiveness of the curricular support students receive through Discovering UC. It also focuses on what majors these students decided upon in order to provide answers to the departments all vying for the attention of exploratory studies students. The study also aims to provide answers to which populations of students are being retained at higher rates to guide CES in its decision making regarding new initiatives as an advising unit. In order to measure effectiveness, these issues are explored.

Research Questions

The following seven research questions guided the study of the evaluation of the CES at UC:

1. What are student perspectives regarding their achievement of the student learning outcomes in Discovering UC?
2. What majors do students taking Discovering UC decide upon by the end of Discovering UC?
3. Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?
4. Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?
5. Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided within the exploratory studies major?
6. Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided within the exploratory studies major?
7. How many students who entered the university as an exploratory studies major successfully transitioned into their new major in between their first and second year?

Research Hypotheses

Null hypotheses. The null hypotheses for questions 2 through 6 are below:

1. There are no significant differences between the retention rates from first to second year of students in the exploratory studies major and those not in the exploratory studies major.

2. There are no significant differences between the GPAs at the end of their first year of students in the exploratory studies major and those not in the exploratory studies major.
3. There are no significant differences between the retention rates from first to second year of students considered undecided and decided.
4. There are no significant differences between the GPAs at the end of their first year of students considered undecided and decided.

Alternative hypotheses.

1. There is a difference between the retention rates from first to second year of students in the exploratory studies major and those not in the exploratory studies major.
2. There is a difference between the GPAs at the end of their first year of students in the exploratory studies major and those not in the exploratory studies major.
3. There is a difference between the retention rates from first to second year of students considered undecided and decided.
4. There is a difference between the GPAs at the end of their first year of students considered undecided and decided.

Significance of the Study

The research conducted through this study is significant for multiple reasons. A comprehensive evaluation of the CES has not been conducted to provide college and university administration with answers to the research questions specified above. The results of this study show the university and College of Arts and Sciences into which majors exploratory studies students are transitioning. The results of this study show the university which specific population of students in the exploratory studies major is being retained at a lower rate. These results can be

used to determine different areas of focus for CES advisors and possibly impact the referral process for students not admitted into their first-choice major. The results of this study could lead to university-wide initiatives resulting in a more collaborative support system for exploratory studies students, a redesign of transition admissions policies for the majors in which students intend to transition, and future decision making on the process and admission criteria for students referred to the exploratory studies by other majors.

Definition of Terms

Within this study, there are terms and concepts that require clarification. These terms and concepts are defined within the context of this study.

Academic Advising: "Academic advising is a series of intentional interactions with a curriculum, pedagogy, and student learning outcomes. It synthesizes and contextualizes a student's educational framework of their aspirations, abilities, and lives to extend beyond the campus boundaries and timeframes" ("NACADA," 2006, para. 9).

Academic Advisor: An academic advisor is a professional within the field of higher education who provides academic advising to students.

College: According to Merriam Webster, a college is "a part of a university offering a specialized group of courses" (College, 2018, para. 1). UC comprises 13 colleges. Eight of these colleges offer undergraduate and graduate degrees. Two of these colleges are regional campuses offering associate degrees. Three of these colleges are professional schools: the College of Medicine, the College of Law, and College of Pharmacy.

Competitive Major: A competitive major is a major at UC that is selective in admission, has higher admission standards than the general university criteria, and only admits a certain number or students per year based upon the program's capacity.

Curriculum: Merriam Webster defines curriculum as "a set of courses constituting an area of specialization" (Curriculum, 2018, para. 1).

Decided: For the purpose of this study, decided is the term used to describe students who already know what major they would like to pursue, but were not directly admitted to it and were subsequently referred to the exploratory studies major.

Direct Admit: Direct admit is a term used to describe a major at UC. A direct-admit major is one in which students are directly admitted upon their application to the university. All majors at UC are direct-admit majors.

Exploratory Studies: Exploratory studies is the major at UC for students who are undecided in their academic major or who are not admitted to their first-choice major, but are admissible under the overall university admission guidelines.

Faculty: Merriam Webster defines faculty as "the teaching and administrative staff and those members of the administration having academic rank in an educational institution" (Faculty, 2018, para. 1). The faculty of UC includes professors of all tracks (tenured, educator, and adjunct), undergraduate and graduate directors, department heads or chairs, and the deans of the colleges.

Formative Assessment: According to the Glossary of Education Reform "Formative assessments refers to a wide variety of methods that teachers use to conduct in-process evaluations of student comprehension, learning, needs, and academic progress during a lesson, unit, or course" (Formative Assessment, 2014, para. 1).

GPA: Merriam Webster defines grade point average as "the average obtained by dividing the total number of grade points earned by the total number of credits attempted" (GPA, 2018,

para. 1). Typically, the higher a student's GPA is, the more academically successful he or she is considered.

Higher Education: Higher education is defined by Merriam Webster as "education beyond the secondary level" (Higher Education, 2018, para. 1). In the United States, the secondary level is considered high school.

Remedial: Within this study, the term remedial is used to describe an academic program within a university that is preparatory in nature and geared toward students who do not meet all or some of the university's minimum admission requirements for direct admission into a specific major.

Retention: This is the term used to describe if a student continues his or her enrollment from term to term at the university, regardless of his or her academic major or in which specific college he or she is enrolled.

Student Learning Outcomes: According to the Glossary of Education Reform, student learning outcomes "typically refers to either (1) the desired learning objectives or standards that schools and teachers want students to achieve, or (2) the educational, societal, and life effects that result from students being educated" (Student Learning Outcomes, 2013, para. 1).

Summative Assessment: According to the Glossary of Education Reform "summative assessments are used to evaluate student learning, skill acquisition, and academic achievement at the conclusion of a defined instructional period" (Summative Assessment, 2013, para. 1).

Undecided: For the purpose of this study, the term undecided is used to describe a student who does not know what academic major to pursue at the beginning of his or her college career at the university.

University: The definition of university according to Merriam Webster is,

> …an institution of higher learning providing facilities for teaching and research and authorized to grant academic degrees; one made up of an undergraduate division which confers bachelor's degrees and a graduate division which comprises a graduate school and professional schools each of which may confer master's degrees and doctorates. (University, 2018, para. 1)

Delimitations and Limitations of the Study

This study is limited in scope because the research is focused on data collected solely from UC for the 2017–2018 academic year first-year exploratory studies students. The number of students who enter the exploratory studies major each year as undecided versus decided varies with each admissions cycle. The specific number of students admitted in the exploratory studies major intending to transition into each individual college and major also varies annually. Since these populations are not consistent annually, the study may be limited to only providing answers relevant to only the 2017–2018 first-year exploratory studies students.

Since the study is limited to information from only UC for the 2017–2018 academic year, the population and sample sizes have been restricted and do not include other continuing students already in the exploratory studies major, transfer and transition students admitted to in the exploratory studies major, or follow students beyond their first year.

Another limitation of the study is that incoming student information such as high school GPA, test scores, class rank, and other demographic identifiers have not been delineated and accounted for as part of this study.

Omitted from the study are data representing answers to the same research questions regarding students admitted directly into a degree-granting major. In doing so, the results may

provide answers only relevant to first-year decided students in the exploratory studies major that may not apply to other first-year students already in their declared major.

Nature of the Research

Since the third through sixth research questions are centered on the GPAs and retention rates of undecided and decided exploratory studies students, the nature of this study is correlational research involving "collecting data to determine whether, and to what degree, a relation exists between two or more quantifiable variables" (Gay, Mills, & Airasian, 2009, p. 9). Quantitative data regarding the GPAs and retention rates of the two groups of exploratory studies students were collected. The independent variables are whether a student is considered undecided or decided as an exploratory studies student. The dependent variables are student retention and student GPA. There is a statistical analysis of the data collected followed by an explanative narrative of the outcomes of this study.

Dissertation Structure

This dissertation follows the standard five-chapter format. The first chapter provides an introduction to the study, provides historical and background information, and a statement of the problem. The purpose of the study is discussed followed by the research questions guiding this dissertation and the significance of the study. Included in this chapter also is the definition of terms, delimitations and limitations, and the nature of the research. The chapter concludes with a description of the structure of the dissertation and summarization.

The second chapter provides the details on the review of the literature regarding academic and career advising. The literature review starts with the history of academic advising in the United States followed by theoretical influences on academic advising. Next the approaches to academic advising are discussed. Following the information on academic advising,

career development theory is reviewed, followed by career development course design, career development course assessment, and the results of career development courses. This chapter ends with a section on career advising followed by a summary.

The third chapter describes the methodology used in the research. It covers the five steps taken to design the study and describes the sample and populations in addition to the methods used for data collection. This chapter ends with the details regarding the procedure for data analysis.

Chapter 4 discusses the results of the study and their relationship to the research questions. The results of the course evaluation, decided upon major, the GPAs and retention rates of exploratory students, and transition rates are discussed in this chapter. The chapter also includes the most significant finds of this study.

Chapter 5 includes the conclusions of the study along with recommendations for further research for the research questions. Included in this chapter also is information regarding an analysis of the major results and their correlation to the study.

Summary

CES was created at UC to meet the demands of this growing population. The purpose of CES is to guide this growing population of students through the academic exploration and decision-making process leading to a student transitioning into his or her best-fit major at the university. This should subsequently positively impact student retention of this otherwise considered an at-risk population. CES also assists students who have already decided upon their intended major at the university with taking degree applicable courses, meeting the major's admission requirements, and navigating the transition process. CES provides students with a curricular structure intended to assist them through this process, individual and personalized

academic advising, and assists students with making connections to the campus both academically and socially. This study examines the effectiveness of CES at UC. The researcher conducted quantitative studies using data that show students' GPA, retention rates, and transition it their majors.

This study follows the group of students in the exploratory studies major who started and took their first classes at the university in the fall 2017 semester through the fall 2018 semester. The data obtained have been analyzed to determine if they meet the null hypothesis or if the research can reject the null hypothesis. They have been used to determine if CES is truly impacting student retention from a university-wide standpoint and if students are able to transition successfully into their new major after their first year in exploratory studies.

Chapter 2

Literature Review

This chapter presents a review of the literature related to academic advising, career development, and career advising. These three areas of theoretical framework and discussion of their application in the field of academic advising are relevant to the advising undecided students.

History of Academic Advising

The history of academic advising in the United States can be traced to the late 1800s and was established by the president of John's Hopkins University. During this time period, institutions began to offer students more options that were considered more applicable to daily life and that provided degree options straying away from the traditional classically rooted educational philosophy. While this was viewed positively from a student perspective, administrators worried that students would not be intentional in their selection of courses, leading to a loose educational structure and experience (Cate & Miller, 2015; Kuhn, 2008; White 2015). The need for a process that included academic advising was implemented throughout institutions during this time period. According to Thelin (as cited in Kuhn, 2008), Harvard established a Board of Freshmen Advisors to assist students with the selection of electives that complimented their required courses and were in line with their future goals. During this same time period, Johns Hopkins began to offer seven different groupings of courses as options for students. The varying options would be comparable to today's declaration of a major (Cate & Miller, 2015; Kuhn, 2008). This required the university president to establish a faculty advising model to guide students through the process of selecting one of the seven options. According to Kuhn (2008), the president of Johns Hopkins was the first university administrator termed with

using the word “adviser” (p. 5) to refer to a professional within the school setting as somebody who provided guidance to students academically, socially, and personally.

While the practice of academic advising was established during this time period, little was done to examine the practice of advising (Cate & Miller 2015; Kuhn, 2008). Advising was deemed impersonal and focused only on helping students choose the right courses to stay on track for graduation in the expected amount of time. However, the benefits of academic advising within institutions was seen as a way to lessen the divide between students and faculty members.

The practice of academic advising expanded throughout the course of the next century. During the 1920s, multiple colleges and universities implemented various departments that became responsible for duties originally held by faculty members (Kuhn, 2008). These responsibilities focused primary on providing guidance and counseling to freshmen. The offering of these types of services expanded to include for continuing students the same kind of guidance and counseling during the 1930s and ’40s. A more student-centered approach emerged in the late 1940s and was known as the Student Personnel Point of View (Cate & Miller, 2015; Kuhn, 2008). The Student Personnel Point of View remained prominent in higher education through the 1970s and focused on providing students with counseling regarding both their academic and personal lives while also highlighting the importance of vocational guidance and job placement.

Beginning in the 1970s, academic advising became more defined as a practice that was being examined (Cate & Miller, 2015; Kuhn, 2008). In the late 1970s, groups of professionals responsible for providing students guidance in course planning and registration began to gather nationwide to compare their practices. The NACADA was established as a result (Beatty, 1991). NACADA began by establishing an annual conference where academic advisors could meet with others and share their practices through presentation. NACADA also established a journal where

those in the profession could publish their research. Since the 1970s, NACADA has been the leading source of information that was guided and influenced the practice of academic advising.

Recently, NACADA leadership has established a research institute. The purpose of the NACADA Research Institute is to increase the amount of scholarly inquiry and research being produced regarding academic advising. W. Troxel (personal communication, April 11, 2018), the director of the NACADA Research Institute, highlighted the need for a more robust body of knowledge about academic advising. The lack of research and publications that examine theory being put into practice has prevented academic advising from being able to define itself as a profession as have other social science–based positions in the field of education have such as teaching, psychology, and counseling.

Theories Influencing Academic Advising

In most colleges and universities across the United States, academic advising is employed as a method for keeping students on track and engaged in their learning. “Academic advising is a series of intentional interactions with a curriculum, pedagogy, and student learning outcomes. It synthesizes and contextualizes a student’s educational framework of their aspirations, abilities, and lives to extend beyond the campus boundaries and timeframes” (“NACADA,” 2006, para. 9).

Academic advising theories do not exist (Hagen & Jordan, 2008; Himes, 2014; Robbins, 2012; Roufs, 2015). However, there are multiple theories that influence the practice of academic advising. These theories focus on psychosocial development, cognitive development, and on typology. The topic of personal, social, and moral development is one of interest to professional academic advisors in the field of higher education. Eggen and Kauchak (2013) stated:

> Personal development refers to the age-related changes in people's personality and the ways that individuals respond to their environment, social development describes the advances people make in their ability to interact and get along with others, and moral development describes advances in people's conceptions of right and wrong and prosocial traits such as honesty, respect for others, and the ability to control one's emotions. (p. 66)

These are all areas with which academic advisors are concerned regarding student development.

The psychosocial theories that influence academic advising focus on student identity, the student life cycle, and interpersonal relationships. Erikson (1963) proposed the eight stages of lifespan development that focus on stages of developmental crisis in which students can either respond positively or negatively. These stages are Trust versus Mistrust (birth-1 year), autonomy versus shame (3–6 years), initiative versus guilt (3–6 years), industry versus inferiority (6–12 years), identify versus confusion (12–18 years), intimacy versus isolation (young adulthood), generativity versus stagnation (adulthood), and integrity versus despair (old age). Academic advisors in colleges are mainly concerned with the identity versus confusion and intimacy versus isolation stages since these are typically the periods of time in a student's life where he or she is attending college if he or she entered his or her higher education at a traditional age, immediately following high school.

Chickering and Reisser (1993) used Erikson's eight stages as a foundation when they developed The Seven Vectors of Student Identify Development: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identify, developing purpose, and developing integrity. Advisors can influence an individual's vectors through helping him or her make sense of

curriculum and teaching, by encouraging involvement in line with establishing a sense of community through student affairs and services, and connecting students with faculty members. In order to influence positively student development, advisors are responsible for recognizing and respecting the differences between individual students and by also creating experiential learning opportunities to assist students with their development of purpose and identity. Included also in the psychosocial theoretical perspectives is the work of Vygotsky (1980) and the Zone of Proximal Development. This charges advisors with assessing where a student is currently, establishing what he or she needs to continue developing, and providing him or her with the information or tools he or she needs in order to progress in that direction.

The cognitive development theories influencing academic advising focus on intellectual and ethical development and how students make sense of their experiences. The work of Piaget (1936) emphasized the use of scaffolding in order to help students make sense of their experiences. The personal and educational experiences that each student possesses will influence the way in which he or she interprets and perceive his or her current and future experiences. Both Kohlberg (1969) and Perry (1970) expanded upon the work of Piaget.

Kohlberg's (1969) theory of moral development stated that the higher levels of education an individual obtains, the more exposure he or she has to different perspectives leading him or her to become a more critical thinker. While Erikson was focused on the concepts of identity and self-concept, Kohlberg focused on development of moral education and logic of people. His theory expanded upon the work of Piaget specific to morality by analyzing the ways in which people respond to moral dilemmas (Eggen & Kauchak, 2013). Kohlberg determined that an individual's methods for determining his or her responses developed in stages. These stages are described as preconventional ethics (preschool and elementary ages), conventional ethics (older

elementary, middle school, and high school ages), and postconventional ethics (not typically seen before college, sometimes even lacking in adults). According to this theory, younger students make decisions based upon the punishment or reward they will receive in exchange for their obedience in addition to the consideration of what else they will gain personally. The next stage of development includes moral decision making based upon societal acceptance in addition to individual possibilities of rationalization and justification for not following law and order. Beyond high school, decision making focuses on more generalized principles considered acceptable in society such as the golden rule (Eggen & Kauchak, 2013). Kohlberg (1969) noted that not all people transition into the final stage of moral development. Academic advisors tend to focus on the conventional and postconventional stages in Kohlberg's theory based upon the age groups of their students.

Perry (1970) proposed four stages of mental and moral development through which an undergraduate student progresses: dualism, multiplicity, relativism, and commitment. Within these sages are nine positions of worldview. Students entering college possess more of a dualistic view of the world where answers are either right, wrong, black, or white and that there is typically a position of authority that dictates right and wrong. Multiplicity addresses the phase when students begin realize there are either solvable problems or problems to which there are not answers yet. During this stage, students have grown to trust their own instincts and inner voice. Relativism addresses the stage in which students realize that context plays an important role in the way decisions are made and perspectives are formed, demonstrating more of a gray area than in the stages of dualism and multiplicity. Finally, a student progresses into the commitment stage. In the commitment stage, students accept that there will always be a level of uncertainty in life and that they have the ability to develop their own conclusions based upon their own lived

experiences. Academic advisors are concerned with all of these stages of development since they only apply to undergraduate college students.

Theories of personal preference and typology also influence academic advising. The primary theory of typology was established by Jung (1960) and expanded upon by Myers and Briggs (as cited in Myers & McCaulley, 1985). Prior to Jung's development, Howard Gardner produced research surrounding the cognitive development of individuals. Owens and Valesky (2011) wrote:

> Gardner drew attention to the shift during the 20th century of philosophers and psychologists from focusing on the external objects of the physical world in explaining human behavior to focusing on the mind, and especially cognitive through, which depends so heavily on symbols such as those from language, mathematics, the visual arts, body language and other human symbols. (p. 289)

Gardner's theory focused on the multiple intelligences possessed by individuals to explain the differences among their ability to interact intellectually in different ways and at different levels within these intelligences. Myers and Briggs focused on the combination of four dichotomies that can produce one of 16 personality types. An individual can be considered introverted or extraverted, sensing or intuitive, thinking or feeling, and judging or perceiving. The use of personality types can help explain how and why students react to their individual educational experiences. Kolb's (1984) theory proposed four learning styles: converger, diverger, assimilator, and accommodator. Each one of these learning styles can be used as a predictor for which major or clusters of majors in which a student would find the most happiness and success.

All of these above-mentioned theories influence the academic advising profession. Since there is not one unifying or normative theory that influences the work that academic advisors

perform, the profession lacks recognition within the academe (Hagen & Jordan, 2008; Himes, 2014; Robbins, 2012; Roufs, 2015). Even though multiple theories influence the profession, there is an agreement that academic advising aims to teach and guide students through their own personal development through a focus on making connections within the campus community, connections between what they are learning and how it fits into their goals, how to make decisions, and the establishment of their own identity through a variety of approaches.

Other theories that influence academic advising, specific to exploratory studies students, are categorized as career development theory and will be discussed later in this chapter.

Approaches of Academic Advising

Advising models vary based upon each institution. King (2008) identified centralized, decentralized, and shared services models for the organization of academic advising within institutions. Campbell (2008) identified seven advising models that exist within the higher education landscape: faculty only, supplementary, split, dual, total intake, satellite, and self-contained. In a faculty-only model, no advising office exists and no professional academic advisors are employed since faculty members handle all of the responsibilities associated with academic advising. A supplementary advising model describes a type of faculty advising model; however, a centralized advising office exists, but everything needs approved by the primary faculty advisor. In a split model, specialized advising units exist, but students not in those special populations are advised by their academic division or a faculty member. The dual model is present when a student is assigned to both a professional advisor and a faculty member. The professional advisor advised on general requirements and other common policies and procedures while the faculty advisor advises students regarding the specific requirements of their major. The total intake model employs academic advisors who work with students for a predetermined

amount of time or until specific requirements are met. Once that time period passes or the requirements have been met, students are then assigned to another advisor who works with them until graduation. A satellite model describes a university that houses multiple advising units that are decentralized and housed within the individual colleges. The self-contained model employers a centralized advising model that sees students from the time they start until the time they graduate.

Just as with advising models, there is no one size fits all method that all who advise follow with every student (O'Banion, 1994). Academic advisors must take each individual student's knowledge, skills, abilities, and personality into consideration when working with him or her. Individual student's goals will also influence the approach to advising that can be taken. Academic advisors may also take different approaches to working with the same student throughout the course of his or her education (O'Banion, 1994). The most common approaches to academic advising are prescriptive, developmental, intrusive, learning centered, strengths based, and appreciative inquiry.

At the foundation of advising approaches is prescriptive advising. Prescriptive advising views the advisor as the doctor and the student as the patient. Many students need this in some circumstances; however, this approach does not necessarily encourage student responsibility (Himes, 2014; Robbins 2012). Examples of prescriptive advising take place during freshmen orientation when the advisor notifies a student of various university policies and procedures. Another example is when a student schedules an appointment to have his or her advisor tell him or her what classes he or she needs to register for during the next term. Most advising appointments will have some type of prescriptive advising take place, but this should not be the only type of advising that takes place between the advisor and advisee.

Developmental advising is more holistic in nature and requires more participation from the student. By using developmental advising, the advisor helps the student explore options and define academic and career goals. The role of the advisor is not to establish these goals for students, but to guide students through the decision-making process and encourage student use of problem-solving skills (Crookston, 1972). An example of developmental advising is assisting a student in the selection of his or her best-fit major. This can be established by the advisor encouraging the student to take assessments to help the student identify his or her interest areas and strengths and helping him or her understand how these attributes play a role in the decision-making process.

Intrusive advising requires a more proactive approach from the academic advisor. Typically, academic advisors who work with underprepared students, those on probation, or students with disabilities are encouraged to take a more intrusive approach. Many advisors also use intrusive advising when working with first-year students or first-generation college students. Examples of intrusive advising include the use of early alert systems to notify the advisor if a student is missing class, performs poorly on an exam, or is danger of failing a class. The advisor will proactively reach out to the student to touch base or schedule an appointment to discuss the factors that have led to poor academic performance as opposed to waiting for the student to schedule his or her own appointment. Intrusive advising is a beneficial approach because some students feel too ashamed or embarrassed to reach out on their own (Earl, 1988; Miller, 2010; Varney, 2013). Some students will also indicate to their advisor that they are doing well and may be in denial. Some students may be overwhelmed and not even know where to begin to look for additional support.

The learning-centered approach to advising is based upon the belief of advising as teaching. This requires a participative relationship between the advisor and student. With this approach to advising, the advisor helps students understand the relationships among the courses they are taken, the academic disciplines, and career fields (Hemwall & Trachte, 1999; Lowenstein, 2009). An example of this approach to advising is helping a student to understand the difference between a career-specific major and a career-flexible major. Often, students question why they are required to take certain types of general education of elective-based courses. By taking a learning-centered approach, the advisor will help the student to understand that these types of classes help the student to develop holistically and in a well-rounded manner. Another example is helping a student to understand that a liberal arts–based education helps students learn transferrable skills that can lead to multiple future careers.

A strengths-based approach to advising focuses on the talents and strengths that students are bringing to their experience. When using this approach to advising, the advisor is taking a more positive approach than if he or she were to focus on a student's low academic ability in a certain area preventing them from being in a specific major (Clifton, Anderson, & Schreiner 2006; Schreiner & Anderson, 2005). A student's strengths are used to guide more positively focused conversations about a student's academic, career, and personal development.

Appreciative inquiry is similar to a strengths-based approach. When using this approach, the advisor gives full interest and attention to the student (Bloom, Hutson, He, & Konkle, 2013). The advisor will also ask open-ended questions and provide the opportunity for the student to talk so that the advisor can learn about the student to determine the best way to assist him or her.

Career Development Theory

Career development theory is important to the practice of advising undecided students. Undecided students begin college without a specific major or career in mind. They spend the first period of their college career exploring their options until they decide upon what their major will be, how it will lead them to their intended career, and then transition into this major. Career development is the process an individual goes through when a person explores and identifies a career choice and then forms their occupational identity. There are five major career development theories that are directly related to working with undecided students: Parsons' (1909) Trait Factor, Holland's (1996) Theory of Vocational Types, Bandura's (1978) Social Cognitive Theory, Super's (1953) Development of Self-Concept Theory, and Krumboltz' (2008) Theory of Planned Happenstance.

In 1909, *Choosing a Vocation,* was published after Frank Parsons's death. Parsons's concept of vocational choices consisting of occupational knowledge and self-understanding is the foundation of other career development theories that involve finding a best-fit match (Parsons, 1909). Parsons's (1909) theory contained a three-step formula for vocational selection: clear understanding of self, knowledge of different lines of work, and understanding the relations between the two groups. This knowledge of self and knowledge of occupation is the basis for modern day trait-factor theory (Holland & Spokane, 1995).

In the 1950s, Super developed a theory revolving around career maturity and the different stages of life. Individuals are able to cope with different developmental tasks as they age and mature. Super's (1980) Self-Concept Theory includes five stages that span over an individual's life. The first stage is growth (birth through mid-teens) and substages include fantasy between 4 and 10 years old with little reality for basis, interests between 11 and 12 years old with the

identifying of likes and dislikes, and capacity between 13 and 14 years old with more of a reality grounded matching of own skill sets to potential job requirements (Super, 1980). The next stage is exploration (mid-teens through early 20s) with substages including tentative between 15 and 17 years old with the incorporation of abilities, values, and needs into potential career interests; crystallization between 18 and 21 years old with the preference transitioning into an actual choice and an individual pursues training or education related to this choice; and specification in the early 20s with the trial of an actual job or position in the chosen field. Individuals may repeat crystallizing and specification if they experience dissatisfaction with their first position or career choice (Super, 1980). Then comes establishment (mid-20s through mid-40s) with substages of trial and stabilization between 25 and 30 years old with the process of settling down and possibility of making changes to find the right fit in a job; advancement between 30 and 40 years old with the securing of a stable position, acquiring tenure and seniority, solidifying, and developing of specific skill sets; and seeking of promotion within career choice (Super, 1980). This is followed by maintenance (40s through early 60s), which is the major task of maintaining one's career and stability. This stage could be a potential plateau in one's career with little growth or new development. Competition can start to occur with younger and newer workers in the field (Super, 1980). Finally, disengagement or decline (late 60s through retirement) with the slowing down of career involvement possibly resulting in semiretirement or retirement and involving more pursuit into personal interests to fill the void where the daily routine of going to work once was (Super, 1980). With the exploration stage of a person's life falling at age when a student traditionally would enter college, career development courses can assist with the exploration of career options.

In the 1960s, Holland's Hexagon emerged. The Holland Hexagon approach is focused on individual interest areas as a major influence on career choice (Holland & Gottfredson, 1992) and follows Parsons' (1909) self-concept and occupational knowledge theory. Holland's theory focused on six specific interest areas and can be visually represented with by a hexagon divided into six equal parts. Each part represents an interest area (Holland, 1996). Holland concluded that people and work environments typically fall into one of the six personality types: Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC; Holland & Spokane, 1995). Holland designed an assessment called the Self-Directed Search (Holland & Spokane, 1995) that when taken, gives an individual a three-letter code using RIASEC. The most dominate trait is first followed by second and third most dominate traits. For example, an individual can be categorized as SEA (Social, Enterprising, and Artistic). Occupations are categorized using the same three letter codes. Once an individual knows his or her Holland type, he or she can see careers that share the same three letter code (Holland & Spokane, 1995). This theory is important to the career decision-making model, as students can begin to select careers based on corresponding Holland Code (Holland & Spokane, 1995). This expansion of trait factor theory is commonly used as a tool to assist students with exploring career options within a career development course.

In the 1970s, Bandura's social cognitive theory was introduced. Bandura's focus was that a person had the ability to control his or her own thoughts, feelings, and actions, exercising self-efficacy. Self-efficacy is derived from a person's performance and accomplishment, modeling and mentoring experiences, verbal encourage or discouragement, levels of stress, fear, and anxiety involved (Bandura, 1997). Bandura's (1978) theory involves destiny and that people with higher self-efficacy generally believe they are in control of their own lives and that their choices,

actions, and behavior shape their future. Specific to career development, a person's level of self-efficacy plays an important part on career choices and career goals (Bandura, 1986).

In 2008, Krumboltz introduced his theory of planned happenstance. This theory focused on the positive aspects associated with being undecided about a career and future. Instead of a student being undecided, the student is considered open to all of the possibilities that exist (Krumboltz, 2008). At the core of planned happenstance is the curiosity to explore options as they present themselves. Many institutions of higher education made decisions to change the name of their undecided major to an exploratory major to reflect the positive mind-set that students should possess as they begin their college education and are exposed to the various academic disciplines and majors and to what future opportunities they may lead.

Career Development Theory is important to understand for it is the basis for designing career development and major exploration courses. Super's (1953) Self-Concept Theory is at the heart of all career development courses. Keeping students' stage of self-concept is the key to designing a curriculum that will meet student needs regarding assessment and exploration.

Career development course design. Career development courses have existed in colleges and universities since the early 1900s (Maverick, 1926). Career courses vary in design, scope, and function; however, Brown et al. (2003) found five elements that effective career courses have in common. Austin (2011) corroborates and describes these elements:

> The courses (a) allow participants to define in writing both career and life goals; (b) provide them with customized interpretation and feedback; (c) dispense up to date information about risks various career fields and vocations; (d) embed interaction with mentors and models who are able to exhibit career appropriate behavior; and (e) assist in helping to create networks of career support. (p. 23)

With these commonalities, career development courses vary across colleges and universities regarding design, credit being offered, number of hours, and which department is responsible for developing the curriculum and teaching the courses (Austin, 2011; Folsom, Reardon, & Lee, 2005; Osborn, Howard, & Leierer, 2007; Peng, 2001; Reese & Miller, 2006; Ware, 1981). Some courses are offered for academic credit, while others are not. The length and hours of classes vary between one and three hours per week. Classes can be specialized by major, offered to only first-year students, or open to any student. Some classes are required and others are elective. Classes can be taught by counselors, regular faculty members, or career center staff (Austin, 2011; Folsom, Reardon, et al., 2005; Osborn et al., 2007; Peng, 2001; Reese & Miller, 2006; Ware, 1981). Two common methods for designing a career development course are focused around career decision-making skills and cognitive restructuring (Folsom, Reardon, et al., 2005; Osborn et al., 2007; Peng, 2001). In the next sections, we will look at these two different approaches in closer detail as they are both effective methods for assisting students with career decision making.

Cognitive restructuring approach. A class focusing on cognitive restructuring is more of a discussion-based class where the instructor serves more as a facilitator (Osborn et al., 2007; Peng, 2001; Reese & Miller, 2006). The focus is on students being more interactive with small-group activities, discussions, presentations, and class participation. The main topics covered are, "introduction to cognitive theory, assertive skills training, understanding your emotional feeling, dealing with conflicts and difficulties in decision-making, and sharing feelings about your personal short and long term goal setting" (Peng, 2001, p. 33). This type of course is more rooted in Bandura's self-efficacy theory (Bandura, 1978; Sampson, Peterson, Lenz, Reardon, &

Saunders, 1998; Sampson, Peterson, Lenz, Reardon, & Saunders, 1999). Osborn et al. (2007) highlighted:

> The career development course, using lecture, interactive group activities, reflective homework exercises, and reading assignments, was designed to teach students how to (a) understand the world of work; (b) recognize negative thoughts and how to reframe these in a more positive manner; (c) understand and implement career development theories and decision-making skills; (d) identify their personal interests, skills, abilities, and values; (e) identify and use a variety of Web, printed, and professional contact resources to explore and assess career options; (f) relate their personal characteristics and career goals to academic majors; and (g) create a customized career action plan. (p. 368)

Also included in the courses was a component where students were exposed to the resources available on campus to assist students regarding career choices and selection of a major (Osborn et al., 2007; Peng, 2001). This specific class focused on cognitive reconditioning first over decision-making skills.

Getting to the root of the problem, why students have negative career thoughts, is an important aspect of this class and is invaluable. Instead of just hoping that assisting students with career decision making increases positive career thoughts, the intention of this design focuses on increasing positive thoughts before progressing. One flaw in this course design is getting students to open up in a discussion-based environment regarding their negative career thoughts. Because this design starts with exploring negative thoughts and then transitions into career decision making, instructors might spend an unbalanced amount of time on one aspect over another. It is important to find a balance and this may be different with each class of students.

This course design would also lend itself to requiring a longer period of time to be able to cover effectively the necessary aspects to prove effective.

Career decision-making skills approach. Career decision-making skills training courses typically follow a lecture-based format (Folsom, Peterson, Reardon, & Mann, 2005; Peng, 2001). The focus is on students taking self-assessments regarding their skills, interests, values, abilities, and personality and the understanding of these scores. With these results in hand, they then explore careers that are associated with these various assessment results (Holland & Spokane 1995; Osborn et al., 2007; Peng, 2001). Students begin to narrow down their career options as they compare and contrast different careers through the exploration process. Topics covered are trait-and-factor approaches, elements of a successful education, understanding personality, interests, skills, values, and abilities, and how to put all of it together to make a career choice (Folsom, Peterson, et al., 2005; Peng, 2001). Such a course is strongly rooted in Holland's theory and RIASEC (Holland & Gottfredson, 1992).

Since this type of class focuses solely on career decision making, this design allows for a shorter period of time for effective delivery. This design also allows for more time to explore potential careers, either allowing for a more in-depth exploration or for more career choices to be explored throughout the course. A flaw in this design is that the cause of a student's indecision is not explored and students may feel thrown into the assessment and exploration phase without really having the chance to examine their career thoughts (Folsom, Peterson, et al., 2005; Peng, 2001).

Similarities in design. While one course design focuses on cognitive restructuring and one on career decision-making skills, both course designs suggest requiring students to find a personal mentor (Osborn et al., 2007; Peng, 2001). "Mentoring can fulfill an important

psychological need for people who wish to share their learning experiences while they themselves continue to develop and grow. Having a mentor is like traveling with a road map" (Peng, 2001, p. 35). Finding a mentor was reported as one of the most memorable activities by students in career development courses (Osborne et al., 2007; Peng, 2001). Most important, with research showing that both a cognitive restructuring curriculum and career decision skills curriculum provided equal results in lowering the career indecision of students (Folsom, Reardon, et al., 2005, Osborn et al., 2007; Peng, 2001), either option will accomplish the desired result of improving career decision making. Both classes tackle the career decision-making process in a similar manner with assessment and career exploration. However, the cognitive restructuring approach adds the exploration of career thoughts at the beginning of the course.

Career development courses assessment. Career development courses are designed to assist students in the career decision-making process. As stated above, there are different career development theories that can be used to design curriculum for a career development course (Austin, 2011; Folsom & Reardon, 2003, Osborn et al., 2007; Peng, 2001; Reese & Miller, 2006; Ware, 1981). Regardless of the theory or approach taken in a specific career development course, the importance lies in the results of the course. The instructor of a career development course should assess students at the beginning of the course and at the end of the course to assess if there has been a positive impact on students' career thoughts (Crites & Savickas, 1996; Folsom, Reardon, et al., 2005; Holland, Daiger, & Power, 1980; Osipow & Winer, 1996; Sampson et al., 1999; Super, Thompson, Lindeman, Jordaan, & Myers, 1981). Assessments can also be given at the midpoint of the class to track students' progress (Osborn et al., 2007). Several assessments have been designed to measure career thoughts. Folsom, Reardon, et al. (2005) described each assessment:

> The Career Maturity Inventory (CMI; Crites & Savickas, 1996)…reflects subjective reactions towards making a career decision with other cognitive variables involved in a career choice; the Career Development Inventory (CDI; Super et al., 1981) assesses statements of occupational preference, knowledge of self and career, and career planning orientation; Career Decision Scale (CDS; Osipow & Winer, 1996) assesses career decidedness or decreased career indecision. My Vocational Situation (MVS; Holland et al., 1980) measures clarity of vocational goals, interests, and personality. Career Thoughts Inventory (CTI; Sampson et al. 1998) measures career thoughts outputs and is based on the Cognitive Information Processing (CIP) Theory. (p. 9)

"Despite the different labels used by their authors, a conceptual similarity is apparent in the constructs measured by these instruments" (Tinsley, Bowman, & York, 1989, p. 115). The Career Thoughts Inventory (Sampson et al., 1999) is typically used with a cognitive restructuring approach (Osborn et al., 2007; Peng, 2001). Career Development Inventory (Super et al., 1981) and the Career Decision Scale (Osipow & Winer, 1996) are used with a career decision-making training approach (Folsom, Reardon, et al., 2005). While each one of these tools measures a different variable of output, each variable is interrelated and similar in nature (Folsom, Reardon, et al., 2005; Gati, Fassa, & Osipow, 1994; Osborn et al., 2007; Peng, 2001; Reese & Miller, 2006; Tinsley et al., 1989; Ware, 1981), measuring before and after career thought results from career development courses.

Results of career development courses. Research has shown that career development courses are more effective than one-on-one interactions at preparing students to enter the workforce and are an efficient use of staff and delivery of services to students (Austin, 2011; Gimmestad, 1984; Oliver & Spokane, 1988). Regardless of the variations discussed earlier,

research shows us that career courses positively affect the desired career development objectives (Austin, 2011; Folsom & Reardon, 2003; Folsom, Reardon, et al., 2005; Folsom, Peterson, et al., 2005; Osborn et al., 2007; Peng, 2001; Reese & Miller, 2006; Ware, 1981; Workman, 2015). In a study of more than 50 career development courses taught between 1976 and 2005 involving more than 18,900 students, Folsom, Reardon, et al. (2005) found results from career development classes can be broken down into two different categories: outputs and outcomes.

Outputs of career development courses. Folsom and Reardon (2003) defined outputs as the immediate and direct results a student has from taking a class. Outputs refer to skills, knowledge, and attitudes toward career planning, career decidedness, career decision-making self-efficacy, and career maturity. In their report, Folsom, Reardon, et al. (2005) found 40 courses involving career course outputs. Specific to outputs, 36 of these courses (90%) reflected positive gains in vocational identity, career decision making, and other career outputs. In the same report, 16 courses involved career course outcomes, with 14 courses (88%) having positive results in retention, higher GPA, or job satisfaction after graduation.

Outcomes of career development courses. Folsom and Reardon (2003) defined outcomes as indirect results that occur at some later point in time such as course satisfaction, deciding on a major, retention, and time taken to graduate. While outputs are more easily measured by these standardized tools the first and last days of class, outcomes take longer to evaluate (Folsom, Peterson, et al., 2005). Student course satisfaction is the most commonly measured variable regarding outcome, with an evaluation survey conducted shortly after a student has taken a career course (Folsom, Reardon, et al., 2005). Folsom, Peterson, et al. (2005) reported career course participant graduation rates of 89%, higher than the general population of 69%. Credits taken to graduation were 110 as opposed to the 132 credits taken by the general student

population. Students in another study showed a 7.7% retention rate higher than those than students who did not take a career development course (Austin, 2011).

Career Advising

Academic advisors who work with undecided or exploratory students need not only be concerned with the theories and approaches common to all who advise, but they also need to be familiar with career advising. “Career advising helps students understand how their personal interests, abilities, and values might predict success in the academic and career fields they are considering and how to form academic and career goals accordingly” (Gordon, 2006, p. 11). Gordon (2006) emphasized the need for advisors to understand that career advising is not considered career counseling or coaching. Career advising does not include assisting students with the development of their résumés, interviewing skills, or assisting them with their job searches. These functions typically take place within a career services–related office within a university. However, career advising does include being knowledgeable about the various resources that exist on campus to assist students with these items once they have made a decision regarding their major and future career.

According to Gordon (2005), “Career advising does not require advisor competencies that are not already known and practiced by academic advisors” (p. 4). These competencies and skills sets should naturally be occurring through developmental, learning-centered, strengths-based, and appreciative-inquiry approaches to academic advising. Career advising also draws from a combination of theoretical perspectives focusing on the identity versus confusion stage of Erikson’s theory of psychosocial development, which correlates with the exploration phase of Super’s career development theory. In addition to this, career advisors should know what

students can do with their major or intended major, know what resources exist on campus, and understand when to refer students to these resources.

A major part of what career advisors do is to have students work through a period of self-assessment in which they explore their individual personalities, strengths and weaknesses, values, and interest areas. The assessments used are specific to the field of career development; however, they assist students with understanding the individual traits that make them who they are. Not only do career advisors focus on the trait-factor theory of major exploration and career development, but they also use these individual traits to assist students with better understanding the reasons they behave the way they do in certain situations, why they possess their individual preferences for the classes they like, their preferred learning style, and how to use this information to move forward in their college career with the selection of a major and subsequently a career (Gordon, 2006)

By definition, academic advisors who work with undecided and exploratory students are also career advisors. Career advising is not a separate profession from academic advising. However, it is a more intentional approach to assisting students with self-assessment, exploration, decision making, and then implementing their decisions (Gordon & Steele, 2015).

Academic Advising and Student Retention

Academic advisors have the ability to impact directly student retention. Tinto (1987) indicated that students who drop out of college do so for a variety of reasons: lack of clear goals both academic and career related; academic difficulty, problems adjusting; and an overall lack of a sense of belonging. These circumstances can be mitigated through academic advising practices that go beyond prescriptive advising (Drake, 2011; Vianden, 2016). Drake (2011) pointed to four decades of research that consistently highlight three critical elements that can positively impact

student retention: connecting students to institution support and resources, first-year programming, and academic advising. Institutional resources that support student success are tutoring, academic coaching, career services, and counseling and psychological services-based units. First-year programming can take the form of learning communities or first-year seminars. Tinto (1987) also indicated that an overall sense of involvement and belonging increases student retention and persistence toward graduation. This involvement and belonging takes place through involvement in institutionally sponsored cocurricular groups, informal peer interactions and other socialization, and through interaction with faculty and staff. Academic advising has the ability to be the connector of these resources and curricular support for students. Academic advisors are often the one person a student connects with during the orientation process who remains consistent throughout their academic career (Drake, 2011; Nutt, 2003; Vianden, 2016). Because of this, academic advisors have the ability to impact directly and indirectly student retention.

Academic advising alone is not the only responsible party within an institution for student retention (Drake, 2011; Nutt, 2003, Vianden, 2016). Since academic advisors are often the primary point of contact for students seeking information, they must be connected to and partner with academic affairs, financial aid, the registrar's office, resident life, student affairs and services, and career services-based offices. In addition to being connected to these offices for a strong referral pipeline, advisors need also to be able to answer questions about these offices' policies, procedures, and practices. Advisor competence has been directly linked with student satisfaction with academic advising (Vianden, 2016; Vianden & Barlow, 2015).

As the practices of advising have evolved from strictly prescriptive in nature to being more developmental, strengths-based, and appreciative, the importance of the advisor–advisee

relationship has increased. Vianden and Barlow (2015) charged advisors with learning about their students and becoming skilled relationship managers. The concept of relational has been seen as an integral role in increasing student retention (Drake, 2011; Light, 2001; Schaffling, 2018; Vianden, 2016; Vianden & Barlow, 2015). Drake (2011) stated, "Advising is now more generally understood to be 'a decision-making process during which students themselves reach their own academic potential through a communication and information exchange with an academic advisor'" (p. 10). Advisors need to know their individual students' strengths, weaknesses, goals, and dreams. Advisors should also know their advisees' names and strive to make students feel like more than a number.

Vianden (2016) studied the impact of the advisor–advisee relationship on institutional loyalty and retention. In the study, he found that quality advisor–advisee relationships that result in a student feeling as if the advisor really knows the student increases the student sense of belonging, pride, empowerment, and persistence. Nutt (2015) wrote:

> Often the one-to-one relationship between the student and advisor is the only opportunity a student has to build a personal link with the institution; it thereby has a profound effect on the student's academic career and on the student's satisfaction with the institution. (p. 251)

Student-reported measures of a quality relationship indicated that advisor responsiveness to e-mail, genuine sense of concern and care for the interests and goals of the student, and overall level of helpfulness all positively impacted the advisor–advisee relationship.

Advisors should be well trained; versed in university policies and procedures; knowledgeable about the major(s) for which they advise; act as a connector, a teacher, influencer; and genuinely care about their students' success. Light (2001) conducted 10 years of

research on academic advising and student retention. His study included responses from more than 1,600 college graduates from 90 colleges and universities nationwide. Light's (2001) conclusion was, "Good advising may be the single most underestimated characteristic of a successful college experience" (p. 81).

Evaluation and Assessment of Academic Advising

That academic advising is viewed as a form of teaching is commonly held by those in the advising community and within the field of higher education (Crookston, 1972; Lowenstein, 2009; "NACADA," 2006; Schuh, 2008). Teaching through advising promotes both student learning and personal development to enhance the overall experience that college students have. The Council for the Advancement of Standards in Higher Education (2014) listed six domains for which academic advising programs are responsible: knowledge acquisition, integration, construction, and application; cognitive complexity; intrapersonal development; interpersonal competence; humanitarianism and civic engagement; and practical competence. Multiple methods for evaluating and assessing academic advising programs exist that can be used to evaluate whether these domains are addressed. Evaluation and assessment are often used interchangeably; however, Robbins and Zarges (2011) asserted, "Evaluation is centered around the performance of the individual academic advisor, while assessment is concerned with the academic advising program and services overall, primarily the achievement of student learning outcomes" (para. 3).

Both evaluation and assessment of academic advising can be either summative or formative. Summative is the term used to describe evaluation and assessment that sums up and is used to determine impact, value, or effectiveness (Cuseo, 2008; Scriven, 1967). Formative is the term used to describe evaluation and assessment that forms or shapes the future direction or

improvements to be made (Cuseo, 2008; Scriven, 1967). According to Cuseo (2008), "Arguably, the latter is the most important of advisor assessment because its primary goal is to promote positive change in advisor performance, which, ultimately improves the quality of advising received by students" (p. 370).

Since advising is teaching, academic advising units must develop student learning outcomes that align with their curricular and pedagogical goals ("NACADA," 2006; Powers, Carlstrom, & Hughey, 2014). These student learning outcomes can be universal between advising units corresponding to the national standards and goals of advising and individualized based upon the specialized population, if present, the advising unit serves. A comprehensive evaluation and assessment of an academic advising program includes multiples outcomes that measure affective outcomes, behavioral outcomes, and cognitive outcomes aimed at assessing efficiency, effectiveness, and impact (Cuseo, 2008; Troxel, 2008). In their work, Cuseo (2008) focused on the evaluation of advisor effectiveness and Troxel (2008) focused on assessing advising program effectiveness.

Cuseo (2008) emphasized the importance of *multiplicity* as a key characteristic of effective evaluation and assessment of academic advising. "Effective assessment serves multiple purposes, measures multiple outcomes, draws from multiple data sources, and uses multiple methods of measurement" (Cuseo, 2008, p. 370). The purposes of assessing academic advising can be summative or formative. Summative evaluation can be used to prove the advising program is successfully accomplishing its goals. Formative evaluation aims to improve the practices and performance of the advising unit. The multiple outcomes can be classified as affective, behavioral, or cognitive (Cuseo, 2008; Powers et al., 2014). Affective outcomes associated with academic advising are student perceptions of their academic advisor or of the

advising unit. Behavioral outcomes associated with academic advising are student pursuit of experiential learning, use of campus resources, or involvement in clubs and activities. Cognitive outcomes of academic advising are student understanding of self, which is associated with the various theories of student development.

Troxel (2008) also emphasized the complexity in assessing academic advising. Assessing academic advising is considered summative program evaluation and is rooted in both educational research and social science research. This kind of assessment and evaluation focuses on if goals and objectives were achieved and uses the information to improve future programming and services (Troxel, 2008). The three elements of program assessment focused on formative evaluation, according to Troxel (2008), are efficiency, effectiveness, and impact. Efficiency focuses on the use of resources used to carry out programmatic goals of academic advising such as human and financial resources and other logistical considerations. Effectiveness relates to the achievement or accomplishments of the predetermined mission and goals of the advising program. Impact is related to the positive impact that the advising program had on student success.

Multiple methods of assessment should be employed with evaluating and assessing academic advising. The most common method used by advising professionals is the use of student surveys (Cuseo, 2008; Powers et al., 2014). Student surveys can come prepackaged by national organizations such as the National Survey of Student Engagement, College Student Experiences Questionnaire, Your First College Year, and College Outcomes Survey all of which include questions regarding academic advising in addition to other areas of the overall college experience (Schuh, 2008). These types of student surveys are administered at the college or university level and not from an academic advising unit. Since these surveys to do not focus

solely on academic advising, academic advising units have also chosen to survey students directly (Powers et al., 2014). However, the use of student surveys and evaluations can be problematic and are not considered the best method of assessment (Cuseo, 2008; Powers et al., 2014; Schuh, 2008; Troxel, 2008). Students can be misinformed and have unrealistic expectations about the role of a professional academic advisor. Student experiences with other campus resources and services can impact student bias toward advising. Even though these methods can be considered problematic, Cuseo (2008) encouraged the use of a prepackaged survey since they have already established relatability and validity and can provide norms and be used for cross-institutional comparison. Other methods of assessment could include the measurement of items typically attributed to student success such as GPA, student retention, or graduation rates. The use of both quantitative and qualitative data is encouraged for effective assessment of academic advising. The current literature regarding assessment practices is limited (Cuseo, 2008; Powers et al., 2014). NACADA is currently focused on improving evaluation and assessment of academic advising through its annual Assessment Institute and establishment of the NACADA Research Institute.

The success of an academic advising unit can be determined by comparing the results of the formative and summative evaluation and assessment with institutional goals (Cueso, 2008; Troxel, 2008). If the institution has determined that success is measured by a specific retention rate and GPA of first-year students, then the success of an advising unit can be determined if these benchmarks are hit. Sometimes these institutional goals can conflict with a specialized advising unit's mission such as one working with an undecided population. The goal of the advising unit is to help students determine their best-fit major. While the university would be focused on retaining this student, the student may determine his or her best-fit major is one that

the university does not offer and subsequently transfers out of the university. While the unit will see this determination of a best-fit major and pursuit of it, regardless of where it is pursued, as a success, student retention will be negatively impacted, which is not a success.

Summary

Academic advising has been occurring as a function of those working in higher education in the United Sates since the late 1800s. Throughout the course of history, academic advising has been performed by various professionals, including faculty members, graduate students, administrators, and eventually through full-time professional academic advisors. Even though academic advising as a function has existed for nearly 140 years, its role as a profession did not begin to emerge until the 1970s.

The focus of academic advising has also evolved from being a prescriptive solution to helping students select and schedule courses to being more developmental and holistic in approach. The primary reason academic advising was introduced as a function of different professionals in higher education was because of the introduction of a less rigid curriculum. When the curricular structure for earning a degree began to provide choices to students, there was a fear that students would start to take longer to graduate and take classes that were not relevant. This began the introduction of prescriptive advising as a way for students to have an academic advisor assist them with course planning, registration, and stay on track to graduate.

After the introduction of electives to the curricular structure of degree programs, different majors began to be introduced. This was a shift in the paradigm from the traditional classically rooted education. Majors began to be more focused on specific disciplines. Throughout the course of the 20th century, majors outside of the liberal arts also began to be introduced that

were more focused on specific vocational and career paths. Students began to attend school not just to learn, but to improve their chances at entering specific career fields.

These career-specific majors have required students to make decisions regarding their future when they enter their college career. However, not all students are developmentally ready to make this decision. With this in mind, the field of academic advising has evolved to include multiple approaches of advising used to assist students in the transition from adolescence to adulthood.

There is not a one-size-fits-all approach to academic advising and not one theory that influences advising over another. Professional academic advisors draw from multiple theories to guide them in their practice and take a variety of approaches when working with students. Included in these influencers are several student development theories focused on assisting students as they grow and develop to become more independent thinkers as they work to establish their own identities. These new identities that are established include the selection of a major and establishment of a career.

A similar timeline of history has occurred with the field of career development. It can trace its roots back to the early 1900s with the introduction of the book *Vocational Guidance*. Career development theory guides the practice of academic advisors who work with undecided college students. However, not much was written about putting theory into practice with students until Gordon started to research what work was being done with this population of students in the late 1980s. Without her research, colleges and universities would not have understood the importance of providing specialized academic advising, including career advising, to undecided students and to their selection of a major and subsequent graduation.

In addition to the role academic advisors play in student and career development, research has also focused on how academic advising influences student retention and success. Nutt (2015) and Vianden (2016) stressed the importance the advisor–advisee relationship has on the satisfaction levels a student has with his or her overall institutional experience and how this experience impacts the likely hood a student is going to persist until graduation. Professional academic advisors are charged with being the planners, the schedulers, the connectors, and the ultimate resource for students on their campuses. It is with this responsibility in mind that universities have begun to examine the effectiveness of academic advising programs.

The measure of the effectiveness of academic advising programs includes multiple measures. These measures include student satisfaction, on-time registration into classes for upcoming terms, selection of a major, retention, and graduation rates. The purpose of the advising unit guides the selection of which measures are considered the most important for assessment of effectiveness. An advising unit that primary works with undecided students would focus on assessing when students select a major and successfully transition into it, what programs and services impacted this decision-making process, and retention rates of students within the university. Advising units can use prepacked assessment tools, develop their own assessment methods, or a combination of both.

This review of the literature has focused on the history of academic advising and the theories that have influenced the practice of advising. While academic advising has been working to establish itself as a true profession rooted in theory with a body of research regarding its practice, it is clear that professional academic advising is a necessity within the higher education landscape.

Chapter 3

Research Methodology

To evaluate the CES at UC, the researcher used a research methodology that characterizes a quantitative study. This information and discussions within this chapter is based on the methodology used, the design of the research, the sample and population selection, the methods and protocol employed in the collection of data, and the summary of the information contained in the chapter. The research methodology is structured to provide answers to the following research questions:

1. What are student perspectives regarding their achievement of the student learning outcomes with Discovering UC?
2. What majors do students taking Discovering UC decide upon by the end of Discovering UC?
3. Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?
4. Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?
5. Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided within the exploratory studies major?
6. Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided within the exploratory studies major?

7. How many students who entered the university as an exploratory studies major successfully transitioned into their new major by the end of their first year?

Description of the Methodology

Using a quantitative research methodology and approach uses the scientific method to provide answers to educational questions. This method uses the analysis of numerical data to describe current conditions, investigate relations, and study cause and effect as they pertain to educational research (Gay et al., 2009). The researcher used this format to examine outcomes related to exploratory studies student retention rates and GPAs in relation to their being undecided or decided.

Data including the information regarding the students in CES were collected from UC's Catalyst system and student evaluations of Discovering UC. Elements of the data set included if students were decided or undecided, their GPA, and if they continued taking classes beyond their first year at the university. Information included in the student evaluations included their perspectives on the course Discovering UC. Other data obtained included a student's decided upon major by the end of taking Discovering UC.

The researcher collected data noninteractively. After the data were collected, they were broken down into two categories and then tabulated and reported. The researcher used univariate descriptive statistics that included frequencies represented by percentages and measures of central tendencies such as the mean to depict students' GPA and retention rates. *Z*-tests were to be used to describe the information gathered during the research. These *z*-tests were selected since they are beneficial in comparing the data obtained from two distinct sample groups. The *z*-tests were to be applied to each of questions 3 through 6. The test of significance is the statistical level of probability for one to confidently reject or fail to reject the null hypothesis. The

statistical significance is that which is most typically used in educational research, $\alpha = 0.05$ (Gay et al., 2009). Because of the nature of the data, it was subsequently determined that the chi-square test of independence was more appropriate for questions 3 and 5.

Design of Study

Five steps make up the design of the study. The first includes an exhaustive review of the literature relevant to academic advising, career development, career development course structure and outcomes, and career advising.

The second step was obtaining permission from UC's Office of Institutional Research to collect the quantitative data for the students in the exploratory studies major. The process began by the reviewer filling out information about this study through the Office of Institutional Research's Web site. Information submitted through the online request for permission included an abstract of the study to be conducted and permission to request the relevant data regarding first-year exploratory studies students for the 2017–2018 academic year and their enrollment in the fall semester of the 2018–2019 academic year. After a review of the information submitted, the Office of Institutional Research at UC granted a nonhuman subjects designation for the study (see APPENDIX A). Upon this designation, permission was granted to the researcher to conduct this study from the College of Arts and Sciences at UC (see APPENDIX B). This study is considered a nonhuman subjects study since there was no contact with human subjects, is not affiliated with any university grant-funded research, and did not violate the common rule for the protection of human subjects. However, the researcher ensured that data collection and their usage remained within the guidelines of the college's policies and procedures.

The third step of the study was to obtain approval from the William Howard Taft University Institutional Review Board to proceed with the study. With this approval, the

researcher used UC's Catalyst Reporting Tool (CaRT) system to collect the relevant data associated with the sample of population of students designated below.

The fourth step was the collection of data about the first-year students in the exploratory studies major for the 2017–2018 academic year. These data were compiled and reviewed. The fifth and final step of the study is the researcher's analysis of the collected data and the writing of a report of the findings.

Sample and Population

For this study, the primary population is the 1,906 exploratory studies students from the 2017–2018 academic year. To conduct the study, the researcher limited the sample of this population to the 813 enrolled first-year exploratory studies students who started in the fall 2017 semester. To answer research questions 1 and 2, a subsample of students was identified as the 164 first-year exploratory studies students who completed MLTI1075–Discovering UC during the fall 2017 semester. To answer research questions 3 through 7, the population of students used was the 813 enrolled first-year exploratory studies students who started in the fall 2017 semester.

Instrumentation and Data Collection

Procedures for question 1. For question 1, the 164 students in Discovering UC for the fall 2017 semester were required to fill out an evaluation specific to the learning outcomes associated with the course (see APPENDIX C). A Likert scale was used as the measurement device to assess agreeability where 1 is Strongly Disagree, 2 is Somewhat Agree, 3 is Somewhat Agree, and 4 is Strongly Agree. This information from the three sections of Discovering UC taught in the fall 2017 semester was combined and entered into Survey Monkey. Research question 1 was answered with descriptive statistics. Participant answers to survey questions were reported by their means corresponding to the Likert scale. For instance, each survey question was

on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Therefore, the mean responses for each survey question can range from 1 to 4.

Procedure for question 2. For question 2, the researcher used data provided on the same course evaluation used in question 1. The students were asked: What is your intended major? on the top of the evaluation sheet. The question was open ended to allow students to write in their answers. The answers were recorded and coded in an Excel spreadsheet. Research question 2 is also a descriptive research question and, therefore, was answered with descriptive statistics. Specifically, frequency distributions were generated.

Procedures for question 3. To answer question 3, the researcher gathered data on the enrollment status of the 813 first-year students from the fall 2017 semester to the fall 2018 semester from the university's CaRT system. The data selected to be displayed on the CaRT report were each student's UC ID number, his or her academic plan, his or her GPA at the end of the spring 2018 semester, and enrollment status in the fall 2018 semester. The students were broken down into two groups, depending upon their academic plan as being in the exploratory studies major or not. Hypothesis 3 was originally to be tested with a two-proportions *z*-test. Two 2X2 contingency tables were to be constructed; one for each year for exploratory studies majors versus nonexploratory studies majors by retention status (retained versus not retained). Then, the proportions were to be compared for first-year exploratory studies majors and retained versus second-year exploratory studies majors and retained. Additional analyses consisting of a chi-square test were conducted to determine if significant differences existed within each year for exploratory studies majors versus nonexploratory studies majors by retention status (retained versus not retained). Then, the two-proportions *z*-test was computed to determine if there were differences in retention rates from the first to the second year. If the data were matched, then the

McNemar's Test was used. However, because of the nature of the data, t was subsequently determined that the chi-square test of independence was more appropriate.

Procedures for question 4. To answer question 4, the researcher gathered data on the enrollment status of the 813 first-year exploratory studies students from the fall 2017 semester to the fall 2018 semester from the university's CaRT system. The data selected displayed on the CaRT report were each student's UC ID number, his or her academic plan, his or her GPA at the end of the spring 2018 semester, and enrollment status in the fall 2018 semester. The students were broken down into two groups, depending upon their academic plan being in the exploratory studies major or not. Hypothesis 4 was tested with an independent samples *t*-test. The independent variable was the exploratory major status (exploratory studies major versus nonexploratory studies major). The dependent variable was the student GPA at the end of the first year. The data were tested for normality with skewness and kurtosis statistics and also with the Shapiro-Wilk Test of Normality along with histograms. If the data did meet the normality assumptions, the Mann-Whitney U Test was conducted. Because of the large sample size (N = 5,681), SPSS would not compute the Shapiro-Wilk Test of Normality for the data. However, it did compute the Kolmogorov-Smirnov Test of Normality.

Procedures for question 5. To answer question 5, the researcher gathered data on the enrollment status of the 813 first-year exploratory studies students from the fall 2017 semester to the fall 2018 semester from the university's CaRT system. The data selected to be displayed on the CaRT report included each student's UC ID number, his or her academic subplan, his or her GPA at the end of the spring 2018 semester, and enrollment status in the fall 2018 semester. The students were broken down into two groups, depending upon their academic subplan as being undecided or decided. Hypothesis 5 was to be tested with a two-proportions *z*-test. Two 2X2

contingency tables were to be constructed; one for each year for decided majors versus undecided majors by retention status (retained versus not retained). Then, the proportions were used to compare first-year decided majors and retained versus second year decided majors and retained. Additional analyses consisting of a chi-square test were to be conducted to determine if significant differences exist within each year for decided majors versus undecided majors by retention status (retained versus not retained). Then, the two-proportions *z*-test was computed to determine if there were differences in retention rates from the first to the second year. If the data were matched, then the McNemar's Test was used. However, because of the nature of the data, a chi-square test of independence was utilized instead.

Procedures for question 6. To answer question 6, the researcher gathered data on the enrollment status of the 813 first-year exploratory studies students from the fall 2017 semester to the fall 2018 semester from the university's CaRT system. The data selected to be displayed on the CaRT report included each student's UC ID number, his or her academic subplan, his or her GPA at the end of the spring 2018 semester, and enrollment status in the fall 2018 semester. The students were broken down into two groups, depending upon their academic subplan indicated being undecided or decided. Hypothesis 6 was tested with an independent samples *t*-test. The independent variable was major status (decided versus undecided major). The dependent variable was student GPA at the end of the first year. The data were tested for normality with skewness and kurtosis statistics and with the Shapiro-Wilk Test of Normality along with histograms. If the data did not meet the normality assumptions, the Mann-Whitney U Test was conducted.

Procedures for question 7. For question 7, the researcher gathered data on the enrollment status of the 813 first-year exploratory studies students from the fall 2017 semester to the fall 2018 semester from the university's CaRT system. The data selected to be displayed on

the CaRT report were each student's UC ID number, his or her academic subplan, his or her GPA at the end of the spring 2018 semester, and enrollment status in the fall 2018 semester. The researcher gathered data regarding the 813 first-year exploratory studies students from the fall 2017 semester minus those not enrolled as active students in the fall 2018 semester. Research question 7 is a descriptive research question and, therefore, was answered with descriptive statistics. Specifically, frequency distributions were generated.

Summary

This chapter described the methodology used to collect data on student perspectives of Discovering UC, their major selection, retention rates and GPAs of decided and undecided exploratory studies students, and their transition into their decided-upon major and the end of their first year of study at UC. The researcher collected and analyzed the data, which provided the answers to these research questions. Research questions and statistical tests used are summarized in Table 1.

Table 1

Research Questions and Statistical Tests

Research Question	Statistical Test
R_1: What are student perspectives regarding their achievement of the student learning outcomes in Discovering UC?	Descriptive Statistics
R_2: What majors do students taking Discovering UC decide upon by the end of Discovering UC?	Descriptive Statistics

(continued)

Research Question	Statistical Test
R_3: Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?	Chi-Square Test of Independence
R_4: Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?	Independent Samples *t*-Test
R_5: Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided?	Chi-Square Test of Independence
R_6: Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided?	Independent Samples *t*-Test
R_7: How many students who entered the university as an exploratory study major successfully transitioned into their new major in between their first and second year	Descriptive Statistics

Alpha level. The alpha level in a study is the value at which the null hypothesis was rejected. However, the value is based on the assumption that the null hypothesis is true. In social sciences, the alpha level is $p < .05$ (Brace, Kemp, & Snelgar, 2013).

Power analysis. An a priori power analysis was conducted with G*Power 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007). G*Power uses an analysis-by-design approach to compute the required sample size. The power analysis was based on the independent samples *t*-test. A priori power analysis is necessary in order to determine the required sample size to obtain significant results if one truly exists. There are five input parameters for the calculation. They consist of tails, effect, size, power, and allocation ratio. Tails refers to the directionality of the

alternative hypotheses (Cohen, 1977). Since the alternative hypotheses are nondirectional, a two-tailed test was used. Effect size refers to the magnitude of the difference. Effect sizes are categorized as small, medium, and large (Cohen, 1977). A medium effect size (d = .50) was chosen for the proposed study. A medium effect size was selected because it is not too strict and not too lenient. The alpha level is $p < .05$, as aforementioned. Statistical power refers to the degree of confidence one can have in the results. The minimum power level is .80 (Brace et al., 2013). The allocation ratio is a prediction of how the researcher believes the groups were distributed. The default allocation ration is 1 ($N2/N1$). The default allocation ratio of 1 was used in the absence of any additional information. Based on the aforementioned input parameters, a sample size of 128 was required. Statistical power increases with increasing sample size. This is illustrated in Figure 1.

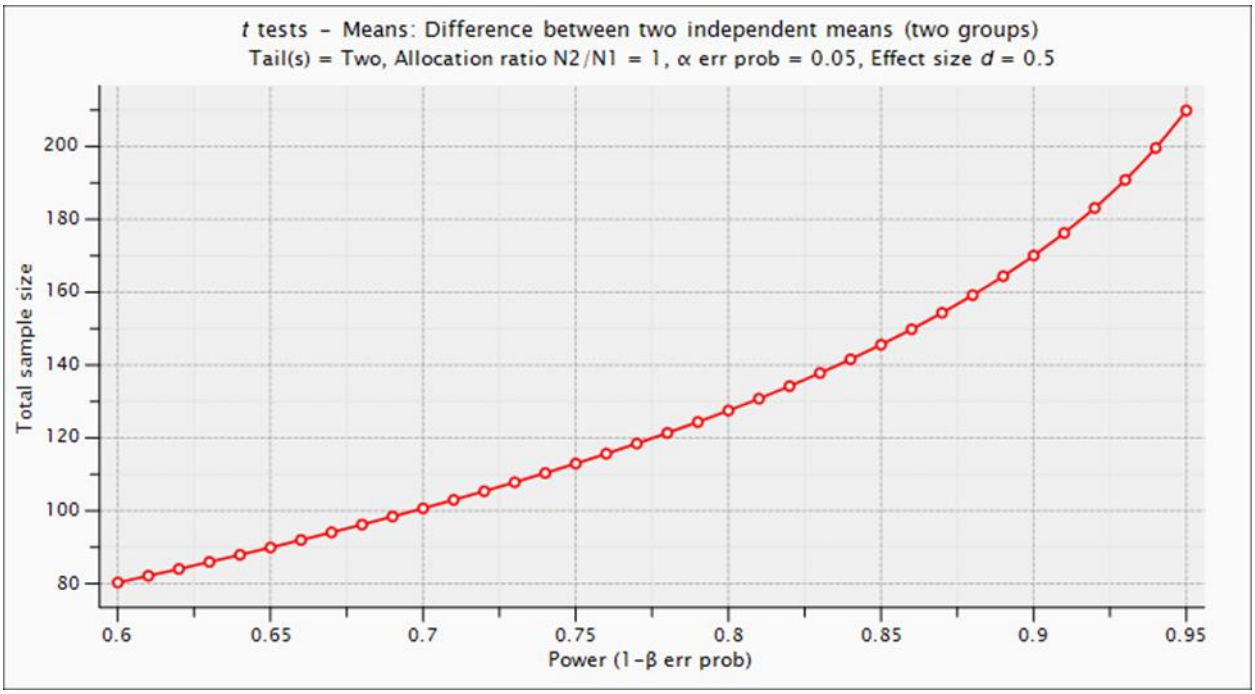

Figure 1. Sample size determination.

Chapter 4 provided information about the findings according to the data. Chapter 5 includes the analysis of the data, a discussion of the results, and suggestions and implications of

future research on the topic of continuing research on the CES at UC and similar departments or majors at other universities.

Chapter 4

Results and Discussion

The purpose of this study was to determine which specific population of students the CES at UC serves were being retained the highest and also to compare this population of students against the students not in the major within the university. The CES serves two primary populations of students: those who are undecided, considered openly exploring, and those who are decided, but were admitted to the major based upon their denial of admission from their first-choice major. The study aimed to provide answers regarding the effectiveness of the curricular support students receive through a course titled Discovering UC. This course offers a curriculum-based approach to the major-selection process based on the Gordon Decision-Making Model (Gordon & Sears, 2010). The study also focused on what majors these students decided upon in order to provide answers to the departments all vying for the attention of exploratory studies students.

Chapter 4 is organized by an introduction, the research questions and hypotheses, and a summary of the results. Data were analyzed with SPSS 23 and Pro Word Cloud for Windows. For this study, the primary population included the 1,906 exploratory studies students from the 2017–2018 academic year. To conduct the study, the researcher limited the sample of this population to the 813 enrolled first-year exploratory studies students who started in the fall 2017 semester. To answer research questions 1 and 2, a subsample of students was identified as the 164 first-year exploratory studies students who completed MLTI1075–Discovering UC during the fall 2017 semester. To answer research questions 3 through 7, the population of students used was the 813 enrolled first-year exploratory studies students of students who started in the fall

2017 semester. The following seven research questions guided the study of the evaluation of CES at UC:

Research question 1. What are student perspectives regarding their achievement of the student learning outcomes in Discovering UC?

Research question 2. What majors do students taking Discovering UC decide upon by the end of Discovering UC?

Research question 3. Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?

Null hypothesis 3. There are no significant differences between the retention rates from first to second year of students in the exploratory studies major and those not in the exploratory studies major.

Alternative hypothesis 3. There is a significant difference between the retention rates from first to second year of students in the exploratory studies major and those not in the exploratory studies major.

Research question 4. Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?

Null hypothesis 4. There are no significant differences between the GPAs at the end of their first year of students in the exploratory studies major and those not in the exploratory studies major.

Alternative hypothesis 4. There is a significant difference between the GPAs at the end of their first year of students in the exploratory studies major and those not in the exploratory studies major

Research question 5. Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided?

Null hypothesis 5. There are no significant differences between the retention rates from first to second year of students considered undecided and decided.

Alternative hypothesis 5. There is a difference between the retention rates from first to second year of students considered undecided and decided.

Research question 6. Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided?

Null hypothesis 6. There are no significant differences between the GPAs at the end of their first year of students considered undecided and decided.

Alternative hypothesis 6. There is a difference between the GPAs at the end of their first year of students considered undecided and decided.

Research question 7. How many students who entered the university as an exploratory study major successfully transitioned into their new major in between their first and second year?

Research Questions and Hypothesis Testing

Research question 1. What are student perspectives regarding their achievement of the student learning outcomes in Discovering UC? For question 1, the 164 students in Discovering UC for the fall 2017 semester were required to fill out an evaluation specific to the learning outcomes associated with the course (See APPENDIX C). A Likert scale was used as the measurement device to assess agreeability where 1 was Strongly Disagree, 2 was Somewhat Disagree, 3 was Somewhat Agree, and 4 was Strongly Agree. This information from the three sections of Discovering UC taught in the fall 2017 semester were combined and entered into Survey Monkey. Research question 1 was answered with descriptive statistics. Participant

answers to survey questions were reported by their means corresponding to the Likert scale. For instance, each survey question was on a 4-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Therefore, the mean responses for each survey question can range from 1 to 4.

Prior to the descriptive analyses, the reliability of the eight-items representing student attitudes toward achievement were tested with Cronbach's alpha. The internal consistency of the eight items was good ($\alpha = .88$). The mean responses to the survey items indicated that overall, students strongly agreed or somewhat agreed with the positive statements, which reflected positive attitudes toward achievement. The degree of endorsement for the items were arranged in descending order by the mean responses. Thus, students felt the strongest in favor of the statement, "I am empowered by my choices and understand how to learn from those choices, actions, and outcomes," which had a mean response of 3.57 ($SD = 0.62$). Students had the least positive responses for the statement, "I am satisfied with my ability to make significant decisions" ($M = 3.35$, $SD = 0.71$), which nevertheless indicated that they were in somewhat agreement. See Table 2.

Table 2

Student Attitudes Toward Achievement

Item	*M*	*SD*
I am empowered by my choices and understand how to learn from those choices, actions, and outcomes.	3.57	0.62
I have the ability to make effective decisions concerning my degree.	3.55	0.60

(continued)

Item	*M*	*SD*
I know what I need to do to successfully achieve my academic goals.	3.53	0.64
I understand proper and acceptable etiquette when using e-mail or other forms of professional communication.	3.52	0.76
I have the skills and commitment needed to discover opportunities for lifelong learning and personal growth.	3.48	0.69
I know how to self-advocate by locating and utilizing available resources.	3.43	0.69
I have effective communication skills and am prepared for future life and employment experiences.	3.36	0.69
I am satisfied with my ability to make significant decisions.	3.35	0.71

Note. $N = 165$.

Students were asked to rate their current knowledge of necessary aspects and actions required to earn a degree and graduate from college on a scale of 1 (very low) to 5 (very high). With a mean of 3.95 ($SD = 0.75$), students rated their current knowledge high on the average. Participants were also asked to describe their decision-making styles from a list of seven options and were asked to select all that applied. Most participants described their decision-making styles as *informed* ($n = 112$), *indecisive* ($n = 76$), and *procrastinate* ($n = 65$) respectively. The least endorsed options include *follower* ($n = 13$), *confused* ($n = 16$), *passive* ($n = 25$), and *impulsive* ($n = 34$). Students' self-described decision-making styles are presented in Figure 2.

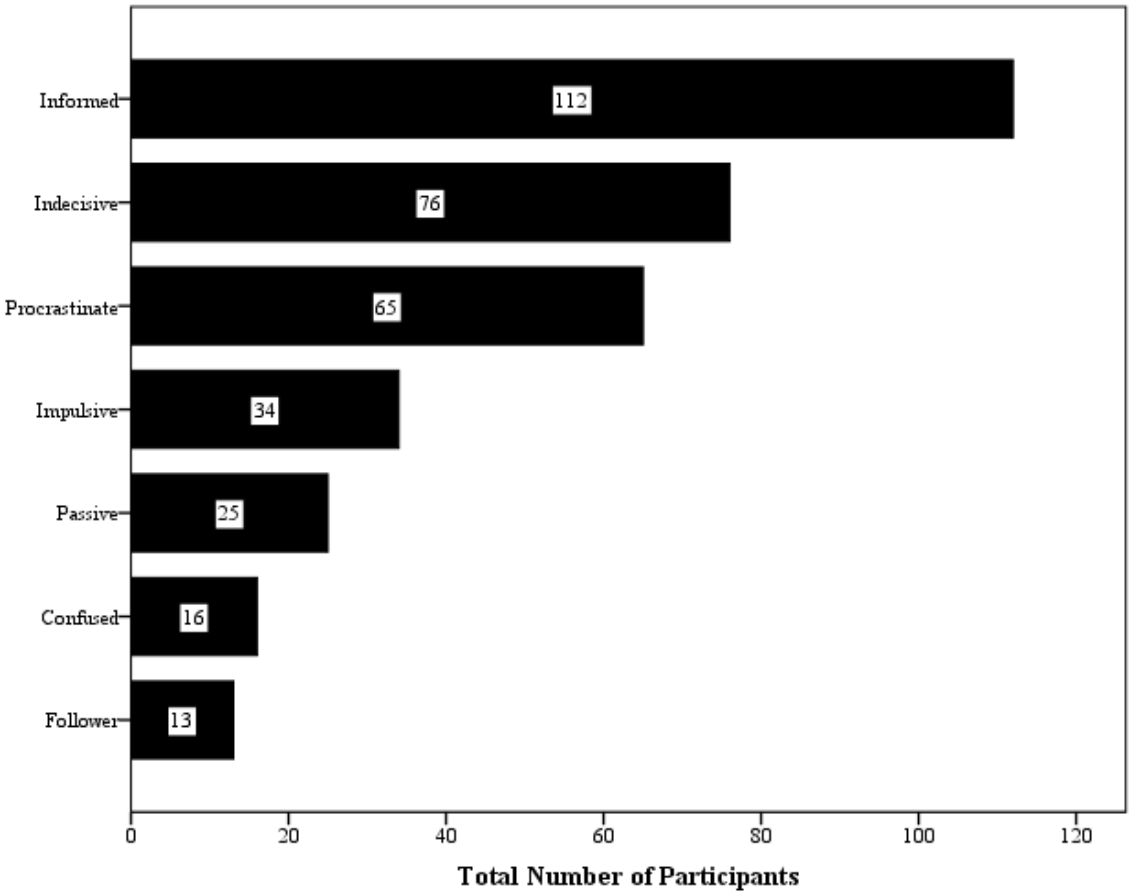

Figure 2. Students' self-described decision-making styles.

Among the students, 18% (*n* = 30) were first-generation college students, whereas 82% (*n* = 135) were not. Participants were asked who helped them make decisions regarding their education and careers. Students provided multiple responses, which included advisers (*n* = 38), parents (*n* = 36), friends (*n* = 24), and others. Responses were analyzed and arranged in a Word Cloud as illustrated in Figure 3.

Figure 3. Who students indicated helped them make education and career decisions.

Research question 2. What majors do students taking Discovering UC decide upon by the end of Discovering UC? For question 2, the researcher used data provided on the same course evaluation used in question 1. The students were asked: What is your intended major? on the top of the evaluation sheet. The question was open ended to allow students to write in their answers. The answers were recorded and coded in an Excel spreadsheet. Research question 2 was also descriptive research question and was, therefore, answered with descriptive statistics. Specifically, a frequency distribution was generated. The most frequent response was coded as unanswered (19.8%, *n* = 32), followed by Communication (8.6%, *n* = 14), Marketing (6.2%, *n* = 10), Business (5.6%, *n* = 9), and Psychology (3.7%, *n* = 6), which represented 43.8% of the sample. Responses were organized in a Word Cloud to show the relative importance of the responses as presented in Figure 4.

Figure 4. Students' intended college majors.

Research question 3 and hypothesis 3. Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major? To answer question 3, the researcher gathered data on the enrollment status of the 5,681 first-year students from the fall 2017 semester to the fall 2018 semester from the university's CaRT system. The data selected to be displayed on the CaRT report included each student's UC ID number, his or her academic plan, his or her GPA at the end of the spring 2018 semester, and enrollment status in the fall 2018 semester. The raw data on the students were separated into two groups, depending upon their academic plan as being in the exploratory studies major or not. Based upon certain assumptions about the data, it was initially proposed that Hypothesis 3 be tested with a two-proportions *z*-test. However, because of the nature of the data, it was subsequently determined that the chi-square test of independence was more appropriate. Among students in exploratory studies, 84.3% (n = 685) of them were retained compared to 85.0% (n = 4,136) of students in nonexploratory studies who were retained.

Conversely, 15.7% (*n* = 128) of students in exploratory studies were not retained compared to 15.0% (*n* = 732) of students in nonexploratory studies who were not retained. This was not statistically significant, X^2 (1, *N* = 5681) = 0.27, *p* = .603. Therefore, the null hypothesis was not rejected. A contingency table is presented in Table 3.

Table 3

Program by Enrollment Status

			Enrollment Status		
			Enrolled	Not Enrolled	Total
Program	Exploratory	Count	685	128	813
		Expected Count	689.9	123.1	813.0
		% within Program	84.3%	15.7%	100.0%
		% within Enrollment Status	14.2%	14.9%	14.3%
		% of Total	12.1%	2.3%	14.3%
	Nonexploratory	Count	4136	732	4,868
		Expected Count	4,131.1	736.9	4,868.0
		% within Program	85.0%	15.0%	100.0%
		% within Enrollment Status	85.8%	85.1%	85.7%
		% of Total	72.8%	12.9%	85.7%
Total		Count	4821	860	5,681
		Expected Count	4,821.0	860.0	5,681.0
		% within Program	84.9%	15.1%	100.0%
		% within Enrollment Status	100.0%	100.0%	100.0%
		% of Total	84.9%	15.1%	100.0%

Research question 4 and hypothesis 4. Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major? Hypothesis 4 was tested with an independent samples *t*-test. The independent variable was exploratory major status (exploratory studies major versus nonexploratory studies major). The dependent variable was student GPA at the end of the first year. GPA ranged from 0 to 4.00 (M = 2.96, SD = 0.87). Prior to the analysis, the data were tested for normality with skewness and kurtosis statistics and also with the Shapiro-Wilk Test of Normality along with histograms. In SPSS, distributions are normal if the absolute values of their skewness and kurtosis statistics are less than two times their standard errors (George & Mallery, 2010). The distribution was not normal based on these guidelines. Skewness and kurtosis coefficients are presented in Table 4.

Table 4

Skewness and Kurtosis Coefficients

Variable	Skewness		Kurtosis	
	Statistic	Std. Error	Statistic	Std. Error
Spring 2018 Semester GPA	-1.18	.032	1.11	.065

Because of the large sample size (N = 5,681), SPSS would not compute the Shapiro-Wilk Test of Normality for the data. However, it did compute the Kolmogorov-Smirnov Test of Normality, which was statistically significant, $p < .001$. Both the skewness and kurtosis statistics and the Kolmogorov-Smirnov Test of Normality indicate the distribution was not normal. The skewness was 36.88 times the standard error and the kurtosis was 17.08 times the standard error. The distribution had a significant negative skew. This is illustrated in Figure 5.

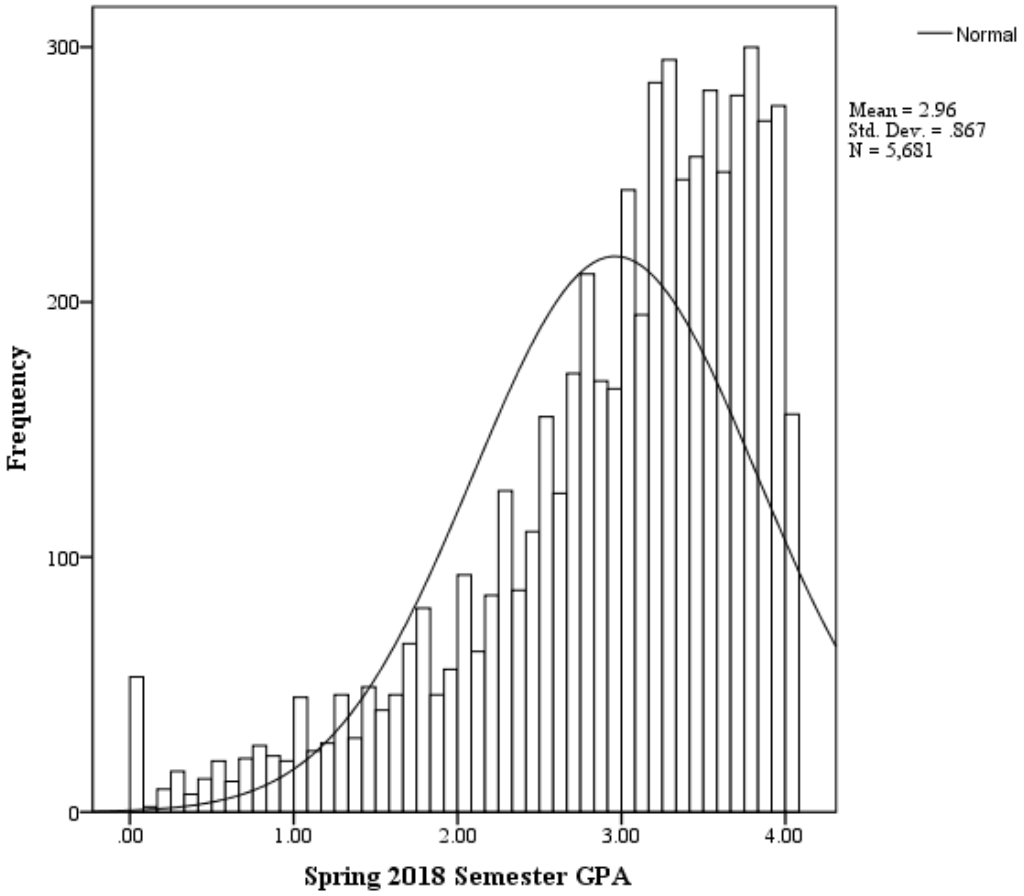

Figure 5. Histogram of Spring 2018 GPA.

Next, the distribution was examined for statistical outliers with stem and leaf plots and box and whisker plots. Statistical outliers are identified when they fall beyond the whiskers in a box and whisker plot. They are determined mathematically when they fall above or below 1.5 times the interquartile range. The interquartile range is the difference between the range of the third quarter and the range of the first quarter. For the spring 2018 semester GPA, the median was 3.18. The range was 4.00. The interquartile range = 1.08. There were 207 statistical outliers in the distribution (≤ 0.9). The box and whisker plot is presented in Figure 6.

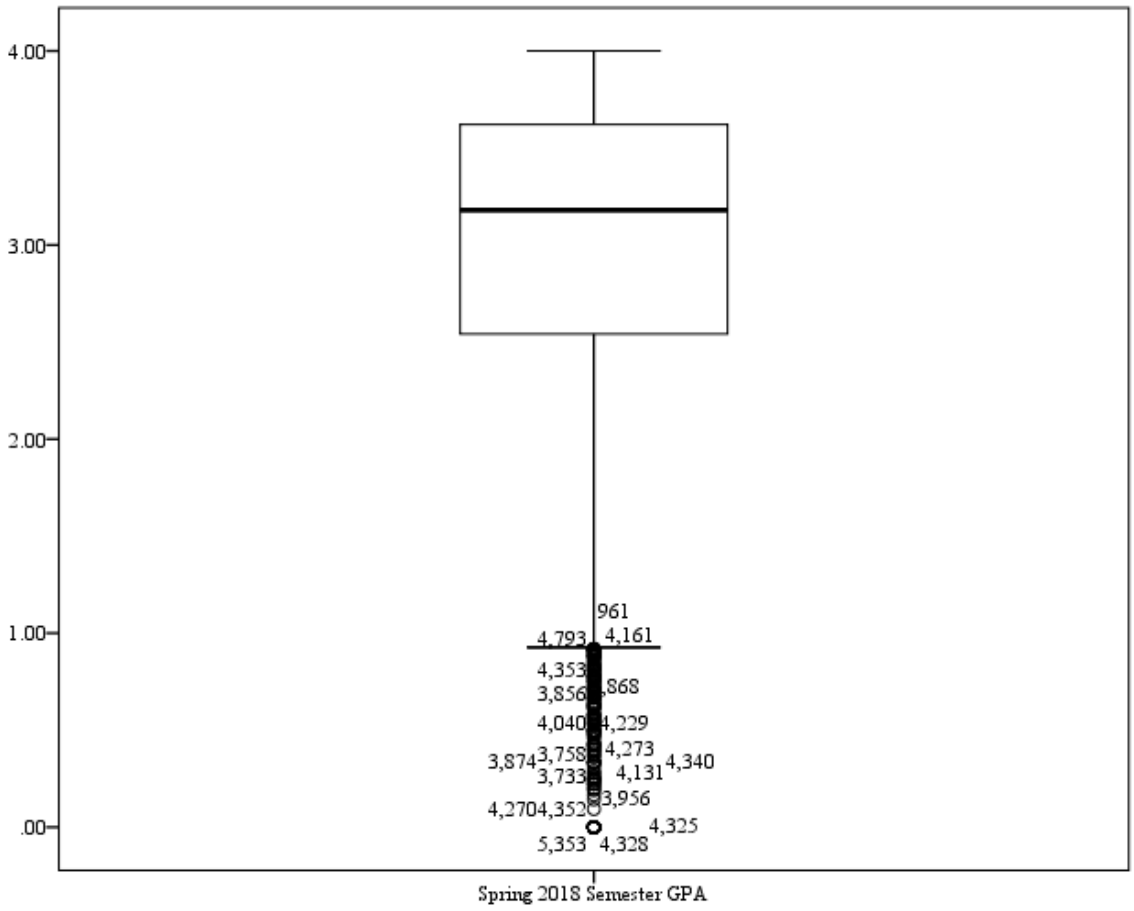

Figure 6. Box and whisker plot for Spring 2018 semester GPA.

Although the distribution was not normal and there were statistical outliers, the independent samples *t*-test proceeded as planned as a result of the large sample size (Ghasemi & Zahediasl, 2012). Levene's Test for Equality of Variances indicated that the assumption had been violated, $p < .001$. There was a significant difference between the GPAs at the end of the first year of students in the exploratory studies major ($M = 2.90$, $SD = 0.80$) and students not in the exploratory studies major ($M = 2.97$, $SD = 0.88$), t (1163.15) = -2.35, $p = .019$, two-tails, equal variances not assumed. Therefore, the null hypothesis was rejected. The GPAs were significantly higher (.07 points higher) for students with nonexploratory majors than for students with exploratory majors. Results are summarized in Table 5.

Table 5

Independent Samples t-Test Results for Hypothesis 4

Program	*n*	*M*	*SD*	*t*	*df*	*p*
Exploratory	813	2.90	0.80			
Nonexploratory	4,868	2.97	0.88	-2.35	1,163.15	.019

Research question 5 and hypothesis 5. Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided? The researcher gathered data on the enrollment status of the 813 first-year exploratory studies students from the fall 2017 semester to the fall 2018 semester from the university's CaRT system. The students were separated into two groups, depending upon their academic subplan as being undecided or decided. It was originally proposed that Hypothesis 5 would be tested with a two-proportions *z*-test. However, because of the nature of the data, a chi-square test of independence was utilized instead. Among students who were retained or enrolled, 15.8% (n = 108) of them were undecided compared to 14.1% (n = 18) of students who were not retained who were undecided. Conversely, among students who were decided, 84.2% (n = 577) of them were retained compared to 85.9% (n = 110) of students who were decided and not retained. This was not statistically significant, X^2 (1, n = 813) = 0.24, p = .63. Therefore, the null hypothesis was not rejected. A contingency table is presented in Table 6.

Table 6

Enrollment Status by Subplan

			Decided or Undecided		
			Undecided	Decided	Total
Enrollment Status	Enrolled	Count	108	577	685
		Expected Count	106.2	578.8	685.0
		% within Enrollment Status	15.8%	84.2%	100.0%
		% within Decided or Undecided	85.7%	84.0%	84.3%
		% of Total	13.3%	71.0%	84.3%
	Not Enrolled	Count	18	110	128
		Expected Count	19.8	108.2	128.0
		% within Enrollment Status	14.1%	85.9%	100.0%
		% within Decided or Undecided	14.3%	16.0%	15.7%
		% of Total	2.2%	13.5%	15.7%
Total		Count	126	687	813
		Expected Count	126.0	687.0	813.0
		% within Enrollment Status	15.5%	84.5%	100.0%
		% within Decided or Undecided	100.0%	100.0%	100.0%
		% of Total	15.5%	84.5%	100.0%

Research question 6 and hypothesis 6. Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided? An independent samples *t*-test was utilized for Hypothesis 6. The independent variable was subplan (decided versus undecided). The dependent variable was student GPA at the end of the first year. Levene's Test for Equality of Variances indicated that the assumption had not been violated, $p = .058$. There was no significant difference between the GPAs at the end of the first year of students who had undecided subplans ($M = 2.95$, $SD = 0.88$) and students with decided subplans ($M = 2.89$, $SD = 0.78$), $t\ (811) = 0.81$, $p = .421$, two-tails, equal variances assumed. Therefore, the null hypothesis was not rejected. *T*-test results are summarized in Table 7.

Table 7

Independent Samples t-Test Results for Hypothesis 6

Subplan	*n*	*M*	*SD*	*t*	*df*	*p*
Undecided	126	2.95	0.88			
Decided	687	2.89	0.78	0.81	811	.421

Research question 7. How many students who entered the university as an exploratory study major successfully transitioned into their new major in between their first and second year? There were 813 first-year exploratory studies students from the fall 2017 semester minus those not enrolled as an active student in the fall 2018 semester ($n = 128$), which leaves a difference of 685 active students. Among this number, 386 (56.4%) successfully transitioned to a new major, whereas 43.6% ($n = 299$) did not successfully transition to a new major but were still enrolled. A chi-square goodness of fit test revealed that this difference was statistically significant, $X^2\ (1, n = 685) = 11.05$, $p = .001$. Results are summarized in Table 8.

Table 8

Summary of Results

Research Question	Outcome
R_1: What are student perspectives regarding their achievement of the student learning outcomes in Discovering UC?	Students had somewhat positive to strongly positive attitudes toward their achievement.
R_2: What majors do students taking Discovering UC decide upon by the end of Discovering UC?	Most frequent majors were Communication, Marketing, Business, and Psychology.
R_3: Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?	No significant difference
R_4: Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?	GPAs were significantly higher for students with nonexploratory majors.
R_5: Is there a difference between the first year to second year retention rates of students considered undecided and those who were decided?	No significant difference
R_6: Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided?	No significant difference

(continued)

Research Question	Outcome
R_7: How many students who entered the university as an exploratory study major successfully transitioned into their new major in between their first and second year	56.4%, *n* = 386

The summary of hypothesis results is displayed in Table 9.

Table 9

Summary of Hypothesis Results

Research Question	Null Hypothesis	Alternative Hypothesis
R_3: Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?	There are no significant differences between the retention rates from first to second year of students in the exploratory studies major and those not in the exploratory studies major.	There is a significant difference between the retention rates from first to second year of students in the exploratory studies major and those not in the exploratory studies major.
	Accepted	Rejected

(continued)

Research Question	Null Hypothesis	Alternative Hypothesis
R_4: Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?	There are no significant differences between the GPAs at the end of their first year of students in the exploratory studies major and those not in the exploratory studies major.	There is a significant difference between the GPAs at the end of their first year of students in the exploratory studies major and those not in the exploratory studies major
	Rejected	Accepted
R_5: Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided?	There are no significant differences between the retention rates from first to second year of students considered undecided and decided.	There is a difference between the retention rates from first to second year of students considered undecided and decided.
	Accepted	Rejected
R_6: Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided?	There are no significant differences between the GPAs at the end of their first year of students considered undecided and decided.	There is a difference between the GPAs at the end of their first year of students considered undecided and decided.
	Accepted	Rejected

Summary of Results

Seven research questions and four related hypotheses were originated for investigation. It was determined that students had somewhat positive to strongly positive attitudes toward their achievement of the student learning outcomes in Discovering UC. The survey items that measured student attitudes toward their achievement was determined to have good reliability. Students rated their current knowledge of necessary aspects and actions required to earn a degree and graduate from college as high on the average. Participants were asked who helped them make decisions regarding their education and careers. The most frequent responses included advisers, parents, friends, and others. The majors students taking Discovering UC decide upon by the end of Discovering UC included Communication, Marketing, Business, and Psychology, which were among the most frequent majors.

There was no significant difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major. However, the GPAs were significantly higher for students with nonexploratory majors than for students with exploratory majors. There was no significant difference between the first-year to second-year retention rates of students considered undecided and those who were decided. There was no significant difference between the GPAs at the end of the first year of students considered undecided and those who were decided. Most students (84.5%, $n = 577$) who entered the university as an exploratory study major successfully transitioned into their new major in between their first and second year. Implications and recommendations are discussed in Chapter 5.

Chapter 5

Conclusions and Recommendations

The purpose of this study was to evaluate CES at UC. The researcher was primarily interested in student perceptions in the class, Discovering UC, and what majors students are deciding at the end of taking this class. To assess effectiveness, the researcher was also interested in comparing the retention rates and GPAs of first-year exploratory students compared to the rest of the first-year population and comparing the same information for the two subsets of students within the exploratory studies majors: undecided students and decided students.

Chapter 5 is organized into four sections: Conclusions, Implications, Recommendations, and Summary. The purpose of this chapter is to present an overall analysis and interpretation of the findings in the study and to recommend additional areas for further research.

Conclusions and Implications for Practice

The findings of this research suggest that CES at UC has a positive impact on first-year student success, specifically regarding major selection, decision making, retention, and GPA. After assessing the literature and findings, the research has drawn some conclusions in areas where a statistical difference exists and where no statistical difference was found, and has some implications for practice.

Conclusions to Question 1. What are student perspectives regarding their achievement of the student learning outcomes in Discovering UC?

For this question, the students in Discovering UC for the fall 2017 semester were required to fill out an evaluation specific to the learning outcomes associated with the course. The responses to the survey items indicated that overall, students strongly agreed or somewhat agreed with the positive statements, which reflected positive attitudes toward achievement. Thus,

students felt the strongest in favor of the statement: I am empowered by my choices and understand how to learn from those choices, actions, and outcomes. Students had the least positive responses for the statement: I am satisfied with my ability to make significant decisions, but still indicated that they were in somewhat agreement.

Students were also asked to rate their current knowledge of necessary aspects and actions required to earn a degree and graduate from college. Students rated their current knowledge high on the average. Participants were also asked to describe their decision-making styles. Most participants described their decision-making styles as informed, indecisive, and procrastinate respectively. The least endorsed options include follower, confused, passive, and impulsive.

Participants were asked who helped them make decisions regarding their education and careers. Students provided multiple responses, which included advisors, parents, friends, and others.

These findings are consistent with the literature that suggests that career courses positively affect the desired career development objectives (Austin, 2011; Folsom & Reardon, 2003; Folsom, Reardon, et al., 2005; Folsom, Peterson, et al., 2005; Osborn et al., 2007; Peng, 2001; Reese & Miller, 2006; Ware, 1981; Workman, 2015). These findings are also consistent with the literature that suggests that students taking a career development course reflect positive gains in vocational identity, career decision making, and other career outputs (Folsom, Reardon, et al., 2005). Even the statement students rated lowest in the course evaluation still reflected a positive outcome of somewhat agreement.

These findings are in line with the researcher's initial expectations. Even though most participants described their decision-making styles as indecisive, and procrastinate they still described them as informed. The researcher believes that being an informed decision maker does

not necessarily impact indecisiveness or procrastination in the making of a decision. In fact, having more information can impact the indecisiveness of decision making.

The researcher concludes that Discovering UC is a viable curricular support for openly exploring students. The instructors effectively guide students through the major exploration and the decision-making process, which effectively culminate in the students' development of an academic plan. The curriculum has proved effective at achieving student learning outcomes.

Conclusions to Question 2. What majors do students taking Discovering UC decide upon by the end of Discovering UC?

For this question, the researcher used data provided on the same course evaluation used in the first question. The students were asked: What is your intended major? on the top of the evaluation sheet. The most frequent responses were Communication, Marketing, Business, and Psychology, which represented 43.8% of the sample. Communication and Psychology are majors housed in the College of Arts and Sciences. Marketing is a major housed in Lindner College of Business. Business was indicated as intended major, without a student indicating what specific business major they were intending to pursue. Looking further into the data, a majority of students indicated they were going to pursue a major outside of the College of Arts and Sciences, which includes the above-mentioned Marketing and Business majors. While these majors are housed in two separate colleges, the fact that they are considered career-flexible majors is important since this indicates that students are more comfortable with career flexibility as a result of taking Discovering UC.

These findings are consistent with the research that indicates a greater focus on majors being more focused on specific disciplines throughout the course of the 20th century (Cate & Miller, 2015; Kuhn, 2008). Students, even those who are undecided, attend school not just to

learn, but to improve their chances at entering careers that provide a financial return on investment and future stability. This correlates with more students selecting career-specific majors outside of the College of Arts and Sciences than the career-flexible majors within the college.

These findings are in line with the researcher's initial expectations. The researcher believes that the increased focus on college and career readiness in today's PK-12 educational system limits student perceptions of career-flexible majors and increases an awareness of the return on investment of students in college who are seeking a tangible career outcome that provides a financially stable future. The researcher believes that students interested in more career-flexible majors may be hesitant to start off in that major because of a lack of knowledge regarding potential future options related to a specific career. The communication and psychology majors are housed in the College of Arts and Sciences and are considered career flexible in nature. Through taking Discovering UC, students learn more about future options regarding the more career-flexible majors housed in the College of Arts and Sciences and are more comfortable pursuing those majors upon discovery of this information. Majors in Lindner College of Business, which includes marketing, are also considered career flexible in nature because one does not necessarily need a business degree to work in the business world; however, these majors require students to participate in internships or co-op placements providing industry-related experience. The researcher's initial beliefs that students would designate their intended major as one that is career flexible is supported by this data. However, the researcher also initially believed that a majority of students in Discovering UC would decide to pursue a major in the College of Arts and Sciences.

The researcher concludes that students are more interested in majors that are perceived as having a better return on investment, based upon their indication of pursuit of a major outside of the College of Arts and Sciences. While majors in Lindner College of Business can be considered career flexible in nature, students tend to believe that they directly lead to a financially stable career in the world of business over majors in the College of Arts and Sciences. The College of Arts and Sciences is not doing a good enough job at promoting the success of its graduates. This could be because there is not one central person collecting this information and it falls on the responsibilities of the individual departments regarding their own student success. Even after being guided through the major exploration process and learning about the potential future outcomes associated with majors in the College of Arts and Sciences, most students are still drawn to those majors perceived as more easily leading to a financially stable career.

Conclusions to Question 3. Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?

For this question, the researcher gathered data on the enrollment status of the first-year students from the fall 2017 semester to the fall 2018 semester from the university's system. The chi-square test of independence was conducted. Among students in exploratory studies, 84.3% of them were retained compared to 85.0% of students in nonexploratory studies who were retained. Conversely, 15.7% of students in exploratory studies were not retained compared to 15.0% of students in nonexploratory studies who were not retained.

These findings differed from the literature regarding exploratory students running a higher risk of dropping out (Austin, 2011; Folsom & Reardon, 2003; Peng, 2001; Reese & Miller, 2006; Ware, 1981). Not all exploratory studies students take Discovering UC or a career

development course in their first year, so it is not fully possible to determine if the retention rates of students in the exploratory studies major were impacted by the taking of such a course and in line with the literature that supports this claim (Folsom, Reardon, et al., 2005).

These findings are in line with the researcher's initial beliefs. Based on the specialized academic advising, individualized support, and use of learning communities with first-year students, a statistically significant difference in retention rates was not expected to be found.

The researcher concludes that entering the university though the exploratory studies major does not disadvantage students within their first year of study regarding their likelihood of persisting into their second year of study. The advisors in CES effectively provide the individualized advising that exploratory students need, which has positively impacted student retention to be on par with their nonexploratory counterparts.

Conclusions to Question 4. Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?

For this question, the researcher gathered data on the GPA status of the first-year students from the fall 2017 semester to the fall 2018 semester from the university's system. An independent samples *t*-test was used to test statistical significance. For the spring 2018 semester GPA, the median was 3.18 on a 4.00 GPA range. There was a significant difference between the GPAs at the end of the first year of students in the exploratory studies major (M = 2.90, SD = 0.80) and students not in the exploratory studies major (M = 2.97, SD = 0.88). The GPAs were significantly higher (.07 points higher) for students with nonexploratory majors than for students with exploratory majors.

These findings are consistent with the literature that states that undecided students run a higher risk of having lower GPAs (Austin, 2011; Folsom & Reardon, 2003; Peng, 2001; Reese & Miller, 2006; Ware, 1981). These findings are in line with the researcher's initial beliefs that GPAs would be lower for students in the exploratory studies major. The research indicates that lower GPAs are the result of undecided students taking classes that have no real interest or value (Austin, 2011; Folsom & Reardon, 2003; Peng, 2001; Reese & Miller, 2006; Ware, 1981). The researcher believes these differences to be the result of the portion of the students in exploratory studies major that was denied admission into the first-choice major but still take classes that directly apply to that major.

The researcher concludes that students directly admitted to the major are considered more academically prepared or qualified for those majors and should be expected to perform better than those who were denied entrance into the major, but who still get to take the same set of classes. The advisors in CES advise students to take courses that apply directly to their first-choice major; however, this approach may not be the best in all student situations. However, dissuading students from pursuing their first-choice major runs counter to the mission of CES advisors unless there are obvious indicators that warrant a conversation during the orientation process.

Conclusions to Question 5. Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided?

For this question, the researcher gathered data on the enrollment status of the first-year exploratory studies students from the fall 2017 semester to the fall 2018 semester from the university's system. The students were separated into two groups, depending upon their academic subplan as being undecided or decided. A chi-square test of independence was utilized.

Among students who were retained or enrolled, 15.8% of them were undecided compared to 14.1% of students who were not retained who were undecided. Conversely, among students who were decided, 84.2% of them were retained compared to 85.9% of students who were decided and not retained.

These findings differ from the research that indicates that undecided students have lower retention rates (Austin, 2011; Folsom & Reardon, 2003; Peng, 2001; Reese & Miller, 2006; Ware, 1981). These findings are consistent with the researcher's beliefs that the individualized and specialized advising that CES advisors provide for undecided students has a positive impact on the retention of this subset of students in the exploratory studies major. The researcher would like to highlight that the undecided subset retention rate is reported at 85.7% and decided subset is reported at 84%. While not statistically significant, these percentages are how retention rates are reported within the college and institution. These percentages are in line with the researcher's initial beliefs that the undecided subset of students would be retained at a higher percentage.

The researcher concludes that student who enter the exploratory studies major by choice are more likely to persist at the university over a student who is referred to the major. The advisors in CES specialize in providing individualized advising to students who are open to majors at the university and who have not made a decision on what to pursue by the time they start school. Students who enter the university undecided have more flexibility with the courses that they take and are more likely to take classes of interest and become more intrinsically motivated to continue their education. Students who are referred to the exploratory studies major are considered decided and do not have as much flexibility with the classes that they take and may not necessarily want to take the courses that are required by their intended major. These students are also more likely to decide to leave the university if they feel they have a better

chance at pursuing their intended major elsewhere. This is most likely the case with students who are wanting to pursue the extremely competitive majors within the university who are referred to the exploratory studies major.

Conclusions to Question 6. Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided?

For this question, the researcher gathered data on the GPA status of the first-year exploratory studies students from the fall 2017 semester to the fall 2018 semester from the university's system. There was no significant difference between the GPAs at the end of the first year of students who had undecided subplans (M = 2.95, SD = 0.88) and students with decided subplans (M = 2.89, SD = 0.78).

These findings differ from the research that indicates that undecided students have lower GPAs as a result of classes that have no real interest or value (Austin, 2011; Folsom & Reardon, 2003; Peng, 2001; Reese & Miller, 2006; Ware, 1981). These findings are in line with the researcher's initial beliefs based upon the positive impact that individualized and specialized academic advising students receive as undecided students in the exploratory studies major. The researcher would like to highlight the mean GPA of the undecided subset is 2.95 and mean GPA of the decided subset is 2.89. While not statistically significant, the higher mean GPA of the undecided subset is in line with the researcher's initial beliefs. This is a result of students being advised to take classes of interest to help in the decision-making process instead of courses perceived as having little to no value. The decided subset of students has little choice when taking classes the first year.

The researcher concludes that students who are referred to the exploratory studies major are not as academically prepared to take the same set of classes, which negatively impacts their

GPA at the end of their first year. The requirement of health care–related, engineering-related, and business-related majors to take specific math and science classes negatively impacts student GPAs. On the other hand, the researcher concludes that undecided students having more flexibility and the likelihood of taking classes of interest over required classes positively impacts student GPA.

Conclusions to Question 7. How many students who entered the university as an exploratory study major successfully transitioned into their new major in between their first and second year?

For this question, the researcher gathered data on the enrollment status and program of enrollment of the first-year exploratory studies students from the fall 2017 semester who were still enrolled in the fall 2018 semester from the university's system. Among this number, 56.4% successfully transitioned to a new major.

There was no research presented in the literature review regarding when students were able to transition successfully from being undecided into their best-fit major. The findings differ from the researcher's initial beliefs that a vast majority of students successfully transitioned into their best-fit major after their first year as an exploratory studies major. Students may know what they want their major to be by the end of their first year, but may not meet the requirements yet and need to wait for the next application cycle. This does directly impact a student's ability to transition at the year mark.

The researcher concludes that the different college's transition requirements and processes may hinder students from successfully transitioning into the major after the first year. Reasons for not being able to transition can include not meeting the college's or majors transition requirements or lack of space available in the major to allow for a successful transition. The first

is an issue regarding academic preparedness of students and their ability to perform successfully in classes. The second is an issue of limited resources available to specific majors that require a cap on admissions each year through the transition application process.

Implications

The findings of the study indicate that CES at UC directly positively impacts student success as measured by retention and GPA. These findings are important because they address the three main problems originally stated in the first chapter of this study.

Since the beginning of this study, Discovering UC has become a course of interest for the administration in the College of Arts and Sciences. The associate deans have questioned the legitimacy of the course and its instructors. The senior assistant dean within the college has been able to provide student evaluation information regarding how useful the course is in the eyes of the students to college administration. In addition to this, the achievement of the student learning outcomes associated with the course indicate that academic advisors with professional experience as it relates to student development, student success, and academic and career advising are qualified instructors for the course over a traditional academic who has a terminal degree or advanced education in one specific subject or discipline. The researcher indicates the CES advisors are a qualified team of professionals who should continue to teach Discovering UC, evaluate and monitor its effectiveness, and make curricular adjustments as they deem necessary.

Based upon the findings in this study, there is not a statistical difference in the retention rates of exploratory studies students and their counterparts directly admitted into their major at the university. The university should view CES as a successful retention-based initiative since the research would indicate that the exploratory studies students would be retained at a lower

rate. Admission to the university through the exploratory studies major does not indicate that a student runs a higher risk of dropping out. The same can be said for the two subsets of student within the exploratory studies major: decided and undecided students. There is not a statistical difference in the retention rates of the students who enter the exploratory studies major as undecided versus those who are referred to the major from the university's competitive majors.

There is not a statistical enough of a difference (0.7%) between the retention rates of first-year exploratory students versus the rest of the university's students, for the university to be concerned about the retention of exploratory students. Since CES is retaining its at-risk population of students at essentially the same rate as the rest of the university, the focus of concern regarding student retention should be shifted away from CES and its students and redirected toward the other majors at the university. The university and College of Arts and Sciences should be more interested in how CES is able to retain its students at a rate comparable to the rest of the university, despite their at-risk status.

More students selected a major outside of the College of Arts and Sciences when asked what major they intended to pursue. This is an area of concern for the College of Arts and Sciences. The majors housed in the College of Arts and Sciences are more career flexible in nature and students are not able to see a direct pathway from college to career for most of these majors. The college's administration needs to focus on how to attract and recruit more students into their majors. All of the other colleges at the university have majors with various methods of experiential learning required. Experiential learning provides students with industry-related experience to include on their résumés, assists students with expanding their professional network, and provides students with examples to discuss in an interview. Without a required experiential learning component that requires students to do undergraduate research or work in a

position as an intern or co-op student that is related to their major, arts and sciences students are at a disadvantage over their peers when they graduate and are looking to enter into the workforce. Farrell (2007) indicated that a majority of students attend college to start a career in a specific field. The college's administration needs to partner with existing university departments that focus on placing students into internships and co-op placements. Without required experiential learning and a clear pathway from college to career for majors, the College of Arts and Sciences will continue to struggle to increase enrollment in its majors without depending upon CES as its largest major in a performance-based budgeting system where increased enrollment numbers provide financial stability.

Since only 56.4% of students were able to transition successfully into their best-fit major at the end of their first year, the university needs to examine its transition requirements for its more competitive majors and its referral to CES policies. The number of students referred to CES outweighs those who enter the major as their first choice and are considered openly exploring. Students can change majors from exploratory studies to a College of Arts and Sciences major at any time during the year and semester. However, students can only apply to transition into a major in another college from CES once they meet the major's prerequisites and the transition application period opens, which does not occur for every semester. Since each individual college at the university is responsible for dictating its own admission, transfer, and transition requirements, the directive to convent a committee to examine these requirements and timelines needs to come from a centralized provost initiative.

The next section covers the researcher's recommendations based upon the findings of the study.

Recommendations

The findings of this study overwhelmingly support the researcher's initial beliefs that CES is a successful advising program and major within the university. In this section, the researcher presents some general recommendations followed by recommendations for each research question.

Since CES has been determined to be a successful advising program, the first general recommendation is the university should examine ways to increase the funding of CES. While the College of Arts and Sciences benefits financially from the fact that the major is the largest within the university and largest incoming group of students each year, issues arise regarding their funding of CES advising and services since students in the major do not always persist into majors within the college. There is a reluctance to increase funding for a department that does not necessarily benefit the growth of the college long term. With this in mind, multiple avenues to increase funding for CES need to be explored. Increased funding can come from the Provost's Office or each college within the university can contribute to funding CES since they all benefit from increased enrollment when students transition into their majors.

With an increase in funding, the researcher recommends the hiring of more staff as the second general recommendation. An increase in the number of professional advisors in CES will lower the number of students on each individual caseload allowing for advisors to be more proactive and to practice appreciative advising. This will provide for a better-quality advising experience, thus having a positive impact on student retention at the university.

For the third general recommendation, the researcher also recommends the university revisit the placement of CES in the College of Arts and Sciences. There has been a historical struggle with the college's administration to truly understand the purpose of CES and the work it

does. Removing CES from the college and placing it under the administration of the Assistant Vice Provost for Advising and Academic Services would make more sense. This way CES can operate autonomously without pressure to push students into arts and sciences majors or under the influence of a performance-based budgeting system and a true focus on student success can take place.

The researcher finally recommends that the university transition to another university budget model as the fourth general recommendation. Performance based budgeting influences the way each college works to recruit students, the way classes are offered and taught, and the retention of students. A new budget model needs to be implemented that does not place stress on each individual college's administration to have the most students, taking the most classes offered within the college, and pursuing only their degrees. All university faculty and staff will be able to reaffirm their commitment to doing what is in the best interest of the student. Exploratory studies advisors will be able to recommend the best courses for each student based upon the student and not worry about whether the course is offered by another college. Retention efforts can then be focused on students persisting through to graduation from the university, not just persistence through to graduation from a specific major and college within the university. The following recommendations are specific to each of the research questions.

Recommendations to question 1. What are student perspectives regarding their achievement of the student learning outcomes in Discovering UC?

The findings of this research question are consistent with the literature, which suggests that Discovering UC is an effective way for students to become more informed decision makers. The class provides a structured model for major exploration and decision making, culminating in the creation of an education and career plan.

There are other classes at the university targeted toward exploratory studies students, but offered by another division. A comparison of assessment data from both courses would identify which class is a better option for undecided students. The same assessment questions would need to be used for consistency. The findings from such a study would determine whether academic advisors trained in working with undecided students or career coaches who lack intimate knowledge about the specific transition requirements for the university's majors are more qualified to develop curriculum and teach courses for students to explore majors and make decisions.

The current performance-based budgeting model within the university drives the motivation for students to take classes in their home college. Being able to offer more sections of Discovering UC or other similar classes out of the College of Arts and Sciences instead of another division will have financial benefits for the college. This would also ensure that students are being taught by instructors who possess the right knowledge about the university's majors, not just information about what majors lead to what careers. Career coaches would then be able to focus their time on working with students on résumé writing, job searching, and interview skills assisting with their employment upon graduation from the university.

Recommendations to question 2. What majors do students taking Discovering UC decide upon by the end of Discovering UC?

The literature reviewed for this study indicated that students would be more interested in majors leading to specific careers to ensure a return on investment. However, the findings of this question do not align with the researcher's initial belief that a majority of students from Discovering UC pursue a major in the College of Arts and Sciences. Further research can be conducted with students in Discovering UC regarding their knowledge and opinions of the

concept of career-flexible versus career-specific majors. Instead of formalized assessments being given to students, instructors can add more reflection-based assignments into the class that can track the evolution of student opinions of this concept. In addition to students being asked what major they have decided to pursue, they can also be asked what factors they took into consideration when making the decision to see if a solid experiential learning, such as co-op placements, impacted their decision. Knowing this information can assist instructors with future curriculum design geared toward major exploration and the decision-making process. The researcher also recommends future tracking of retention rates and GPAs of students based upon the majors they decide to pursue at the end of this class. This information can help to inform advisors if students persist through until they transition into their major or if they decide to pursue their major elsewhere.

Recommendations to question 3. Is there a difference between the first-year to second-year retention rates of students in the exploratory studies major and students not in the exploratory studies major?

These findings differed with the literature, which suggests that undecided students are a higher risk of not being retained as the same rates as their peers. The researcher suggests that additional research be conducted in order to determine why the students not retained left the university. Such research may be difficult to conduct since students may not respond to phone calls, e-mail, or any correspondence from the university once they have left. However, it would be beneficial to be able to examine the reasons students leave the institution and then compare the information between the exploratory studies students who did not return and the students in all other majors who did not return.

Having the reasons students leave the university is important to CES because it can use the reasons to justify the desire to be more involved in the admission process. Current admission letters do not explain to students what the exploratory studies major is or what a student will have to do in order to transition into his or her first-choice major that he or she was initially denied. If students have this information up front, they can make a better-informed decision about deciding to attend UC. This could cause less students to start their education at the university only to decide later to transition elsewhere where they can more realistically be admitted to their first-choice major.

Recommendations to question 4. Is there a difference between the GPAs at the end of the first year of students in the exploratory studies major and students not in the exploratory studies major?

These findings are consistent with the literature, which states that undecided students run the risk of having lower GPAs. The researcher suggests additional research be conducted that explores the grades that students receive in the different majors, disciplines, and in specific courses. There are multiple courses that are considered gateway courses: those that are designed to weed students out. There are also various courses within the university that have consistently high drop, fail, withdrawal rates. By conducting this research, trends may be identified regarding the classes in which exploratory students struggle versus the classes in which other students struggle. Since the beginning of this study, CES has required students to enroll in the supplemental review session that corresponds with the specific math course in which a student is enrolled. Math courses required by the specific majors are packaged as part of the learning community configuration and are all coenrolled by the same group of students similar to a cohort model. The supplemental review sessions have been packaged as part of the learning community,

so students do not have the option to avoid them. With this in mind, the researcher recommends that learning communities begin to include content review sessions for those with science classes. Research would need to be conducted to measure the effectiveness of the inclusion of supplemental review sessions and content review sessions with the current learning community model used for exploratory students. The research indicates that exploratory students would have lower grades in their classes overall, but it would be interesting to determine if exploratory students are performing worse in specific classes that have more of a negative impact on their GPA.

This information is important to have because advisors can use it to educate their students on the use of various student support services such as tutoring, based on the academic trends in the specific classes. Advisors can also strategically advise their students on what classes to avoid taking in the first year if the specific identified classes are not required to transition into specific majors.

Recommendations to question 5. Is there a difference between the first-year to second-year retention rates of students considered undecided and those who were decided?

The findings in this question differ from the research, which suggests that the undecided population of students would be retained at lower rates than their decided counterparts within the exploratory studies major. The researcher suggests that research be conducted to examine the retention rates within the different subplans that exist with the exploratory studies major. The findings of this research will determine if differences exist regarding retention rates of students between the different subplans.

The researcher also recommends that research be conducted that examines the retention rates of these two subsets from year two to three and again from year three to four. While the

initial retention rates of first to second year may not show a clear difference, retention rates at other benchmarks may show a statistically different retention rate.

Information on the retention rates of students based on subplan can be used to determine if the university needs to institute a secondary set of admissions requirements for students who are referred to exploratory studies from the competitive majors across the university. This information can also be used to open discussions with the various decision makers within the individual colleges about making changes to the transition requirements.

Information rates of the different subsets of students within the exploratory major at different time periods within their degree progress can be used to identify if there needs to be more major specific programming to tie students in earlier. Many colleges and majors within the university limit different resources or organizational involvement to only students in their majors. If students are found to be leaving the university during their second to third or third to fourth year, investigation into a sense of belonging once a student transitions can be conducted. The same type of investigation can be done regarding student perceptions of the quality of advising they are receiving once they transition into their new major.

Recommendations to question 6. Is there a difference between the GPAs at the end of the first year of students considered undecided and those who were decided?

The findings for this question differ from the literature, which suggests that the undecided students would have lower GPAs than their decided counterparts within the exploratory studies major. Similar to the suggested research above regarding GPAs, the researcher suggests a deeper dive into the grades of students between both subsets of students as they relate to the different classes that students take. The researcher suggests that further research be conducted regarding

the GPAs of the students within the different subplans that exist within the exploratory studies major.

This information can be used to determine if the different required sets of classes for the different majors prove more difficult based upon the subplan or major a student is wanting to pursue. The GPAs of the decided subset of students can be used to determine the length of time a student will need to remain in exploratory studies, depending upon his or her intended major's transition requirements.

Recommendations to question 7. How many students who entered the university as an exploratory study major successfully transitioned into their new major in between their first and second year?

The literature reviewed for this study did not examine the transition rates for students into their major from an undecided or undeclared major. However, the findings for this question differ from the researcher's initial beliefs that a vast majority of students successfully transition between their first and second years. The researcher suggests further research be conducted regarding the students who transition at a time later than in between their first and second year. Questions to ask students remaining in the exploratory studies major need to ask if a student is undecided or if he or she is decided and toward which major he or she is working. The different majors across the university have different application cycles and requirements that may require students to remain in the exploratory studies major for an extended time period even though the student knows which direction he or she wants to pursue. The researcher recommends the convening of a committee to evaluate the transition process that exploratory students must follow for each individual college on campus. This committee can analyze the data to identify where students struggle the most with a successful transition. Transition requirements need to be

evaluated and redesigned by this committee and then presented to individual college and university-wide academic affairs leadership.

Further research needs to be conducted regarding the number of times students remaining in exploratory studies longer than a year change their directions. Since 75% of students change their major at least once, it cannot be said that the decided population stays on track when entering the university through the exploratory studies major. Tracking the number of times a decided student within the exploratory studies major changes directions can provide answers regarding why students remain in exploratory studies beyond a year.

Summary

This study evaluated the CES at UC regarding the Discovering UC class and first-year student retention rates and GPA. The information gathered through this research indicates that CES is effective at achieving its desired outcomes with students through Discovering UC and positively impacts student retention. Ultimately, there is no detrimental impact on a student who enters college without a specific major.

During the course of this study, the researcher attended national and regional conferences of the National Association of Academic Advisors. At the conference sessions were held regarding undecided and exploratory students and on the topic of career advising. Some attendees at these sessions were specifically interested in this topic because their institutions did not have an exploratory studies major or a group of advisors that specialized in advising undecided students. One attendee even stated that she was charged with starting this kind of specialized unit at her campus and she had no idea where to begin. This was a surprise to the researcher that there were still colleges and universities that had not prioritized the advising of this at-risk population of students. All institutions of higher education should have a specially

trained group of advisors to work with undecided students. This focus should not be in an effort to increase retention, but simply because it is the right thing to do for these students. So many things go on during the transition from high school to college, receiving academic advising by a professional who is trained on how to explore options and decision making should be provided to all undecided students regardless of their school of choice.

The researcher would mandate that colleges and universities, other than community or career colleges focused on vocational training, prohibit students from directly admitting students into specific majors. Keeping in mind that 75% of students change their major, all first-year students who enter a university or college should start without a major. Curriculum during the first year should be focused on the transition to college, major and career exploration, and general education or breadth of knowledge courses. Application to a specific major takes place at the end of the first year. This would allow students a year to determine if their original intention is their best fit or to find their best fit. In theory, the number of students changing majors after their transition into their best-fit major would be greatly reduced, eliminating concern for adding time to a degree plan, the completion of unnecessary classes, and increased cost of education.

If all students entering college were given a year to determine their best-fit major, then the focus of PK-12 education on career readiness can be eliminated. This would be more in line with Super's (1980) Career Development Lifespan Theory. Forcing students into specific career-focused tracks or to know what they want to do before they are 18 years old is unrealistic and does not align with where they are developmentally regarding career decision making. This would also eliminate unnecessary stress from the students' lives because it has been determined that entering college undecided does not negatively impact their likelihood of continuing their education after their first year of college.

The entire concept of a Career Development Lifespan Theory needs to be redeveloped to include multiple stages of exploration and establishment throughout an individual's life. People are working much longer than in the past and some may not even be able to retire before they die. More people are changing careers either because they are forced to or because they are in the never-ending quest to pursue their passions. Passions and interests also grow and evolve as a person ages. What a student sets out to do with his or her life at 18 years of age when he or she is entering college is not realistically what he or she will be doing the rest of his or her life in today's rapidly shifting economy and workplace.

Originally, students who entered higher education did not have the opportunity to select a major. Degrees were awarded for fulfilling baccalaureate competencies in the historical academic disciplines of the liberal arts. However, the demands of today's workplace have dictated a need for colleges and universities to offer career-specific majors such as education, nursing, and engineering. Even though this is the case, students should not be forced to make decisions before they are developmentally ready to during the middle and high school years or even the first year of college. However, there is not much wiggle room beyond that first year if a student wants to pursue a more career-specific major. However, these majors should only be pursued after a student has spent a year of study that provides specialized academic advising and curricular support for major exploration and career decision making. In doing this, all students have the ability to receive the same support when exploring options and making decisions, leading to less changing of majors and more positive career development outcomes.

Currently, the world is operating in response to the COVID-19 pandemic. This has forced college and universities to pivot to remote instruction and student support services. Many institutions are currently questioning whether they will resume in-person instruction in the fall

2020 semester. Students who did not sign up for an online learning experience are being forced to complete their work online. Instructors who have no experience teaching online have been forced to transition their classes to be taught remotely. Advising and student services offices are also working to continue to support students in any way they can.

The effects of this pandemic on the world of higher education will be felt for years. However, more immediately, what will happen to the exploratory studies students as they are striving to meet the prerequisites needed to transition successfully into their desired major? The university needs to spend some time examining how the current policies can negatively impact students who, by no choice of their own, have been forced to complete difficult and required courses online. Their GPAs are likely to suffer and they may not meet the requirements to transition. The colleges need to work with exploratory advisors to reassess the current transition guidelines and exercise leniency for students who otherwise did well and were on track to apply for transition. Not only is this a student-centered approach to this issue, but it is the human thing to do.

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APPENDIX A

IRB Non-Human Subjects Designation

Institutional Review Board - Federalwide Assurance #00003152

University of Cincinnati

Date: 3/16/2018

From: UC IRB

To: Principal Investigator: Robert Gray

Re: Study ID: 2018-1372
Study Title: An Evaluation of the Center for Exploratory Studies at the University of Cincinnati

The Institutional Review Board (IRB) acknowledges receipt of the above referenced proposal. It was determined that this proposal does not meet the regulatory criteria for research involving human subjects (see below): Not generalizable – QA/Qi of UC's Center for Exploratory Studies. Ongoing IRB oversight is not required.

Please note the following requirements:

Statement regarding International conference on Harmonization and Good clinical Practices. The Institutional Review Board is duly constituted (fulfilling FDA requirements for diversity), has written procedures for initial and continuing review of clinical trials: prepares written minutes of convened meetings and retains records pertaining to the review and approval process; all in compliance with requirements defined in 21 CFR Parts 50, 56 and 312 Code of Federal Regulations. This institution is in compliance with the ICH GCP as adopted by FDA/DHHS.

Thank you for your cooperation during the review process.

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45 CRF § 46.102(d): Research means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.

45 CRF § 46.102(f): Human subject means a living individual about whom an investigator (whether professional or student) conducting research obtains:

1. data through intervention or interaction with the individual, or
2. identifiable private information.

Intervention includes both physical procedures by which data are gathered (for example, venipuncture) and manipulations of the subject or the subject's environment that are performed for research purposes.

Interaction includes communication or interpersonal contact between investigator and subject.

Private information includes information about behavior that occurs in a context in which an individual can reasonably expect that no observation or recording is taking place, and information which has been provided for specific purposes by an individual and which the individual can reasonably expect will not be made public (for example, a medical record). Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.

FDA regulations apply whenever an individual is or becomes a participant in research, either as a recipient of a FDA-regulated product or as a control, and as directed by a research protocol and not by medical practice. FDA-regulated activities involve individuals, specimens, or data, as patients or healthy controls, in any of the following:

a. any use of a drug or biologic, other than the use of an approved drug or biologic in the course of medical practice
b. any use of a device (medical or other devices, approved or investigational) to test the safety or effectiveness of the device
c. any use of dietary supplements to cure, treat, or prevent a disease or bear a nutrient content claim or other health claim
d. the collection of data or other results from individuals that will be submitted to, or held for inspection by, the FDA as part of an application for a research or marketing permit (including foods, infant formulas, food and color additives, drugs for human use, medical devices for human use, biological products for human use, and electronic products.)
e. activities where specimens (of any type) from individuals, regardless of whether specimens are identifiable, are used to test the safety or effectiveness of any device (medical or other devices, approved or investigational) and the information is being submitted to, or held for inspection by, the FDA.

APPENDIX B

Permission to Conduct Study Letter

University of CINCINNATI

College of Arts & Sciences
University of Cincinnati
PO Box 210095
Cincinnati, OH 45221-0095

513-556-5860

October 1, 2018

Dear Institutional Review Board at William Howard Taft University:

This purpose of this letter is to inform you that I give Robert Gray permission to conduct the research titled Evaluation of the Center for Exploratory Studies at the University of Cincinnati at the University of Cincinnati. This also serves as assurance that this department complies the requirements of the Family Education Rights and Privacy Act (FERPA) and will ensure that these requirements are followed in the conducting of this research.

Sincerely,

Allison Logan, Ph.D.
Assistant Dean, Advising
College of Arts & Sciences
University of Cincinnati

APPENDIX C

Discovering UC End of Term Student Evaluation

DISCOVERING UC MLTI-1075 POST-SURVEY-Fall 2017
Section_____

What is your major now? _____
What is your intended major? (leave blank if not sure) _____

Survey Questions
Please answer the following questions to the best of your ability. Circle your answer, indicating if you agree or disagree with each statement and to what degree. 4 indicates you are in strong agreement with the statement while 1 indicates strong disagreement.

1. I have the ability to make effective decisions concerning my degree.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

2. I know what I need to do to successfully achieve my academic goals.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

3. I am satisfied with my ability to make significant decisions.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

4. I am empowered by my choices and understand how to learn from those choices, actions, and outcomes.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

5. I know how to self-advocate (help myself) by locating and utilizing available resources.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

6. I have the skills and commitment needed to discover opportunities for lifelong learning and personal growth.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

7. I have effective communication skills and am prepared for future life and employment experiences.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

8. I understand proper and acceptable etiquette when using email or other forms of professional communication.
   1 Strongly Disagree | 2 Somewhat Disagree | 3 Somewhat Agree | 4 Strongly Agree

9. I would rate my current knowledge of necessary aspects and actions required to earn a degree and graduate from college as:
   1 Very Low | 2 Low | 3 Average | 4 High | 5 Very High

10. I would describe my decision making style as: (Mark all that apply)
    ___Confused ___Follower ___ Indecisive ___ Impulsive ____Informed ___Passive ___Procrastinate

11. Who helps you make decisions regarding your education and career?

    _____

12. Are you a first generation student (circle)? Yes No