University of Kentucky

UKnowledge

Theses and Dissertations--Educational Leadership Studies

Educational Leadership Studies

2024

Answering the Call of Late Registration

Brooke Justice
University of Kentucky, brookejustice@uky.edu
Digital Object Identifier: https://doi.org/10.13023/etd.2024.201

Right click to open a feedback form in a new tab to let us know how this document benefits you.

Recommended Citation

Justice, Brooke, "Answering the Call of Late Registration" (2024). *Theses and Dissertations--Educational Leadership Studies*. 53.
https://uknowledge.uky.edu/edl_etds/53

This Doctoral Dissertation is brought to you for free and open access by the Educational Leadership Studies at UKnowledge. It has been accepted for inclusion in Theses and Dissertations--Educational Leadership Studies by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

STUDENT AGREEMENT:

I represent that my thesis or dissertation and abstract are my original work. Proper attribution has been given to all outside sources. I understand that I am solely responsible for obtaining any needed copyright permissions. I have obtained needed written permission statement(s) from the owner(s) of each third-party copyrighted matter to be included in my work, allowing electronic distribution (if such use is not permitted by the fair use doctrine) which will be submitted to UKnowledge as Additional File.

I hereby grant to The University of Kentucky and its agents the irrevocable, non-exclusive, and royalty-free license to archive and make accessible my work in whole or in part in all forms of media, now or hereafter known. I agree that the document mentioned above may be made available immediately for worldwide access unless an embargo applies.

I retain all other ownership rights to the copyright of my work. I also retain the right to use in future works (such as articles or books) all or part of my work. I understand that I am free to register the copyright to my work.

REVIEW, APPROVAL AND ACCEPTANCE

The document mentioned above has been reviewed and accepted by the student's advisor, on behalf of the advisory committee, and by the Director of Graduate Studies (DGS), on behalf of the program; we verify that this is the final, approved version of the student's thesis including all changes required by the advisory committee. The undersigned agree to abide by the statements above.

Brooke Justice, Student

Dr. John Nash, Major Professor

Dr. John Nash, Director of Graduate Studies

ANSWERING THE CALL OF LATE REGISTRATION

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Education in the
College of Education
at the University of Kentucky

By

Brooke Leigh Justice

Bowling Green, Kentucky

Co-Directors: Dr. John Nash, Associate Professor of Educational Leadership Studies
and Dr. Justin Bathon, Associate Professor of Educational Leadership Studies
Lexington, Kentucky

2024

Copyright © Brooke Leigh Justice 2024

https://orcid.org/0009-0003-8977-6437

ABSTRACT OF DISSERTATION

ANSWERING THE CALL OF LATE REGISTRATION

The topic of late registration in higher education is a term that must be clearly defined to properly compare and contrast academic success metrics. A standard definition for late registration has yet to be agreed upon. For the purposes of this mixed methods action research study, late registration is enrollment in a course 10 days preceding the beginning of the course.

Review of registration data at Southcentral Kentucky Community and Technical College uncovered a disparity between student academic performance of those who registered on time and those who registered late. The institution's heightened focus on academic performance reflects the performance-based funding equation that rewards academic success and course completion. Identification of an appropriate intervention to support late registrants' academic success is imperative to improve academic success rates.

With poor engagement, care calls were implemented as an intervention to provide support for late registrants. Factors such as first-generation status, students who are parents, and timing of admission application were assessed to evaluate their impact on the late registrants' poor engagement with the care calls.

Targeted outreach communicating resources to encourage student success is necessary. Text messaging, social media communication, and workshops are different strategies that can be used to reach students. The diverse student population of the community college demands that we utilize a variety of methods to reach students.

KEYWORDS: Late Registration; Community College; Academic Success; Performance-based Funding; Care Call

Brooke Leigh Justice

March 27, 2024
Date

ANSWERING THE CALL OF LATE REGISTRATION

By

Brooke Leigh Justice

Dr. John Nash
Co-Director of Dissertation

Dr. Justin Bathon
Co-Director of Dissertation

Dr. John Nash
Director of Graduate Studies

March 27, 2024
Date

All of this work is dedicated to my cheerleaders.

TABLE OF CONTENTS

LIST OF TABLES viii

LIST OF FIGURES ix

Chapter 1: Leadership Context, Leadership Dilemma, and Supporting Literature 1

Introduction 1
Purpose of the Study 2
MMAR Framework 3
Study Context 4
Stakeholders 7
Researcher Role 8
Definition of Terms 8
Diagnostic Phase: Problem of Practice 9

Institutional Data 9
Review of Literature 12
Prominent Theories of the Role of Community Colleges in the United States 12
Human Capital Theory 13
For Technical Education. 13
In Workforce Training. 13
For Transfer Education. 14
Human Relations Theory. 15
Systems Theory of Management. 16
Community College Mission 18
Missioning and Mission Statements. 18
Goal Clarification 19
Marketing Tool. 19
Accreditation. 20
The Historical Mission of Community College in the U.S. 20
The Mission of Community College in Kentucky. 24
How the Mission of Community College Relates to Who Applies to Community College 28
Structure of Community Colleges in Kentucky 29
Organizational Structure of Community Colleges in Kentucky 30
Community College Students 33

Community College Students as a Group 33
College Readiness 35
What College Readiness Is 35
How College Readiness is Determined 36
Trends in Placement Exams. 39
Community College Student Success 41
Grade Point Average. 42
Persistence 42
Graduation Rates. 43
Academic Preparedness. 43
Financial Aid. 44
Transfer to the University. 45
Institutional Policies 46
Late Registration and Academic Success 47
Higher Education Accountability 53
Student Success Intervention 57
Research Problem Statement 60
General Study Plan 61
Ethical Considerations 62
Summary 62
Chapter 2: Reconnaissance 63
Introduction 63
Research Setting 63
Phase Design 65
Reconnaissance Phase Design and Overarching Research Question 68
Phase Weighting 69
Integrated MMAR Question 71
Quantitative Strand 71
Quantitative Research Questions 71
Quantitative Sample 71
Data Source 72
Procedures 72
Data Analysis 74
Qualitative Strand 74
Qualitative Research Question 75
Qualitative Sample 75
Instruments 75

Procedures 76
Data Analysis 78
Data Integration and Quality 79
Findings 79
Quantitative Findings. 79
Reconnaissance Quantitative Research Question 1. 80
Reconnaissance Quantitative Research Question 2. 84
Reconnaissance Quantitative Research Question 3. 89
Qualitative Findings. 90
Meta-Inferences 93
Research Ethics 94
Planning Phase 95
Problem of Practice 95
Stakeholder Involvement 95
Actions Considered 96
Timeframe 98
Summary 98
Chapter 3: Action, Evaluation, and Recommendations 100
Introduction 100
Acting Phase 100
Purpose of the Intervention 100
Objectives or Outcomes 101
Tasks and Activities 101
Site 104
Timeline 104
Resources 104
Evaluation Phase 104
Integrated MMAR Question 107
Qualitative Strand 107
Evaluation Phase Qualitative Research Questions 107
Sample 107
Data Source. 107
Procedures. 108
Data Analysis. 108

Quantitative Strand 110
Evaluation Phase Quantitative Research Questions 110
Sample 110
Data Sources. 110
Procedures. 110
Data Analysis. 111
Data Integration and Quality 111
Findings 112
Qualitative Findings 112
Evaluation Phase Qualitative Research Question 1. 113
Evaluation Phase Qualitative Research Question 2. 113
Quantitative Findings 115
Evaluation Phase Quantitative Research Question 1. 116
Evaluation Phase Quantitative Research Question 2. 116
Effectiveness of Intervention. 117
Reflection. 120
Additional Potential Explanatory Factors for Target Group Response 122
First-Generation Students. 122
Students as Parents. 123
Late Application and Late Registration. 125
Researcher Ethics. 127
Monitoring Phase 127

Discussion and Implications 128

Interpretation of Findings 128
Implications for Leadership, Policy, and Practice 130
Implications for Future Research 133
Researcher Bias 135
Definition of Researcher Bias 135
Identification of Potential Sources of Bias 136
Strategies to Minimize Bias 136
Limitations and Strengths of the Study 136
Conclusion 138
Appendix A: Catalog number * Enrollment Status Crosstab 141

Appendix B: IRB approval 143

Appendix C: Focus group protocol 144

Appendix D: IRB modification approval 145

References 147

VITA 167

LIST OF TABLES

Table 1 *SKYCTC Percentage of Students Earning <C* 10
Table 2 *Late Registration Dissertations* 52
Table 3 *Variables Retrieved from PeopleSoft* 73
Table 4 *Descriptive Statistics of Continuous Variables* 80
Table 5 *Frequencies by Registration Date* 81
Table 6 *Frequencies of Late Registrants by Ethnicity* 82
Table 7 *Registration Date * Ethnicity Crosstab* 83
Table 8 *Registration Date * Sex Crosstab* 84
Table 9 *Official Letter Grade * Age Range Crosstab* 85
Table 10 *Official Letter Grade * Ethnicity Crosstab* 87
Table 11 *Chi-Square Tests* 88
Table 12 *Official Letter Grade * Sex Crosstab* 89
Table 13 *Official Letter Grade * Submission of FAFSA Crosstab* 90
Table 14 *Focus Group Responses Coded by Theme* 92
Table 15 *Example of Care Call Responses Provided by FSH* 103
Table 16 *Document Analysis Steps* 109
Table 17 *PeopleSoft Variables Used for Evaluation* 111
Table 18 *Comparison of Late Registrants* 114
Table 19 *Frequency of Late Registrants Who Did Not Engage with FSH* 115
Table 20 *Frequency of Late Registrant First-Generation Students in Target Group* ... 123
Table 21 *Frequency of First-Generation Students of SKYCTC Overall* 123
Table 22 *Frequency of Late Registrants who are Parents in Target Group* 125
Table 23 *Frequency of Students who are Parents in SKYCTC Overall* 125
Table 24 *Frequency of Late Registrants who Submitted a Late Admissions Application* 126
Table 25 *Frequency of Students who Submitted a Late Admissions Application* 126

LIST OF FIGURES

Figure 1 *MMAR Framework (Ivankova, 2015)* 4
Figure 2 *SKYCTC Credential-Seeking Enrollment* 6
Figure 3 *Systems Theory of Management* 17
Figure 4 *Organizational Chart for SKYCTC* 32
Figure 5 *American College Testing (ACT) Benchmarks* 37
Figure 6 *CPE Academic Readiness Indicators* 38
Figure 7 *Depiction of the Problem of Practice at SKYCTC and Potential Solutions* 61
Figure 8 *SKYCTC Enrollment Process* 65
Figure 9 *Mixed Methods Action Research Study Design* 67
Figure 10 *Concurrent Quan + Qual Design* 70
Figure 11 *Evaluation Phase: Sequential Qual—> Quan MMAR Study Design* 106
Figure 12 *FSH Intervention Responses* 113
Figure 13 *FSH Intervention Responses in Percentages* 117

Chapter 1: Leadership Context, Leadership Dilemma, and Supporting Literature

Introduction

This mixed methods action research (MMAR) study (Ivankova, 2015) is designed to unpack the relationship between community college late registrants (students who register within two weeks of the beginning of the semester) and their subsequent academic performance. By examining this relationship, I aim to identify supports to help such students attain greater success, measured by completing courses with a grade of C or higher.

Designed to meet the needs of the community, community colleges have a unique role in higher education (Levine-Brown, Anthony, Boylan, 2018; Shannon & Smith, 2006). The student population served by the community college is quite diverse in the characteristics and its needs (American Association of Community Colleges, 2021; Martin, Galentino, & Townsend, 2014; Kachur & Barcinas, 2020; Gault, Reichlin, & Román, 2014). The richness of the student body compels the community college to provide wrap around services that honor differences and provide support to encourage student success (Clowes & Levin, 1989).

Enrollment in community colleges has declined in recent years (Kelderman, 2020). The decline is not only a reduction in the number of students earning a credential, but it also impacts the number of people who are ultimately part of a skilled workforce. Industry's demand for qualified employees results in an appeal to higher education institutions to help produce a strong workforce (Jones, 2016). Community colleges can fulfill this workforce shortage in the shortest amount of time.

To encourage college completion, community colleges must provide necessary supports to meet the needs of its students (Seidman, 2005). The non-academic barriers that a community college student may face can be numerous and compounding (Munoz & Portez, 2001). Being flexible with the course registration deadlines is a recognition of one non-academic challenges community college students face that might prevent them from signing up for classes promptly. And while late registration may be one of many factors that impact the students' overall performance, to the extent students do register late, it is imperative that appropriate resources are provided to improve completion rates (Keck, 2007).

In this chapter, I describe the context of the study, including a description of the college where the study will take place and the major stakeholders involved in the study. I will also discuss my role as the researcher and how it relates to this study. I review the phases of the mixed methods action research design and the problem of practice. Relevant literature is reviewed to bring context to the problem of practice. Lastly, the general study plan is presented in this chapter.

Purpose of the Study

The purpose of this MMAR study was to explore the late registration practices of students to understand if there is a relationship with student outcomes at Southcentral Kentucky Community and Technical College. The rationale for applying mixed methods in the study was to gain insight into the relationship between a students' late registration and their ability to complete the semester successfully through the triangulation of quantitative and qualitative data.

MMAR Framework

This MMAR study was deployed in six phases to identify a leadership problem and work towards remedying the problem. The first phase, diagnosis, occurs when "the practitioner-researcher conceptualizes the problem that requires a solution in the workplace and identifies the rationale for investigating it by using both quantitative and qualitative methods" (Ivankova, 2015, p. 61) (see Figure 1). After the problem is identified, the practitioner-researcher moves to the second phase, Reconnaissance, during which data are collected, analyzed, and inferences established to help inform the Planning phase. During the third phase, Planning, an intervention is designed based on inferences from the mixed methods data in the Reconnaissance phase. The Acting phase is fourth and contains the implementation of the intervention. Evaluation of the intervention occurs during the Evaluation phase, and finally, a review of the intervention's outcome takes place in the final Monitoring phase.

Figure 1

MMAR Framework (Ivankova, 2015)

Study Context

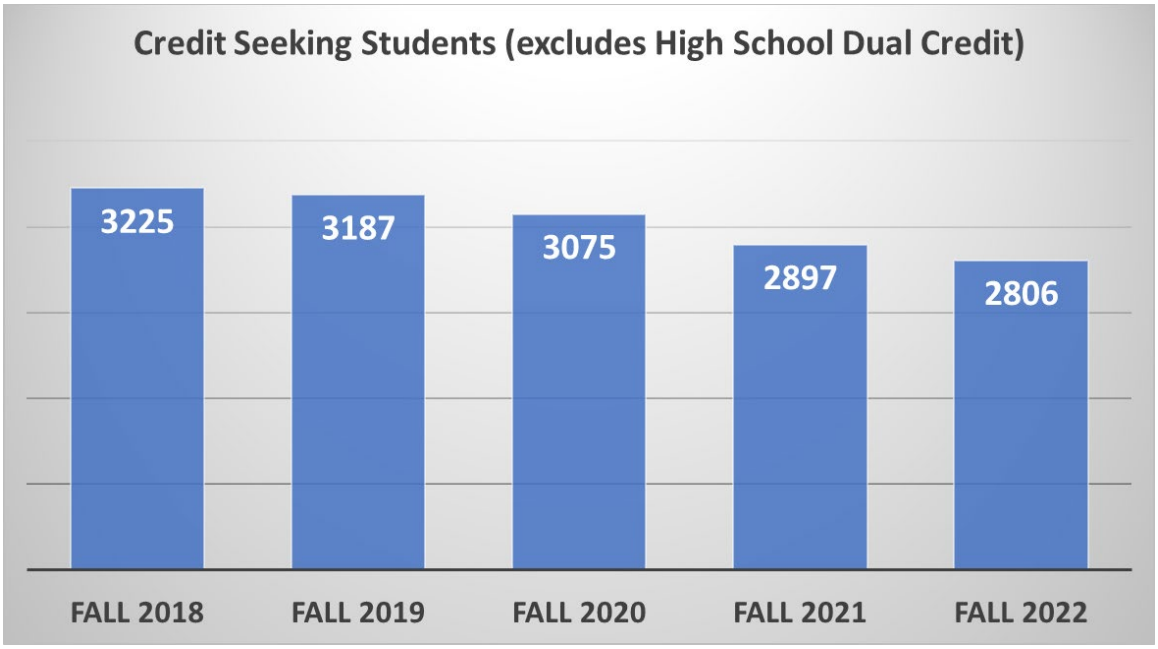
The study occurred in spring 2022 at Southcentral Kentucky Community and Technical College (SKYCTC) in Bowling Green, KY. SKYCTC is a public, comprehensive community college. At the time of the study there were 2,546 credential-seeking students enrolled at SKYCTC. Approximately half of the student body were enrolled in transfer-bound degrees (typically an associate degree designed to fulfill the general education requirements necessary for transferring to a four-year institution), and the other half were in technical degree programs.

SKYCTC is one of 16 colleges in the Kentucky Community and Technical College System (KCTCS). In 2022, tuition for in-state residents was $179 per credit hour in KCTCS. With the lowest tuition rate in the state, colleges within KCTCS highlight their affordability and open access to higher education, making them an affordable entry point for diverse student populations seeking education and career advancement. SKYCTC maintains many attributes that have historically made community colleges attractive to collegegoers. In addition to affordable tuition, community colleges are often located in smaller communities that allow students to visit the campus in a reasonable drive. The Kentucky community and technical colleges tout their accessibility because the campuses are located within a 30-minute drive of 95% of all Kentuckians. The more than 70 campuses typically have smaller class sizes than that of the university (Kentucky Community and Technical College System, n.d.). The smaller class sizes lead to more individualized attention because of the low student to faculty ratio. The smaller student body allows the community college to offer more individualized student support services (Clowes & Levin, 1989).

Community college enrollment was negatively impacted by the COVID-19 pandemic. For more than 50% of community colleges in the United States, the decrease in enrollment was greater than 10% (Kelderman, 2020). A precipitous decline in enrollment has occurred at SKYCTC since 2019. Figure 2 represents the Fall credential-seeking enrollment. What had remained steady for SKYCTC had now become a scramble to retain each student.

Figure 2

SKYCTC Credential-Seeking Enrollment



In addition to declining enrollment, state appropriations to higher education are subject to the performance-based funding model. Kentucky implemented the current iteration of the model in 2021 which emphasizes student completion, student success, and campus operations. A funding floor was established to protect higher education institutions against any major swings in the equation (Postsecondary Education Working Group, 2020). The emphasis that is now placed upon student completion and success reiterates the importance of student academic performance. The performance-based funding model will be discussed in detail in the literature review. In an era of declining enrollment, community colleges in Kentucky must foster student success to place themselves in the best possible position. Consequently, colleges continue to allow late

registration to bolster course enrollment. And in doing so, colleges must accompany that practice with appropriate resources and support to ensure late registrants succeed.

Stakeholders

The major stakeholders in this study included staff in the Admissions Office, the Career and Academic Planning (CAP) Center, the Director of Institutional Effectiveness, and the executive leadership team (Cabinet). The Student Services division at SKYCTC is responsible for processing the admission and registration of new students. Specifically, the Admissions Office is responsible for the admission of new and readmitted students. Five employees in the Admissions Office work with prospective and readmitted students. The CAP Center has five staff members that serve as academic advisors who advise and register new and readmitted students. The executive leadership team consists of the President, Provost, Vice President of Business Services, Vice President of Administrative Services, Vice President of Resource Development, and Vice President of Student Services.

For insight into the problem of practice, I spoke to the Student Services staff, the Director of Institutional Effectiveness, and members of the SKYCTC Cabinet. They provided the following context to the problem of practice underscoring how the findings of this study could inform and enhance the College's practices:

- There was concern that late registrants cause tremendous stress for themselves and staff as they speed through the admissions and enrollment process.
- From a leadership perspective, the concern was that the late registrants would not be as successful as students who registered early.

- From an institutional effectiveness perspective, SKYCTC leadership would like to have known how to provide the best support to encourage success for late registrants.

Researcher Role

As Vice President of Student Services, I oversee the Admissions Office and CAP staff. I also serve on the Cabinet, helping to set direction in achieving the College's strategic goals. Consequently, I am intimately involved in the student experience and the patterns of registration behavior exhibited by different subsets of our student body. I am sensitive to the additional stress placed upon the staff within the Student Services division at the beginning of each semester when a significant subset of our student body participates in the last-minute enrollment rush.

Conversations within the executive leadership team frequently center on the current state of enrollment at the College and its impact on the budget. With the implementation of performance-based funding, additional emphasis is also placed on student success as measured by retention and completion. The enrollment conversation includes increasing overall student success to best position the college in the performance-based funding equation.

Definition of Terms

- Late registrant. Student who registers within 10 days of the beginning of the semester.
- Performance-based funding. A model to distribute appropriations based upon various metrics such as student enrollment, success, and completion.
- Grade Point Average (GPA). Calculated by dividing the total amount of grade points earned by the total amount of GPA credits attempted.

- College readiness. A student's preparedness to complete college-level coursework.
- Persistence. Percent of first-time, credential-seeking students enrolled in the summer or fall who are still enrolled the following fall at any in-state postsecondary institution or, in the case of KCTCS students, have completed a credential.
- Withdrawal rate. Number of course(s) withdrawn from divided by total number of courses taken.

Diagnostic Phase: Problem of Practice

Institutional Data

I reviewed the following institutional data from each semester of the academic years 2016-2022: student registration dates, student final course grades, and student withdrawal dates. The findings from my review revealed that 36% of students who enroll within two weeks of the beginning of the semester either withdraw or earn a grade of D or lower in their courses (see Table 1). Additionally, the data showed that of students who registered late, only 64% completed courses with a C or higher. In comparison, approximately 75% of all students earned a C or higher in all courses, resulting in 25 % earning a grade of D or below. Throughout the semesters listed, late registrants, as a group, earning grades below a C at a higher rate than compared to the general student population. This gap persists across all semesters examined.

Table 1

SKYCTC Percentage of Students Earning <C

Semester	% of late registrants earning < C	% of all students earning < C	% difference between late registrants and all students earning < C
Spring 2016	34	25	9
Fall 2016	35	25	10
Spring 2017	37	23	14
Fall 2017	34	22	12
Spring 2018	36	22	14
Fall 2018	33	23	10
Spring 2019	32	23	9
Fall 2019	36	23	13
Spring 2020	34	23	11
Fall 2020	39	29	10
Spring 2021	42	27	15
Fall 2021	37	28	9
Spring 2022	38	25	13

Increasing enrollment and improving retention and completion rates are overarching goals of SKYCTC per its Strategic Plan. One of the objectives within the goal of improving learner success states, “Grow enrollment at SKYCTC to meet the needs of the region by expanding the number and diversity of learners achieving their career and lifelong learning goals” (Strategic Plan, n.d.). As SKYCTC strives to improve the economic prosperity of the region, increasing enrollment, and thus, expanding the academic reach cannot be ignored. Due in part to Kentucky’s implementation of performance-based funding for community colleges, the focus on retention and completion is at an all-time high. Achieving an increase in enrollment and improved retention and completion rates are important goals that SKYCTC must attain. The goal is to surpass last year's student retention rate from fall to spring by 5%, as stated in the

Strategic Plan. With reduced funding from the state, it's become critical to focus on ensuring students succeed because this will ultimately lead to increased financial allocations.

Leaders at SKYCTC reviewed the academic performance of late registrants (students who register within two weeks of the beginning of the semester) to assess late registration's impact on the College's retention and completion rates. Of the total student population, on average, 24% registered late. Although a notable number of these late registrants do persist into the following semester and manage to successfully complete their credentials and earn degrees, the overall success rates suggest that additional support could further enhance their academic outcomes. Given the substantial proportion of students registering late, the College recognized the necessity of an intervention.

As a leader within the organization, I've recognized the essential role of enrollment management in driving higher education institutions, such as SKYCTC, to achieve maximum high-quality enrollment. Effective enrollment management ensures that the functions supporting student recruitment, retention, and graduation work together cohesively. Enrollment management also involves coordinating critical areas of admission management, retention, research, and marketing. By improving the collaboration of these areas, the institution could increase students' likelihood of success.

The beginning of the term is the busiest for all-students, faculty, and staff in the Admissions Office, CAP, and Registrar's Office. Students are busy prepping for the new journey they are about to embark upon, and faculty are busy preparing for each course they will teach. Staff are busy finalizing all the last-minute processes to aid in the student's success. Due to the number of students seeking service from the staff in the

Admissions Office, CAP, and Registrar's Office, there is a reduced amount of time available for each student. The group of students with possibly the greatest need, in terms of support and handholding, are shuffled through the enrollment process in the least amount of time. It's critical that the support they receive in the two weeks before the semester starts is centered on helping them complete and succeed in their courses. Ensuring the organization is poised to handle this last-minute rush is vital to long-term success.

Review of Literature

In this literature review, I discuss topics related to the role of community college in the United States and community college student success. The following topics are reviewed: prominent theories of the role of community college, the structure of community colleges; the mission of community colleges; community college students; college readiness; community college success, late registration and academic success, higher education accountability, and student success interventions. Together, these literature bases provide insight into community college students and how to enhance their academic success.

Prominent Theories of the Role of Community Colleges in the United States

Community colleges are a critical component of the higher education structure in the United States. The education and training provided by community colleges serve a well-defined purpose. The technical programs of study taught at the community college aim to prepare the student to go directly to work. In contrast, transfer education aims to prepare them to pursue a 4-year bachelor's degree. The prominent theories undergirding the role of community colleges are reviewed in this section.

Human Capital Theory. Human Capital Theory asserts that individuals invest in education and training that, in turn, makes them more productive (Becker, 1964). According to the theory, those who are more productive will earn more and be more employable. The amount spent on education and training, or tuition and fees, would be far less than the overall increase in earnings. Consequently, the more education and training one has, the more one can increase their productive capacity (Becker, 1964). Because the role of the community college is to improve the educational attainment of the citizenry, whether it be from an academic perspective or upskilling the workforce, Human Capital Theory is a useful frame for understanding the role of the community college in U.S. society (Kentucky Community and Technical College System, (n.d.).

For Technical Education. Completing a set program or curriculum will prepare the student for greater earnings in the future (Becker, 1964). Vocational training is the technical academic preparation of students to enter the workforce, and there are different exit ramps which allow students to take as little or as many courses as they want. The investment in vocational training will make the student more employable. The exit ramps along this journey could be a short-term certificate, a credential to prepare for upward mobility along a career path, or completion of the Associate of Applied Science (AAS) degree in a technical degree program.

In Workforce Training. The time invested and the monetary fee for workforce training are far less than the increase in potential earnings a student can accrue. Businesses and industries often sponsor employees to complete the workforce training necessary to keep their job or train for a higher-level position. Workforce training may be

viewed as upskilling the workforce. Often this training is short-term but can yield significant dividends in pay.

For Transfer Education. Not only is completing a technical degree program at a community college productive for a student, but a transfer degree also can lead to a lucrative outcome. Community colleges offer Associate in Arts (A.A.) or Associate in Science (A.S.) degrees designed to transfer into a baccalaureate or 4-year degree. Completing the A.A. or A.S. degree also comes with the expectation that it falls along the path to greater earning potential. The transfer function is one of the primary roles of the community college that allows students to start a bachelor's degree at an institution with less financial burden, smaller class sizes, and more diversity.

Each of these aspects reinforced the use of Human Capital Theory to explain the role of community colleges. Community colleges do play a critical role in the higher education landscape. For professional careers that do not require a bachelor's degree, but a two-year technical associate degree would suffice, the community college fulfills that role. As the Human Capital Theory suggests, community colleges plug the gap in higher education by training individuals to immediately go into the workforce, thus increasing their earning potential earlier than it would take to complete more advanced education and degrees. CPE conducted research on the median lifetime earnings of Kentucky workers. Earning an associate degree equates to approximately $400,000 more over the lifetime than those who complete a high school diploma/GED (Research brief, 2021). Kentuckians can consider this data when making the decision to pursue higher education. Additionally, the Human Relations Theory speaks to the personalization that can be achieved at the community college level.

Human Relations Theory. Another prominent theory explaining the role of community colleges suggests that community colleges are organizations with the proper support and resources to promote the success of their students. This is explained by Human Relations Theory (Bolman & Deal, 2013). Human Relations Theory (Bolman & Deal, 2013) asserts that humans are individuals, not machines. Thus, we cannot assume a one-size-fits-all approach but must address each student's unique needs. The overall student enrollment at a community college allows for more personalized services and smaller class sizes with individualized attention. Students persist and are retained because of their connection to the institution. This sense of belonging, as described by Tinto (2017), is coupled with self-efficacy. Self-efficacy is a person's belief in their ability to succeed at a particular task (Bandura, 1977).

Community colleges are inherently concerned with the welfare of the communities they belong to. Mayo, the founder of the Human Relations Theory, emphasized the importance of showing employees (students) that you care. Overall productivity and retention increase with the feeling that the institution cares about them (Bolman & Deal, 2013). Because the profile of a typical community college student is difficult to distill into one character type, Human Relations Theory provides a way to see community colleges as catalysts to promote student success under the appropriate conditions. Human Relations Theory suggests that when one shows they care for another, motivation to do well is instilled in the cared-for individual.

The role of the community college is multi-faceted. Students complete education and training provided by the community college in pursuit of increased earning potential described by the Human Capital Theory. The Human Capital Theory works in

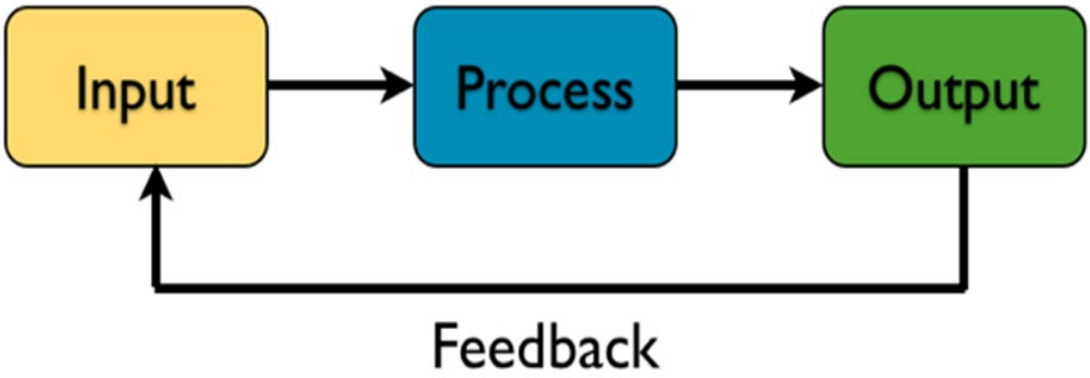
conjunction with the Human Relations Theory at the community college to offer the necessary education and training to increase earning potential while exhibiting care and concern for students' success. Community colleges are known for supporting students because of their barriers to enrollment, not in spite of barriers. Frequently, there are programs at the community college that provide assistance with housing, jobs, transportation, meals, and childcare (Mechur Karp, 2016). The Systems Theory of Management describes how the role of the community college is achieved.

Systems Theory of Management. Systems Theory of Management is another theory that helps explain the role of community colleges. The role of community college is that of producing individuals who have knowledge of human cultures and the physical and natural worlds; intellectual and practical skills; personal and social responsibility; and integrative and applied learning across general and specialized skills (general education competencies) (Kentucky Community and Technical College System, n.d.). The sequence outlined in the Systems Theory of Management explains the process of educating a student. Introduced in the 1940s by biologist Ludwig von Bertalanffy (Montuori, 2011), the Systems Theory of Management proclaims that raw materials or inputs are transformed. The product of the transformation process is the output. Feedback or revisions are made, and then the sequence begins again. Faculty teach the curriculum, which is considered Input or raw material. The student then makes sense of the material through the Process phase. The Output of this example is the graded assignment. The feedback loop is completed when the student engages with the faculty to understand the lesson better (Figure 3). The Input-->Process-->Output-->Feedback loop explained here

is an example of an individual assignment, but it can be applied to a course or the entire program of study.

Figure 3

Systems Theory of Management



The literature suggests prominent theories explaining the role of community college. Community colleges are known for embracing the students and assisting them in making connections to the institution. Human Capital Theory speaks to the value of completing a degree at the community college and how that benefits the student financially. Human Relations Theory shows the importance of addressing the student's unique needs to help them be successful. Systems Theory of Management explains the instructional process of the community college's role. The culminating conclusion from each theory is that the community college is responsible for connecting with students to make them feel encouraged and empowered to complete the curriculum. Doing so will be a financial benefit to the student. The affordability of the community college further reiterates the financial benefit of completing education and training at the community college. Student loan debt has become a major deterrent in the decision to attend higher

education (Schak, 2021). In 2021, the early economic return on higher education investment report was completed by the Council on Postsecondary Education. The debt-to-income ratio for the Kentucky high school graduating class of 2011 was evaluated, and the study highlighted the associate degree as the lowest ratio of any postsecondary credential studied. The debt-to-income ratio ranged from .33 for the associate degree, .43 for a certificate or diploma, and up to 1.28 for students taking 6 years to complete the bachelor's degree (Early economic return on Higher Education Investment Report, 2021). Understanding the mission of community colleges may help to understand how each of the theories is exemplified.

Community College Mission

I first discuss missioning and mission statements, then the mission of community college in the United States. I conclude with literature on the mission of community college in Kentucky and how it relates to who applies to community college in the Bluegrass State. The discussion of the community college's mission addresses its accessibility and how the community college is designed to be an open-door institution. As such, the mission of the community college calls upon the institution to be more lenient in deadlines and policies to meet the needs of the community. The deadline leniency associated with late registration should not be mistaken for an excuse to bypass important steps within the registration process, but instead, it is indicative of the student-centered policies of the community college.

Missioning and Mission Statements. An organization's mission statement is a guidepost by which decisions are made (Ayers, 2017). Missioning was introduced in the 1970s as a method for leaders to gain buy-in from their organization's constituents and

ensure that employees are moving in the right direction (Drucker, 1973). A clearly defined mission statement can also be the basis for how the public perceives the institution (Morphew & Hartley, 2006). The importance of the mission statement in community colleges is affirmed by the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC), which states, "The institution [should have] a clearly defined, comprehensive, and published mission statement that is specific to the institution and appropriate for higher education" (Southern Association of Colleges and Schools Commission on Colleges, 2018, p. 13).

There are three main functions of a mission statement in modern community colleges. It supports clarification of a college's goals, is communicated to support the institutions' marketing, and is used to satisfy accreditation requirements (Ayers, 2017).

Goal Clarification. This is a critical part of the mission statement. Traditionally, we expect the mission statement to outline what the organization does and how (Ayers, 2017). For example, the mission statement can help leaders make complex decisions in the presence of declining resources. The mission statement helps determine what is important or mission-critical and what must be funded to achieve organizational goals. In other instances, leaders may rely upon what a stated mission is to help decide whether to continue the additional services provided by the institution.

Marketing Tool. To claim that the mission statement behaves as a marketing tool seems far from the original intent of the mission statement. However, when considering the mission statement's purpose, it should predict what to expect from an organization. If the mission statement does what it is supposed to, it serves an implicit marketing function because it communicates the organization's purpose to its public. If goals and strategies

are clearly outlined in the mission statement, the marketing function is met by setting the foundation for the public's perception (Ayers, 2017).

Accreditation. Institutions of higher education seek accreditation as a stamp of approval on their curriculum. The standards that must be met to gain accreditation center on how the organization operates and that the institution completes the actions that it claims to do (About SACSCOC, 2022). The accreditation requirement is another significant role of the mission statement. The accrediting body expects the institution to state what should be included in the mission statement. The institution should be careful that it is not complying with the accrediting body's standards by compromising its goals. Specifically, the mission of the community college in the United States helps to understand the need for higher education better. The SKYCTC mission is, “[The college] will improve South Central Kentucky's economic prosperity through higher education focused on career development, community partnerships, and economic growth."

The Historical Mission of Community College in the U.S. As the name implies, community colleges were designed to meet the local community's needs. First referred to as junior colleges in 1901, the advent of the two-year institution provided the first two years of a university education curriculum. As the technical curriculum was added, the transition ensued from junior colleges to community colleges (Thelin, 2004). Often dubbed the "Ellis Island of American higher education," the community college today often serves as the gateway to educational and economic opportunity for many students.

The rich history of community colleges emerged in a systematic way in the mid-1950s (O’Hara, 2005). Prior to this time the junior college model and university centers were more prevalent. The junior college model became commonly referred to as the 13th

and 14th year of high school. They often had the funding structure similar to public schools. The junior college historically served terminal students and transfer students (Thelin, 2004). In contrast, the university centers maintained a clear allegiance to the parent university. The university centers depended on the parent institution for organization, control, financing, and role. Their mission was to educate the citizenry in the lower-division classes (O'Hara, 2005). California began the trend we see today toward the creation of the comprehensive community college and universal access to higher education. Florida codified this in 1955 by outlining multiple missions to include degree programs in liberal arts and technical education as well as non-degree programs. North Carolina followed suit in 1957 with a slightly new flair, requiring that the community college be in commuting distance of all citizens. New York, and many of the northeastern states, slowly adopted the community college models in the 1960s. Alaska and Hawaii maintained the university-governed community colleges throughout the 1960s (Richardson, Jr. & de los Santos, 2001). Kentucky's initial creation adopted the multiple mission of California while remaining under the governance of the University of Kentucky (O'Hara, 2005).

Community colleges are known for their open-access mission, meaning all students are provided an opportunity to pursue a degree (Shannon & Smith, 2006). One of the benefits of open access is the diversity it offers community colleges. In the Fall of 2019, 41% of all undergraduate students attended a community college. The demographics of students enrolled for credit were: 44% White; 27% Hispanic; 13% Black; 6% Asian/Pacific Islander; 4% Two or more races; 4% Other/unknown; 2% Nonresident Alien; and 1% Native American. The average age of the community college

student is 28, with 44% of all students being older than 22 (American Association of Community Colleges, 2021). For comparison, in Fall 2020, enrollment at public 4-year institutions in the United States was 51% White; 19% Hispanic; 11% Black; 8% Asian/Pacific Islander; 4% Two or more race; 3% Other/unknown; 5% Nonresident Alien; and .6% Native American (NCES, n.d.).

Race and ethnicity alone do not label students as high-need or at-risk. The term at-risk is defined as students with a higher probability of failing academically or dropping out of school. The community college student may possess lower academic abilities (due to learning or physical disabilities being diagnosed or undiagnosed), lack of support from home due to being a first-generation college student, low household income, and cultural/language barriers (Horton, 2015). These risk factors, coupled with being a minority student, support the need for flexibility in course delivery and scheduling.

The at-risk student may require concessions to be made in the registration process (Horton, 2015). The regular registration period may not be conducive for at-risk students to make the decision to attend or return to college. Because of their academic performance, the lack of self-confidence and self-efficacy may affect their desire to enroll (re-enroll) in college (Horton, 2015). Late registration becomes an inevitable luxury afforded to students at the community college level. Students allowed to enroll immediately before the beginning of the semester must be provided support to encourage student success (Maalouf, 2012).

The community college mission has four foci: technical education, transfer education, remediation education, and workforce training (Levin, 2000). The academic instruction offered at the community college supports one of these foci. Whether from

legislative action or by their regard, many community colleges are charged with providing technical and transfer education. The technical programs are designed for the student to work in the field at the program's culmination. The transfer function of the mission prepares the student to transfer to a four-year university to pursue a baccalaureate degree. The community college provides training for the underprepared student through remediation or developmental education. Community colleges are also called upon to provide workforce training. The workforce training does not conform to the regular semester but is offered in an on-demand format to meet local industry needs.

Meeting the community's needs includes providing liberal arts education, terminal technical education, industry training, remedial education, and community education. The multiple arms of service to the community often make the nimble higher education institution, or community college, synonymous with a revolving door for students who need more focus and commitment. As an open-access institution, minimum admissions standards are required and often not an issue in the recruitment process. Open access, however, is frequently conflated with the ability to begin college courses year-round. With the mission to educate and train the masses to improve their quality of life, the community college meets students where they are. Phelan (2000) argues the need to clarify the community college's mission by confirming the enrollment target. If there is no enrollment target in place, there may be a tendency to prioritize enrolling more students at the risk of advancing student success. This is evident in the practice of allowing students to join courses even if they are not fully prepared or have not completed the required prerequisite studies at the college level.

Kentucky's community and technical colleges are responsible for providing college and workforce readiness, transfer education, and workforce education and training.

The Mission of Community College in Kentucky. The first mission of the community college in Kentucky was modeled after the University of Wisconsin. The College of Agriculture advertised better agricultural practices on published bulletins. Professors would go to different parts of the state to share ideas with farmers face to face. Eventually, this idea of the professors travelling to different parts of the state became the Extension Division through which correspondence instructors offered classes in communities away from the university (O'Hara, 2005).

The popularity of extension centers grew as the state prepared for the return of soldiers from the war in 1945. The extension centers served more students without having to provide housing as the students could commute from their homes. The extension centers benefited from the prestige, accreditation, and even the faculty of the university. At the extension centers, students were able to complete the first two years of the baccalaureate degree (Newberry, 1996). The interest in the whole state of Kentucky can be summarized by a statement from University of Kentucky President Donavan's final commencement speech:

> The campus of the University is the state of Kentucky. Ours is a Land-Grant university designed to serve all the people of this state. It is the people's university conceived and dedicated to the service of the people. We must be as much interested in the people of Pike County on the Big Sandy in Eastern Kentucky and Ballard County on the Mississippi in Western Kentucky as we are in Fayette County in Central Kentucky. This principle has not been merely a slogan with us but a philosophy that has motivated our actions (Donavan, 1956, p.4).

The extension centers evolved into a junior college model when it was limited to offering the freshman and sophomore level coursework in the late 1950s. The purpose of the extension centers was more of a two-year transfer program. Confusion about the name of the extension centers ensued as the controversy of "resident" versus "extension" credit continued. To eliminate the differentiation between coursework taken on campus and extension center, the label "university centers" was born. Initially, the university centers did not award degrees. The university centers adopted the following mission:

1) A lower division program (freshman and sophomore) for residence credit to the extent of 67 semester hours.
2) Terminal or certificate programs in special or technological fields.
3) Offerings of general adult education, both credit and non-credit, courses in line with local need.

In 1962, the Community College Bill was introduced that established the University of Kentucky as the governing body over the community college system, consisting of the nine colleges and proposing four additional community colleges throughout the state of Kentucky. Governor Combs thought the community college system was in alignment with the mission of the University of Kentucky and articulated that the system was, "one of the primary vehicles by which our state can gain an image of excellence and economic strength, both desperately needed in Kentucky" (Stice & Smith, 1989, p. 4). Under the umbrella of the University of Kentucky, the prestige of the university would garner support from the community for the newly formed system (Newberry, 1996).

University of Kentucky President Oswald, who had previous experience within the California community college system, led transformational change throughout the early years of the Community College System. The mission of the community college

had evolved to a three-pronged approach: two-year transfer work to complete a degree at various four-year institutions, terminal technical programs leading to employment, and cultural programs that benefit the community. The Kentucky Community College System grew from four university centers and ten new community colleges to fourteen comprehensive community colleges in the late 1960s.

The establishment of an independent governance structure occurred with the 1997 Kentucky legislation. The 14 comprehensive community colleges were merged with local post-secondary technical colleges to form 16 college districts (O'Hara, 2005). The Kentucky Community and Technical College System adopted a mission that echoes the responsibilities outlined in the Kentucky Postsecondary Education Improvement Act of 1997, or House Bill 1 (*KCTCS Board of Regents Policies*, n.d.). Statutorily, House Bill 1 mandated that KCTCS would increase the basic academic and literacy skills through adult basic education and remediation; increase the skills of Kentucky workers through associate technical degrees, diploma, and certificate programs; and increase the completion of the associate degree in arts or associate degree in science for ease of transfer to four-year institutions (*KCTCS Board of Regents Policies*, n.d.). These clearly outlined goals formed the groundwork for the mission of KCTCS.

> In everything we do, our mission is to improve the quality of life and employability of the citizens of the Commonwealth by serving as the primary provider of:
>
> - College and Workforce Readiness
> - Transfer Education
> - Workforce Education and Training (Kentucky Community and Technical College System, n.d.)

College readiness refers to a student's preparedness to complete college-level coursework. If a student does not meet this level of preparedness, remediation is

necessary to raise the student's skill level to college-level. The remediation coursework is within the mission of KCTCS. Workforce readiness, likewise, is the coursework that prepares the student to enter the workforce (Levin, 2000).

The transfer function of the community college mission takes on different patterns depending on the student's original purpose or intent. Townsend (2001) introduces the topics of time-to-degree, college costs, and quality of two-year college courses as considerations when evaluating the transfer function. Time-to-degree will be affected as the student completes coursework that transfers to the university or not. Dual credit courses and courses that fulfill the curriculum for the AAS degree will both impact the students' time that it takes to complete the baccalaureate degree when they transfer to the university. Clearly, the overall cost to earn a bachelor's degree will be reduced if the student completes the first two years of study at the community college tuition rate versus four years at the university tuition rate. (The tuition equation is calculated using the full tuition rate at the community college and university barring any scholarships or discounting.) The quality of two-year courses may affect the student's ability to complete upper division courses at the university. If the student had been ill-prepared at the community college, their success at the university may be in question (Carlan, 2001; Glass & Harrington, 2002; Kelly, 2009; Montondon & Eikner, 1997; Piland, 1995).

Workforce education, or technical credentials offered by KCTCS, is the certificates, diplomas, and degrees within a specific program. Students earn these credentials with the intent of seeking employment within the respective field. Workforce training is arranged by KCTCS and the respective industry. Training is offered at the

request of the industry and is often in a more abbreviated amount of time than a traditional semester (Levin, 2000).

How the Mission of Community College Relates to Who Applies to Community College. The mission of community college outlines the students that they are to serve. The mission of the community college states that the community college will provide coursework for college and workforce readiness, transfer education, and workforce education and training. Students seeking improvement in their academic skills will enroll in developmental or remedial education.

Students apply to the community college and pursue the Associate in Arts or Associate in Science degree, considered transfer education. Students apply to community colleges to transfer to the university to pursue a bachelor's degree (Townsend, 2001).

A student may pursue two distinct tracks: workforce education and workforce training. Workforce education is the technical education that the community college offers. Students enrolled in technical education can earn a certificate, diploma, or degree to go to work upon completion of the technical program of study. Students apply to a technical program with the expectation that it is a terminal program that prepares them to work (Jones, 2016).

Workforce training is a different avenue students may pursue at the community college. Workforce training is considered non-credit education (Jones, 2016). Typically, this training is required by the employer. Often this is short-term training that is completed in a few weeks. This training is specialized and focuses on a single topic instead of the broad-based instruction of an entire semester.

Individuals may also apply to the community college as non-degree-seeking students. If the student wants to take courses without earning a credential, he may enroll as a non-degree student. When applying as a non-degree-seeking student, the student does not have to meet admissions requirements. Placement scores are required for the specific courses for which the student enrolls.

The literature suggests that a mission statement is a critical factor that defines what the organization does and how. As defined by the mission, the four areas of instruction for the community college in Kentucky are transfer education, technical education, remedial education, and workforce education. Students pursuing one of the four areas of instruction apply to the community college.

The open-access mission lends itself to policies and procedures that meet the community's needs. Hard admission and registration deadlines could be seen as intimidating and unwelcoming. This could discourage the at-risk population that may already be doubtful of their ability to complete higher education. Hence, the practice of late registration exists today. How the community college is organized structurally is critical to its ability to carry out its mission.

Structure of Community Colleges in Kentucky

The community colleges in Kentucky are a part of the Kentucky Community and Technical College System (KCTCS). KCTCS was created in 1997 to make higher education more accessible and available to the people of Kentucky. The accessibility of a community college education should not come at the expense of providing a quality education with appropriate resources and support to encourage student success. The 16 community colleges that comprise KCTCS are autonomous and independently

accredited. This section reviews the organizational structure of community colleges in Kentucky. By understanding the organizational structure, I shed light on how the college is arranged to promote student success.

Organizational Structure of Community Colleges in Kentucky. The 16 community colleges that comprise the Kentucky Community and Technical College System (KCTCS) have a similar organizational structure. Each college is led by a president, or chief executive officer (CEO), who reports to the president of KCTCS. The local Board of Directors advises the chief officer of each campus. The Board of Directors is responsible for recommending a candidate for the college president, evaluating the president, approving budget requests, adopting and amending the annual college budget, and approving the strategic plan. The faculty is administratively responsible to the president. The president's responsibility is to administer the college and enforce the KCTCS policies and procedures (KCTCS, n.d.; *KCTCS Board of Regents Policies*, n.d.). At the same time, each college is accredited as a unique educational unit.

The chief academic officer is the second in command, and in the absence of the president or CEO assumes responsibilities of the college. The chief academic officer works collaboratively with other college officials to plan, develop, implement, and evaluate instructional units of the college. The chief academic officer typically reports to the president/CEO.

The chief student services officer is the administrator responsible for students' personal and co-curricular development. The chief student services officer promotes student achievement, retention, growth, and development through collaborative

leadership with the campus community. The chief student services officer reports to the president/CEO.

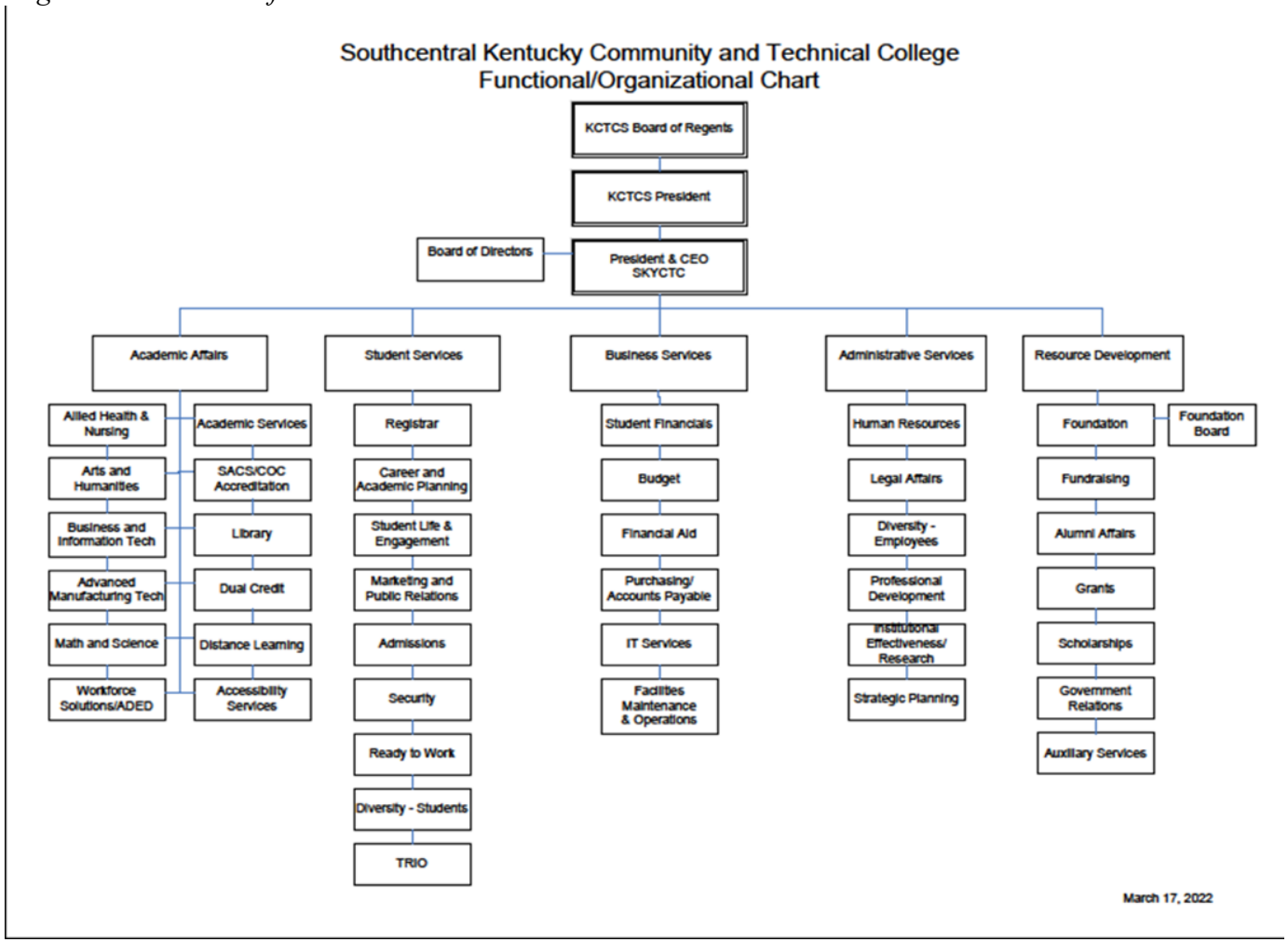
The chief business officer is the college's chief financial officer and reports to the president/CEO. The chief business officer advises faculty and staff on KCTCS business procedures. This position is responsible for safety and security.

The chief community and economic development officer serves the needs of business and industry through customized training, assessments, business and industry (BIT) classes, and community education events. The chief community and economic development officer serves as a liaison between the college and the community. The chief community and economic development officer reports to the president/CEO.

These positions are administratively responsible for each of the divisions of most colleges within KCTCS. Each college president/CEO has the purview to organize his/her cabinet as necessary. As such, there may be variations in the organization of the departments and to whom they report (KCTCS, n.d.). Figure 4 is the organizational chart for SKYCTC.

Figure 4

Organizational Chart for SKYCTC



In sum, statutorily, the community colleges in Kentucky are very similar (*KCTCS Board of Regents Policies*, n.d.). In reviewing the structure of Kentucky community colleges, we better understand the organizational hierarchy and its intended synergy amongst the departments. Each department is working toward educating students to improve their quality of life. The next section delves into the community college students.

Community College Students

In this section, I discuss community college students. Understanding the profile of the community college student helps clarify unique needs that must be addressed. The profile of the community college student also helps to identify if there are learning deficits that the community college must be prepared to support. In addition to learning deficits, late registration is related to said deficits in the overall academic performance of students at SKYCTC. On average, 11% fewer late registrants earn a grade of C or higher in courses in which they registered late. The goal of student success initiatives is to encourage late registrants to perform at a comparable level to students who register on time.

Community College Students as a Group. 11.8 million students are enrolled in community colleges across America. Of the 11.8 million, 58% or 6.8 million were credit-seeking students pursuing a credential (i.e. a certificate or degree) (American Association of Community Colleges, 2021). The remaining 5 million were non-credit students. Non-credit students are completing training without the intent of completing a credential. As a result of the COVID-19 pandemic, AACC (2021) predicts a decrease of 10.1% in the overall headcount enrollment from Fall 2019 to Fall 2020.

Part-time enrollment continues to be an overwhelming majority of the credit-seeking enrollment, with the ratio of part-time to full-time students at 65% to 35%, respectively. The ratio for KCTCS was comparable at 68% to 32% (*KCTCS Fast Facts, n.d.*). SKYCTC was slightly higher at 70% part-time and 30% full-time enrollment. Indicative of the demographic profile of many community college students, 72% of part-time students are employed, with 38% working full-time and 34% part-time. However, it is important to note that most full-time students are also employed, with sixty-two percent of full-time students working. Of these, 21% work full-time, and 41% have part-time employment.

The total nationwide and KCTCS headcount enrollment is 57% female and 43% male (*KCTCS Fast Facts*, n.d.; American Association of Community Colleges, 2021). For SKYCTC, the headcount enrollment was 59% female, 39% male, and 2% unknown (*KCTCS Fast Facts*, n.d.). The average age of the community college student is 28, with a median age of 24. Fifty-six percent of the students are younger than 22. Thirty-six percent are aged 22-39. Eight percent are over 40 (American Association of Community Colleges, 2021).

In addition to the group of community college students, it is also important to review how college readiness relates to those who attend the community college. The open-access mission implies that community colleges educate all students by virtue of their preparedness for college-level coursework. Students are categorized upon admission based on their skill level to determine the appropriate starting point in subject areas such as English, math, and reading.

College Readiness

In this section, I review college readiness, what it takes to be declared college-ready, and trends in placement exams. College readiness is a term often used in higher education to describe a student's academic propensity to complete college-level coursework. Understanding college readiness as a concept can aid in understanding students' abilities entering community college. The students' academic abilities may also be reflective of their tendency to follow suggested registration timelines. The late registrants' college readiness could be a factor that helps to uncover supports that aid in their success.

What College Readiness Is. A student's readiness to complete college-level coursework is a measure of personal experiences coupled with educational preparation to meet the demands and expectations of college, according to Conley (2008). Another way of defining college readiness is the ability to complete a pre-baccalaureate credit-bearing general education course at a postsecondary institution without remediation (Conley, 2008).

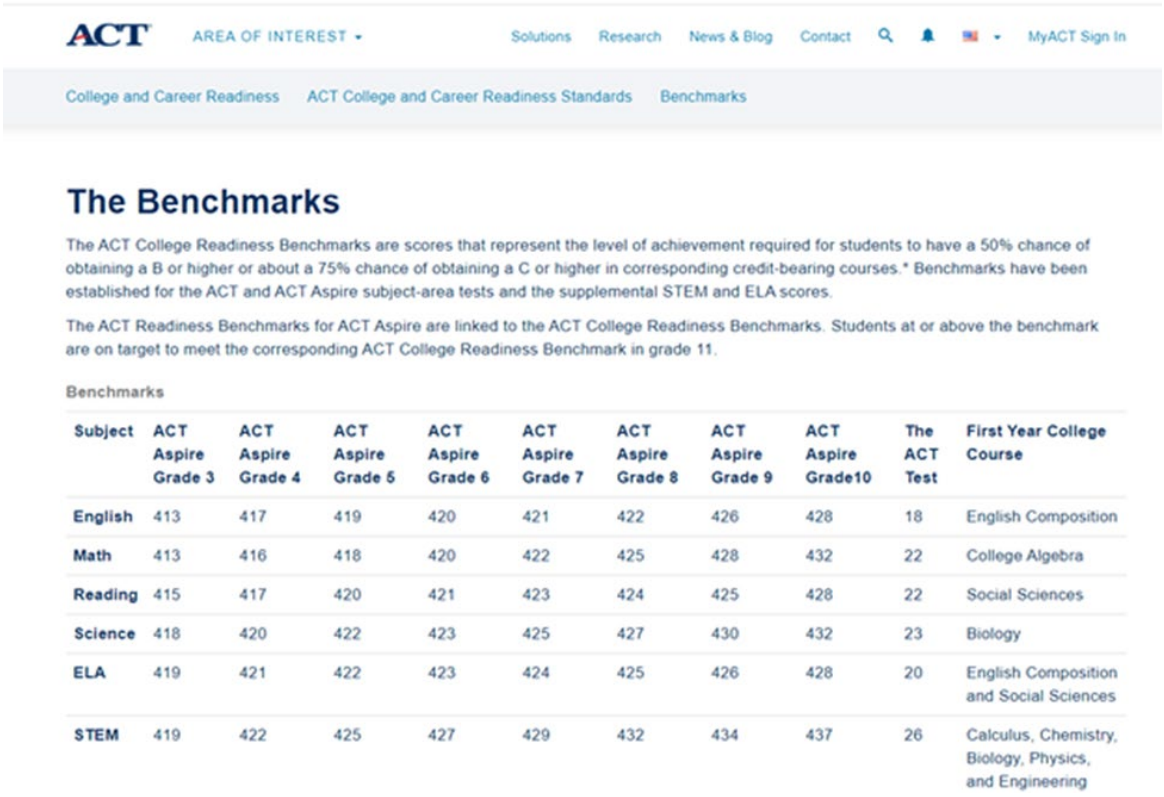
According to the Council on Postsecondary Education (CPE), college-ready students are those students who have developed the critical thinking skills associated with reading, writing, and math that are needed for college-level work (2022). These are also the general skills employers value. Within Kentucky, one in three high school graduates is not ready for college-level coursework in reading, writing, and math (Council on Postsecondary Education, 2022). Specifically, for KCTCS, four out of 10 students are unprepared for college-level coursework in at least one of the subjects (Council on Postsecondary Education, 2022). To move students' skills up to college level, they must

enroll in developmental courses or co-requisite programs. The co-requisite programs often include tutoring, mentoring, or other forms of academic support to assist underprepared students (Council on Postsecondary Education, 2022). High schools are charged with preparing students to be college ready, which is determined by the American College Test (ACT) scores.

How College Readiness is Determined. In Kentucky, college readiness, commonly referred to as academic readiness, is determined by ACT scores. The benchmark scores are 18 in the English section, 19 in the math section, and 20 in the ACT reading section (as shown in Figure 5). The Council on Postsecondary Education annually sets benchmark scores to determine college readiness. Scores published for the 2021-22 academic year are shown in Figure 6. College readiness assesses the student's preparedness to complete college-level coursework.

Figure 5

American College Testing (ACT) Benchmarks



The Benchmarks

The ACT College Readiness Benchmarks are scores that represent the level of achievement required for students to have a 50% chance of obtaining a B or higher or about a 75% chance of obtaining a C or higher in corresponding credit-bearing courses.* Benchmarks have been established for the ACT and ACT Aspire subject-area tests and the supplemental STEM and ELA scores.

The ACT Readiness Benchmarks for ACT Aspire are linked to the ACT College Readiness Benchmarks. Students at or above the benchmark are on target to meet the corresponding ACT College Readiness Benchmark in grade 11.

Benchmarks

Subject	ACT Aspire Grade 3	ACT Aspire Grade 4	ACT Aspire Grade 5	ACT Aspire Grade 6	ACT Aspire Grade 7	ACT Aspire Grade 8	ACT Aspire Grade 9	ACT Aspire Grade10	The ACT Test	First Year College Course
English	413	417	419	420	421	422	426	428	18	English Composition
Math	413	416	418	420	422	425	428	432	22	College Algebra
Reading	415	417	420	421	423	424	425	428	22	Social Sciences
Science	418	420	422	423	425	427	430	432	23	Biology
ELA	419	421	422	423	424	425	426	428	20	English Composition and Social Sciences
STEM	419	422	425	427	429	432	434	437	26	Calculus, Chemistry, Biology, Physics, and Engineering

Figure 6

CPE Academic Readiness Indicators

CPE Higher Education Matters

ACADEMIC READINESS INDICATORS

Academic Year 2021-22

Upon admission to a public postsecondary institution, students scoring at or above the established scores or grades will not be required to complete developmental or corequisite coursework and will be allowed entry into college credit-bearing coursework that counts toward degree credit requirements.[1]

Note: Circumstances surrounding the COVID-19 pandemic have made the administration of the standardized tests listed on the College Readiness Indicators more difficult, and even impossible, in some instances. As such, for AY 2021-22 institutions are permitted to implement their own methodologies for college readiness determination

Area	ACT Score	SAT Score	KYOTE	GED College Readiness	ALEKS
English (Writing)	English 18 or higher	22 or higher on the Writing and Language Test[2]	Writing 6 or higher	Reasoning through the Language Arts 165 or higher	Not applicable as a placement score
Reading	Reading 20 orhigher	24 or higher on the Reading Test	Reading 20 or higher	Reasoning through the Language Arts 165 or higher	Not applicable as a placement score
Mathematics (Quantitative Reasoning)	Mathematics 19 or higher	Mathematics 510[3] or higher	College Readiness Mathematics 22 or higher	Mathematical Reasoning165 or higher	ALEKS PPL30
Mathematics (College Algebra)	Mathematics22 or higher	Mathematics 540[4] or higher	College Algebra14 or higher	Mathematical Reasoning 175or higher	ALEKS PPL46
Mathematics (Calculus)	Mathematics 27 or higher	Mathematics 640[5] or higher	Calculus 15 or higher	Not applicable as a placement score	ALEKS PPL76

[1] All exam scores remain an indicator of academic readiness for a minimum of twelve (12) months from the date of administration. However, an institution shall not determine academic readiness using scores received from exams taken more than four years prior.
[2] SAT does not disaggregate English and Reading. This score is based on College Board's use of concordance tables between the old SAT and the Redesigned SAT, to provide updated indicators. The English (Writing) and Reading Scores are Test Scores (see here for more detail on the scores provided with the SAT: https://collegereadiness.collegeboard.org/sat/scores/understanding-scores/structure).
[3] This is based on concordance with ACT score of 19.
[4] This is based on concordance with ACT score of 22.
[5] This is based on concordance with ACT score of 27.

Questions have arisen regarding the validity of standardized tests in predicting students' college readiness (Leeds & Mokher, 2020). The use of high school grade point average (GPA) to determine college readiness has increased. In response to the limited administration of standardized tests due to COVID-19 restrictions, colleges have resorted to using the high school GPA for college readiness determination. The literature on college readiness supports high school GPA as a better predictor than standardized tests because of the aggregate assessment of the students' skills instead of a one-time snapshot performance (Allensworth & Clark, 2019). A high school GPA can determine readiness for college-level coursework and more consistently predict persistence and degree

completion (Brookhart et al., 2016). Colleges and universities have been trending away from using placement exams recently.

Trends in Placement Exams. The COVID-19 pandemic strained many colleges' ability to determine course placement for new students (Keller, DeBaun, Warick, 2020). For instance, the logistics of administering placement exams were impacted. Colleges and testing locations were unable to administer placement exams safely. To avoid students being negatively impacted by colleges and testing locations' inability to administer placement exams, the assessment and placement policy expanded to include a high school grade point average (GPA). The expansion of the assessment and placement policy used by colleges and universities no longer required students to complete high-stakes placement exams for admission. On the contrary, it allowed students to be admitted based on four years of academic performance.

Many colleges and universities have implemented a test-optional policy. Three different variations of test-optional policies have arisen. The first is test-optional for some. In this case, a minimum high school GPA or class rank is set for admissions, and involvement in extracurricular activities and service experiences may be considered. Consequently, submitting the Scholastic Aptitude Test (SAT) or ACT scores is unnecessary if a student meets the minimum GPA. This policy has been nicknamed "test-flexible."

The second variation is test-optional for all. Students may decide whether to submit the SAT or ACT scores through this variation. If the student feels that the scores on the SAT or ACT are not representative of their abilities, they may opt to use high school GPA or class rank.

The third variation is test-optional for admissions but required for enrollment and scholarships. In this case, scores on placement exams may be required to determine appropriate course placement. College admission is permitted without the SAT/ACT scores. However, enrollment in the course accurately reflects the student's academic abilities and is contingent upon the student submitting test scores (College Board, 2020).

The impact of COVID-19 on the administration of standardized tests is not the only reason for colleges dropping the test requirement. Certainly, standardized tests have provided a universal measure against judging students' academic performance. However, colleges and universities have questioned the objectivity and reliability of standardized tests. Research suggests that lower scores on standardized tests have been reported for underrepresented minorities, first-generation college students, and students with lower socioeconomic backgrounds (Anderson, 2019). Higher scores are often attributed to the ability to secure private tutors, complete costly preparatory courses, and familiarity with the vocabulary and phrasing of questions (Rubin & Gonzales Canché, 2019). Eliminating standardized tests would also increase the number of racial and socioeconomic applicants, thus students.

Support for moving to a test-optional policy can be found in the results of the Bates Study, which examined twenty years of admissions data at Bates College (Syverson, 2007). Approximately 30% of students admitted each year were non-submitters or applicants who chose not to submit their SAT or ACT scores for admissions purposes. Upon enrollment at Bates College, nonsubmitters must submit their SAT or ACT scores. Nonsubmitters averaged about 160 points lower than those who submitted their scores for consideration in the admission decision. For both submitters and

nonsubmitters, the graduation rate was 0.1 percent different, and the difference in average GPA was 0.05. For students whose scores fell between 1100-1150, nonsubmitters had a higher GPA at graduation. Despite the lower SAT scores, nonsubmitters' academic performance at Bates was greater than or equal to that of the submitters. Most nonsubmitters were women, students of color, and international students. This study supports the notion that standardized tests do not accurately assess the scholastic abilities of underrepresented minorities and women (Syverson, 2007).

The literature suggests that many instruments are used to successfully determine a student's ability to complete a pre-baccalaureate general education course without remediation. ACT has become a widely accepted tool to determine college readiness. However, COVID-19 has accelerated the use of high school GPA to predict success in college-level courses.

Various instruments have been deemed appropriate in assessing the student's preparation for college-level coursework. Students' readiness for college-level coursework could also be indicative of their readiness for and ability to navigate college processes such as course registration. Students' preparedness for college-level coursework must be determined before properly evaluating the subset of late registrants' ability to successfully complete college-level courses. Consistent with variations in the determination of a student's college readiness, success at the community college level is also determined through multiple avenues.

Community College Student Success

There is not one clear metric to declare community college student success. Community college students have various exit points and goals that often drive their

enrollment in a community college. The student's grade point average, or GPA, is often a measure that is an unbiased, objective way of effectively evaluating performance. Persistence to the following term and graduation, or completion of a set program, are also measurements of success. Graduation rates are measured to determine the success of the institution. Academic preparedness is a factor that cannot be ignored when evaluating student success. Eligibility for financial aid can also impact overall student success. Institutional policies affect the success of students as well. Transfer to the university may be used to measure success. In this section, I explored these issues to help understand that there are different metrics by which a student may be measured to determine student success.

Grade Point Average. Grade point average is often used as a measure to evaluate student success (Burns, 2010). To avoid academic probation and ultimately graduate, students must maintain a cumulative grade point of 2.0, or an average of C. The minimum grade in specific courses may be higher depending on the respective curriculum. The student's ability to complete individual courses with a grade of C or higher deems the student eligible to progress to the subsequent course level. GPA can be an effective way to assess student success when taken into consideration with other factors, such as student persistence (Burns, 2010).

Persistence. Student persistence is a critical factor in determining student success as students must stay enrolled to achieve their educational goals (Rockstroh, 2011). Tinto defines persistence as the quality that allows someone to continue pursuing a goal even when challenges arise (2017). The student success metric, persistence, recognizes the student overcoming obstacles and being determined enough to move forward toward the

goal of completion (Tinto, 2017). In higher education terms, persistence is measured by the percentage of students who return to college at any institution for their second year. This measurement of student performance at the community college level may also be skewed because of the large number of part-time students enrolled. In 2021, 65% of students at the community college were enrolled part-time (American Association of Community Colleges, 2021). Their enrollment may actually extend beyond two years to complete their program of study. Consequently, their rate of graduation or completion of their program, may be difficult to accurately calculate. Though it has been deemed a benchmark by which to measure the institution.

Graduation Rates. The use of graduation rates, as a measure of student success, at a community college is controversial (Burns, 2010). Graduation rates do not consider the student's goals when first enrolled at the institution or the enrollment status of the student, whether full-time or part-time. When determining graduation rates, the time it takes the student to complete the curriculum is limited in the calculation. Many calculations consider 150%, or three years, as normal time to complete an Associate's degree (*Outcomes Measures*, 2017). Students may take courses to improve specific skills, and degree attainment is not the top priority. The attainment of a certificate, or short-term credential, is often forgotten as a metric of success for community college students (Martin, Galentino, Townsend, 2014). Academic preparedness impacts the accomplishment of completing a credential and how quickly that can be completed.

Academic Preparedness. Student success is also affected by the student's academic preparedness (Burns, 2010). Community colleges are legislatively built upon the premise that they will educate students at every level (Kentucky Community and

Technical College System, n.d.). The expectation to provide instruction to students regardless of their college readiness should also be met with the realization that the time it takes to complete college will be extended as well (Conley, 2008). The academic preparedness of each student will drive the overall eligibility for financial aid.

Financial Aid. Availability of financial aid for community college students can impact students' persistence, graduation, and whether they transfer to the university (Armstrong, 1999). Financial aid eligibility is reserved for those students enrolled at least part-time. Less than part-time enrollment renders the student ineligible for any source of financial aid and leaves the student dependent upon some other source of income to cover educational expenses (Goldrick-Rab, 2010). Persistence is often negatively impacted by the guidelines of financial aid for part-time students. Part-time enrollment necessitates an altered calculation of need for financial aid purposes. Those students enrolled part-time, between 6-11 credit hours per semester, receive a prorated amount of financial aid though the cost of attending college (tuition, course fees, books, and other related expenses) and loss wages due to time devoted to attending college are not fully considered in the calculation (Taylor & Manor, 2021). Consequently, the student's will to persist may be overshadowed by family budgetary constraints.

Financial aid is also limited to students enrolled in programs that meet a certain credit hour threshold. Students enrolled in certain certificate programs at the community college may not be eligible for financial aid because that program is under the credit hour threshold (Park & Scott-Clayton, 2018). This may directly affect students' choice to enroll in or complete those programs of study.

Transfer to the University. Transfer is affected by the financial aid guidelines as well. Financial aid guidelines limit the amount of student loans that a student may access in pursuit of a baccalaureate degree. Consequently, students at the community college must enroll in and successfully complete courses required for the undergraduate degree. A clearly defined path must be outlined for students opting to transfer to the university with the ultimate goal of completing a baccalaureate degree to maximize their financial aid eligibility (Jenkins et al, 2018). Transfer pathways can facilitate the efficient use of financial aid by reducing the credit hours lost when transferring to the university and transferring into the university with junior standing after earning the associate degree (Barnett & Kopko, 2020).

Transfer is part of the mission of the community college (Kentucky Community and Technical College System, n.d.). Students enrolled in A.A. or A.S. degree programs are encouraged to transfer to the university. However, among common metrics of student success, transfer is often excluded. The transfer rates should be included because they represent a pathway to graduation (Mullin, 2012). For the Integrated Postsecondary Education Data System (IPEDS) and the CPE, transfer data of only first-time, full-time students is included in the success rates. The 2022-2030 CPE strategic agenda entitled, "Higher Education Matters" documents the students counted in the transfer population.

> **2-Year to 4-Year Transfer** (Campus-Level): Percent of first-time, full-time credential-seeking students entering KCTCS in the fall who transfer to any in-state, 4-year public institution within 3 years of entry (*Strategic agenda for postsecondary education*, n.d.).

Institutional policies, such as the aforementioned practice, tend to shape what is considered as student success.

Institutional Policies. To optimize outcomes, community college policies should be consistent with institutional student success goals. Clearly outlined student success expectations should guide an institution's policies. Effective community college leaders create actionable steps toward increasing student success grounded in institutional and regional data (Davis, DeSantis, & Jaeger, 2022). Equity gaps cannot be reduced until responsibility is taken for supporting and educating marginalized groups. Community colleges enrollment is made up of a larger percentage of non-White students than other colleges and universities (Martin, Galentino, & Townsend, 2014). As such, improving student success must include a focus on increasing the performance of under-represented minorities.

Well-intentioned policies, such as the labeling of adult learners, can have unintended consequences. Adult learners as a group may have similarities that place them into a category of students that are above a certain age, has a full-time job that compromises their time, and must take online classes due to a changing work schedule. To the student success professionals at a community college, the similarities of adult learners may overshadow the differences of the same population. First-generation college student status, the student's ethnic background, and whether they graduated from high school or completed a GED may, in fact, be of greater significance when determining the proper support for the adult learner category of students (Kachur & Barcinas, 2020).

Over-simplifying, or ignoring, the differences in a student group can be equally as detrimental as improper placement instruments. The need for developmental coursework is determined as a student is registered for courses at the community college. Ineffective placement tools can place too many students in developmental courses (Doyle, 2012;

Belfield & Crosta, 2012). The open-access mission of the community college obligates the institution to educate students who have not exhibited college readiness. In doing so, the college must be prepared to support the student through tutoring, career exploration, and other additional supports to encourage the students with developmental course needs to maintain their focus on the academic achievement and completion goals.

The literature suggests that college GPA, persistence, and transfer are all metrics that can determine a community college student's success (Burns, 2010). There is not a clearly defined metric to evaluate the success of a community college student because different goals have been declared at the beginning of their journey. The policies at an institution are instrumental in increasing or limiting student success. Motivation and academic preparedness play a major role in the student's success. Financial aid has an impact on the students' success as well. Gauging a student's success is critical when deciding whether to continue the practice of late registration.

Late Registration and Academic Success

Late registration is an activity that students engage in at the community college. Because of the open-access mission and the need to support the students' varying levels of preparedness, late registration continues to be supported by community colleges nationwide. By understanding the linkages between late registration and academic success, community colleges can confidently support students and promote success.

Numerous studies show mixed results regarding the academic success of students who register late (Ford et al., 2008; Freer-Weiss, 2004; Roueche & Roueche, 1993; Safer, 2009; Smith, Street, & Olivarez, 2000; Tompkins & Williams, 2015). Of the 32 studies Tompkins and Williams (2015) reviewed, late registration deadlines varied. Sometimes,

the late registration window was after the semester began, and others, just before the first day of classes. Still, in other studies, the deadline was extended several days into the course. As such, a widely accepted definition of late registration does not exist. The different definitions of *late registration* make the comparison of late registrants' academic performance difficult (Roueche & Roueche, 1993; Keck, 2007; Zottos, 2005; and Belcher & Patterson, 1990). A study was conducted at the community college level to determine if students' registration dates affected student performance (Smith, Street, & Olivarez, 2000). Student registration dates were examined in three phases: early, regular, and late registration. Among the findings, late registrants lagged those students who registered early or during the regular registration period. For new students who registered late, only 35% of them were retained for the next semester, compared to 80% of the students who registered early or during the regular registration period. New students who registered late also withdrew from 21% of their courses compared to 10% of early or regular registrants. For early and regular registrants, returning students to the college earned a 3.48 and 3.33 GPA, respectively. Returning students who registered late earned a 2.69 GPA for the semester. These results led Smith, Street, & Olivarez (2000) to recommend the elimination of late registration. The question remains, why do community colleges ignore the data and permit late registration? The tension between fulfilling the community college open-access mission and the demand for higher education accountability makes deciding whether to allow late registration difficult.

The introduction of performance-based funding into the state allocations for Kentucky's public higher education institutions places a greater focus on students' retention and overall success than the former allocation formula driven by enrollment

size. Consequently, implementing procedures that will support student retention and success is imperative to maximize funding and increase organizational success. Late registration also impacts the community college's ability to plan and manage the strategic enrollment management process. Planning enrollment can strategically be used to level out the potential highs and lows of performance-based funding equations (Bahr et al., 2015).

Studies on the effects of late registration in higher education date back to Chilton's study in 1964. In Chilton's study, 325 freshmen and 325 sophomore students were enrolled at the institution between 1955 and 1962. Late registrants were more likely to have been placed on academic probation and more likely to drop classes than regular or on-time registrants (Chilton, 1964). Research has been conducted at community colleges, four-year universities, and public and private institutions. The constant throughout the studies is the desire to measure late registration's impact on the dependent variables-retention, student grade point average, successful course completion, and rate of withdrawal.

In addition to the variation in the definition of late registration, there is also a need to clarify the type of student being discussed. Researchers have sought to determine if there are characteristics of the typical student who registers late. Also, of interest is whether the student enrolled late for one course, multiple courses, or all courses during the semester being studied. Many variables make the conversation surrounding late registration complicated. Freer-Weiss (2004) found that the variables of age, sex, and whether a student earned a GED or high school diploma are significant when the student

submits the admissions application. Consequently, this timing would also impact the registration date.

Considerable research on late registration in the community college are studies completed by Keck (2007), Maalouf (2012), Tompkins (2013), Angelo (1990), and Zottos (2005). These studies are notable because they demonstrate how late registration can be interpreted and the additional factors that affect the student's performance. In Keck's study (2007), an equal sample of late and timely registrants' final course grades at a community college were analyzed by registration behavior (late or not) and the course discipline. She found that students who registered and began a course on time were more likely to complete the course successfully. Interestingly, most late registrants were also successful in the course for which they registered late. However, students were hesitant to register late for a course they had never had in that discipline and if the course was taught online. The results of Keck's study were comparable to the results at SKYCTC. From 2016-2022, 64% of late registrants completed the course for which they registered late with a C or higher.

Maalouf (2012) also found that late registration harmed academic outcomes. She concluded that students who register late tend to have lower course grades and retention rates. Reasons for late registration were also gathered during the study via a questionnaire for late registrants. The following reasons are cause for concern in a population that may already be compromised:

- "I only decided in the last few days to attend college."
- "I've been waiting for my financial aid."
- "I wasn't aware that classes had already started."

- "I was planning to attend another college but couldn't." (Maalouf, 2012).

Tompkins (2013) studied students' registration behavior at 23 community colleges from 2010-2013. His results failed to produce a strong prediction of the association between registration timing and academic success.

Angelo (1990) also examined the relationship between late registration, student persistence, and the academic achievement of community college students. He randomly selected a sample of 390 regular registrants and 387 late registrants. The study found no significant difference in either the completion rates or the academic performance of regular and late registrants.

Zottos (2005) took a slightly different approach to determine if late registration could predict academic outcomes (grade point average and course completion). He used a sample of students from the nine Los Angeles Community College District campuses in the spring of 2001. Late registration was not a predictor of academic outcomes, though age, ethnicity, gender, high school GPA, and a sense of belonging were.

Table 2 is a compilation of studies about late registration. The research design, audience of the study, and a summary of the findings are listed in the table adapted from Freeman (2019).

Table 2

Late Registration Dissertations

Author	Design	Audience	Findings
Parks	Quantitative	Four-year institution	Found that late registrants were more likely to be older and transfer students. Late registrants had lower GPAs and were more likely to drop courses than regular registrants (1974).
Angelo	Quantitative	Community college	Found that late registrants did not have a negative effect of GPA, retention, or completion rates (1990).
Neighbors	Quantitative	Community college, four-year private, four-year public institution	At all types of institutions late registrants withdrew more frequently. Students who registered early had the highest GPA followed by regular then late registrants (1996).
Smith, Street, Olivarez	Quantitative	Community college	Found returning students who registered for classes after the first day of class were more likely to withdraw, completed less hours, and had lower semester GPAs. New registrants who registered late were more likely to withdraw and completed less hours, but did not have a significant difference in GPA (2000).
Freer-Weiss	Quantitative	Community college	Late registrants were less likely to be retained. No statistical significance was found between time of registration and semester GPA or proportion of hours completed (2004).
Zottos	Quantitative	Community college	The major conclusion was that late registration does not predict lack of success, but rather low performing students were more likely to register late (2005).
Keck	Mixed methods	Community college	Students who registered and began a course on time had a greater likelihood to complete the course and earn a successful final course grade. The majority of late registrants were successful in the late registered course (2007).
Ford, Stahl, Walker, & Ford	Quantitative	Four-year institution	Examined time of registration and student success in a psychology course. Found that those students who registered late had a significantly lower course average (2008).

Table 2 continued			
Maalouf	Quantitative	Community college	Late registrants had a statistically significant lower GPA than regular registrants and were less likely to be retained (2012).
Tompkins	Quantitative	Community college	Success in a class could not be meaningfully predicted by a student's registration behavior. Late registration is not of itself, or even in combination with several other factors, a good predictor of student success (2013).

Overall, the studies conducted are widely varied in the student populations, region of the college studied, student characteristics, college registration protocols, and the dependent variables observed. Consequently, the need for this empirical study exists to relate to the unique setting of SKYCTC. Critical to the continued success of SKYCTC in the community is the proven accountability for properly educating students who have opted to register late.

Higher Education Accountability

Questions surrounding the overall value of higher education in America have surfaced over the past few decades. Increasing tuition costs, rising student loan debt, and the surge of employment not requiring a postsecondary credential have all contributed to the recent critique of higher education's worth (Ortagus et al., 2020). Although the true impact of higher education can be debated, the need to exhibit the responsible handling and utilization of the institution's financial support remains. State government and legislators are calling for proof that state funding allocated for public colleges and universities is a fiscally responsible use of the taxpayers' money.

Performance-based funding models have been designed to assess various metrics related to student enrollment, success, and completion to answer the legislative call and

measure institutional outcomes concerning other higher education institutions. Initially, the funding equations incentivized colleges and universities to focus on their outcomes by offering improved metrics bonuses (McKinney & Hagedorn, 2017). Limited state budgets forced revisions to the funding model, and thus colleges and universities no longer vie for a larger bonus. Increased performance now links to receipt of the designated base allocation (Postsecondary Education Working Group, 2020).

In addition to the evolution of the type of funds institutions can earn through greater performance, the amount of allocations put through the model also varies by state—early iterations of performance-based funding models designated 1-5% of state allocations to this equation (Ewell and Jones, 1994). Over the past four decades, states have fluctuated with the amount of funding tied to performance due to the inconsistency of the state budget (Favero & Rutherford, 2019). Of the states adopting performance-based funding, in the 2020 fiscal year, the funding amount ranged from a low of 3% to full allocations being earned by outcomes (Postsecondary Education Working Group, 2020).

The variation in the measurements used in each funding model is often determined by the overall approach to which outcomes will be monitored also varies amongst the states. Ewell and Jones (1994) identified four major approaches to developing the performance-based funding model. The approaches include inputs, process, outcomes; resource efficiency and effectiveness; state need and return on investment; and customer need and return on investment. The approach chosen by the respective state will influence the outcomes for which the institution is rewarded. The inputs, processes, and outcomes approach, frequently used in K-12 assessments, focuses

on the value added to each student. More prominently used in higher education models, resource efficiency and effectiveness emphasize using faculty, space, and equipment to accomplish stated institution goals. The state's needs and return on investment also serve to evaluate higher education institutions. As the name implies, this approach measures the institution's impact on preparing the workforce, thus assessing the state's return on the investment of that institution. The last approach, customer need and return on investment, has a more student-centered slant. This measures retention and graduation rates and the employability of the institution's graduates (Ewell & Jones, 1994).

As of the 2020 fiscal year, 41 states had adopted a performance-based funding model to encourage greater accountability within the higher education system. Tennessee, the first state to implement outcomes-based funding, blazed a trail in 1979 with its first attempt to encourage greater enrollment and increased focus on students' academic performance. Nine states have never engaged in performance-based funding (Ortagus et al., 2020).

In 2016, Kentucky created its most recent iteration of the performance-based funding model under which it currently operates (*KCTCS Board of Regents Policies*, n.d.). There are three basic components of the performance-based funding model: student success (35%), course completion (35%), and operational support (30%). For KCTCS, the student success awards are based on degree and credential production and student progression. Per the statutory directives of the community and technical colleges, premiums are also tied to transfers to four-year universities and credentials awarded in high-wage, high-demand industries (Postsecondary Education Working Group, 2020). Course completion recognizes cost differentials by discipline but rewards enrollment and

the successful completion of courses. According to the model, the operational support component distributes resources related to the expenses of the maintenance and operations of buildings of student learning, the cost of instruction, and student services.

Kentucky's postsecondary education goal of raising the educational attainment level from 45 percent to 60 percent by 2030 served as one of the guiding principles in developing the performance-based funding model. Specifically, the model's goals are to:

- Increase student retention and progression.
- Increase the number of credentials earned.
- Increase the number of degrees and credentials in the following fields: STEM+H fields, high-wage, high-demand fields.
- Increase the number of degrees and credentials earned by low-income, minority, and underprepared students, thus closing the achievement gap (Postsecondary Education Working Group, 2020).

The greater emphasis on institutional outcomes further reiterates the demand for a laser focus on student success. Colleges and universities are responsible for examining their processes and procedures through the lens of promoting student success to ensure that implicit or perceived barriers are not causing unintended consequences.

The increased focus on student success initiated by the performance-based funding model leaves the institution with a decision to make (Angelo, 1990; Smith, Street, & Olivarez, 2000). Continue with current enrollment practices that allow late registration and hope for the best or intervene when students engage in late registration and provide support for the students. The amount of enrollment that engages in late registration, 24% for SKYCTC, is not a negligible amount that the institution can afford

to forego. We must find a way to support this population to students to encourage their success.

Student Success Intervention

Higher education scholars encourage the development of early intervention methods and implement early warning systems (Kuh, 2007a; Kuh 2007b; Seidman, 2005; Tinto, 2008). The design of early intervention methods incorporates intrusive outreach that does not wait on students to self-identify but instead reaches out to students. The proactive outreach methods embedded in early intervention methods help institutions reach students who would normally not reach out on their own. Alert notifications are typically sent via paper forms, telephone calls, email, or electronic communication devices (Cuseo, 2004; Maack, 2001).

Tinto stressed the importance of helping students feel like valued members of the college community (2001). "Students are more likely to persist and graduate in settings that involve them as valued members of the institution. The frequency and quality of interaction with faculty, staff, and other students is an important independent predictor of student persistence" (Tinto, 2001, p. 3). Early intervention programming is based on the idea that one-on-one intervention will introduce students to a caring member of the college campus. Many campuses rely on telephone calls or letters for outreach (Cuseo, 2004; Eimers, 2000; Geltner, 2001; Maack, 2001; Pfledging, 2002).

Students' sense of belonging predicted their intentions to persist even when background variables were controlled (Hausmann, Schofield, and Woods, 2007). Sense of belonging is one of the basic human needs (Baumeister & Leary, 1995; Glasser, 1998). According to Maslow (1943), once a person's basic physiological needs are met, his or

her need for belonging increases. Hausmann, Schofield & Woods found that belonging was a belief, sense, or feeling of being an accepted member of a community (2007). Students who do not feel cared about will leave, thus the importance of an early intervention (Bean, 2005). “Students who find something or someone worthwhile to connect with in the postsecondary environment are more likely to engage in educationally purposeful activities during college, persist, and achieve their educational objectives” (Kuh et al., 2006, p.3.).

The literature reviewed for this study established foundational knowledge about community colleges' role, structure, and mission. In Kentucky, community colleges were legislatively created and charged with educating and training the Commonwealth. The diverse group of students that community colleges serve come from various backgrounds, including ethnic, racial, and socioeconomic. Academic preparedness spans the widest gamut of challenges that a community college may face in providing a quality education for its students. Community college students often fall at varying ends of the spectrum when determining college readiness. However, the community college must meet the students where they are while helping them achieve success.

Success comes in different forms at the community college. For the community college student, the goal of attending the community college must be identified before a student may be deemed a success or failure. The GPA is evident when evaluating a student’s success, but persistence and transfer must also be considered at this higher education level.

There are many reasons that students credit for their late registration. From waiting on the financial aid package, to not being able to meet with their academic

advisor, and everything in between, the decision to register late sometimes falls outside the student's control. The reason for late registration affects their academic success in the course. Suppose the college canceled the class due to low enrollment, and the student had to find a replacement course at the last minute. In that case, that is a different situation that precipitated late registration than a student who just decided at a late date to enroll. Regardless of the reason for late registration, higher education institutions are expected to sufficiently educate the students enrolled there. Kentucky's community and technical colleges depend upon enrollment and the successful completion of courses, degree and credential production, and student progression for 70% of its funding. KCTCS' commitment to a value-based education is apparent through its focus on student success outcomes.

Colleges and universities have taken various approaches to mitigate the problems associated with late registration. Solutions have spanned from encouraging students to engage in early registration to banning the process of late registration. In the latter, course registration is allowed until a certain date, and students who seek enrollment after that date are encouraged to enroll in courses that begin later. Other possible solutions to the late registration issue include the following:

- Students who register late must participate in group sessions covering time management skills, organizational skills, productive study habits, and test-taking skills (Smith, Street, Olivarez, 2000).
- To expand upon the encouragement to register early, the registration times are well advertised. The faculty inform students of early registration season.

Admissions officers work with high school counselors and applicants to notify them of the registration deadlines (Abdullah, 2017).

- Special tutoring sessions are provided for students on academic probation who register late. The sessions assist the students on academic probation who registered late in catching up (Zaritsky & Toce, 2006).

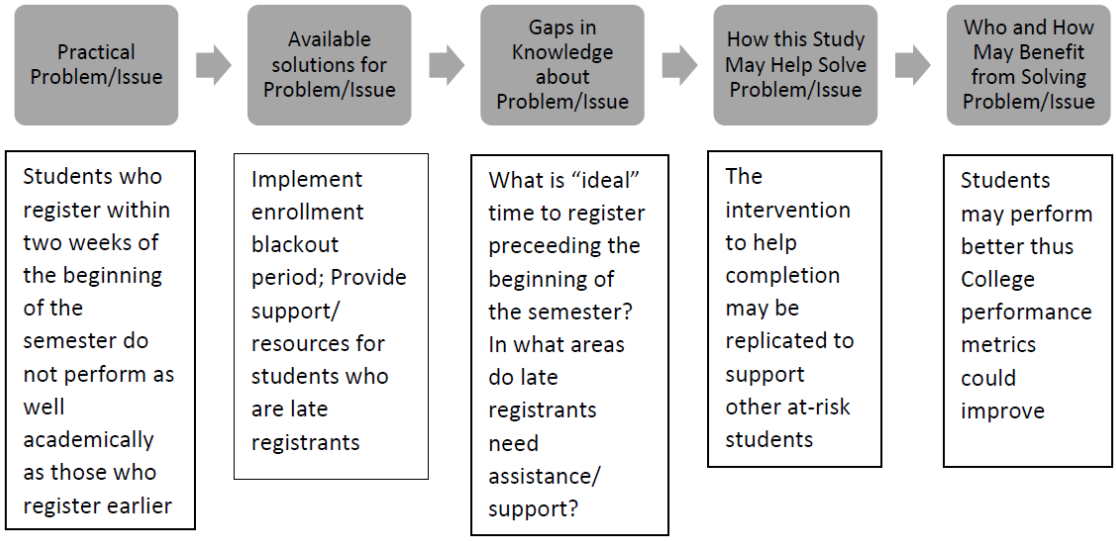
Research Problem Statement

Students who register late are in jeopardy of withdrawing from the course and not successfully completing the course. If 24% of the total student population engages in late registration, the success of these students is essential if the desire is to improve the college completion rate. Identifying an appropriate intervention is necessary to promote the students' success in the courses for which they registered late.

Students who register within two weeks of the beginning of the semester do not appear to perform as well as students who register on time. A possible solution to this problem is that the institution can implement an enrollment blackout period. Another solution is providing support and resources for late registrants. Understanding the registration timing will aid in learning which students may need additional support. Ultimately, providing the appropriate support for late registrants could positively improve college completion metrics. Figure 7 depicts the problem of practice and potential solutions to this problem.

Figure 7

Depiction of the Problem of Practice at SKYCTC and Potential Solutions



General Study Plan

The purpose of this MMAR study was to explore the late registration practices of students to understand their relationship with student outcomes at Southcentral Kentucky Community and Technical College. The goal of the Reconnaissance phase of the study was to examine the relationship between students' registration dates and their completion. Using a concurrent quantitative + qualitative mixed methods design, I collected quantitative data on students' registration dates, late registrants' completion rates, and course completion (grades earned in each course attempted). I also collected qualitative data from a focus group of late registrants. These data helped inform the development of an initiative to promote student success. The goal of the Evaluation phase of the study was to identify the initiative's effectiveness, which encourages student success. Using a sequential qualitative→quantitative mixed methods design to collect and analyze data,

the quantitative results can be used to help confirm or generalize the qualitative results (Ivankova, 2015). The rationale for applying mixed methods in the study was to gain more insight into if students' ability to complete the semester successfully is affected by their late registration.

Ethical Considerations

Confidentiality surfaced as a concern given the vast amount of sensitive data contained and accessible in the Student Information System. Secure student data such as identification numbers, grades, and test scores require a responsible person to safeguard this information carefully and not carelessly share it or leave it for unauthorized viewing. I stored this data on a personal drive that was not accessible without my login and password. The personally identifiable information was removed when the data was shared with others.

Because of my position of authority within the organization, I did not use this to force student participation in the intervention. I elicited stakeholders' feedback to develop the most effective intervention and encouraged their participation in making this intervention effective and beneficial for all. I also reported findings honestly and avoided the tendency only to report data that supported my study.

Summary

This chapter included the context for this study, the major stakeholders, and my role as practitioner-researcher. A review of institutional data to inform the diagnosis phase and select the problem of practice occurred. The chapter concluded with the general study plan and ethical considerations upheld throughout the study.

Chapter 2: Reconnaissance

Introduction

Student success remains an area of focus at SKYCTC under constant review for continuous improvement. A specific area of concern identified as a problem of practice is the academic performance of students who register within two weeks of the beginning of the semester. These late registrants were in jeopardy of being labeled at-risk because of their assumed lack of preparedness for the demands of college-level coursework. In this chapter, I discussed the mixed methods action research framework and the study design used in this study to inform the intervention intended to improve the academic performance of late registrants.

Research Setting

Enrollment at SKYCTC begins with the admissions application submission. The Admissions Office processes the admissions application and sends the student an acceptance letter which details the next steps of completing orientation, advising, and registration functions in the CAP Center. Demands placed upon these offices by students increase as the beginning of the semester draws near. Because of the revenue generated during the weeks preceding the beginning of the semester, placing a halt on the enrollment process runs contrary to the enrollment management efforts of the college. Consequently, the Admissions Office processes admissions applications in a frenzy and rushes the students to the next stage of the enrollment process.

The beginning of the semester is always a busy time for all involved. There is typically a rush of students who wish to enroll. SKYCTC requires students to meet with an advisor to prepare for enrollment and register for classes. During the weeks preceding

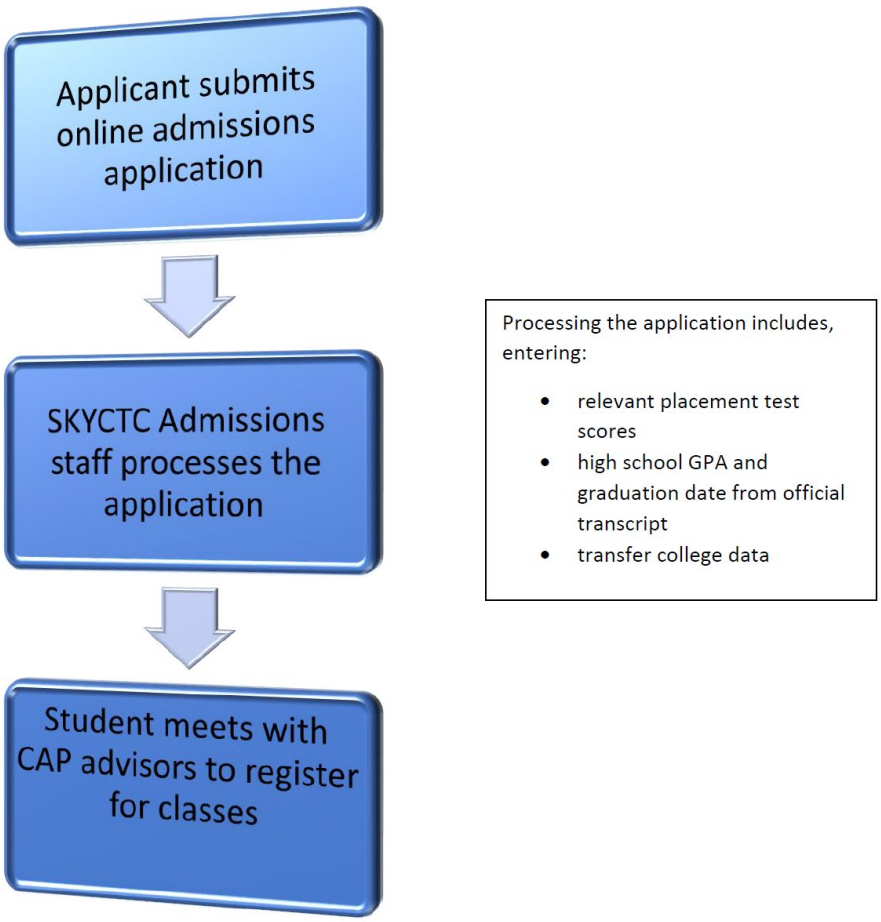
the beginning of the semester, advising appointments are completely booked. Advising appointments max out every available minute of the workday. A consequence of this is the negative transformation of what should be a detailed and supportive advising appointment may be abbreviated to accommodate more students during what becomes a short window of time. Students who are new to SKYCTC and students who have not been enrolled in over a year are the type of students most seen in the CAP center.

Students enrolled and advised by the CAP center staff are paired with a Student Ambassador who serves as a peer mentor to help them navigate the student experience at SKYCTC. Student Ambassadors frequently contact their mentees throughout the semester to answer questions that may arise, encouraging student success and retention.

As the Vice President of Student Services, the leadership and supervision of the Admissions Office and CAP Center is a portion of my responsibilities. Being familiar with the steps to complete the enrollment process has been invaluable in assessing the role each employee plays in it. Without the knowledge of what is required to process an application or register a student for classes, an assumption could be made that this could all happen in the matter of a few hours. In a best-case scenario, it can. But the process follows the sequence shown in Figure 8, which could take days or possibly weeks.

Figure 8

SKYCTC Enrollment Process



Continuous improvement is necessary in a dynamic organization. Student Services at SKYCTC maintains its processes by frequently reviewing them to avoid becoming stale and stagnant. As we review our procedures, we often seek best practices to accomplish stated goals effectively and efficiently.

Phase Design

In the diagnosis phase, I identified a problem of practice at SKYCTC. Through a review of the registration data and the grades earned by students in courses in each

semester from 2016-2022, I discovered that 11% fewer late registrants completed the course with a grade of C or higher than the overall student population.

In the Reconnaissance phase, I performed fact-finding activities to identify how late registrants perform at SKYCTC. Quantitative and qualitative data were collected to uncover specific needs of the late registrants and inform actions in the Planning phase.

Mixed methods inferences from the Reconnaissance phase were presented to the executive leadership team at SKYCTC during the Planning phase. The outcome of the Planning phase was the development of an intervention to positively impact late registrants' academic performance in those respective courses.

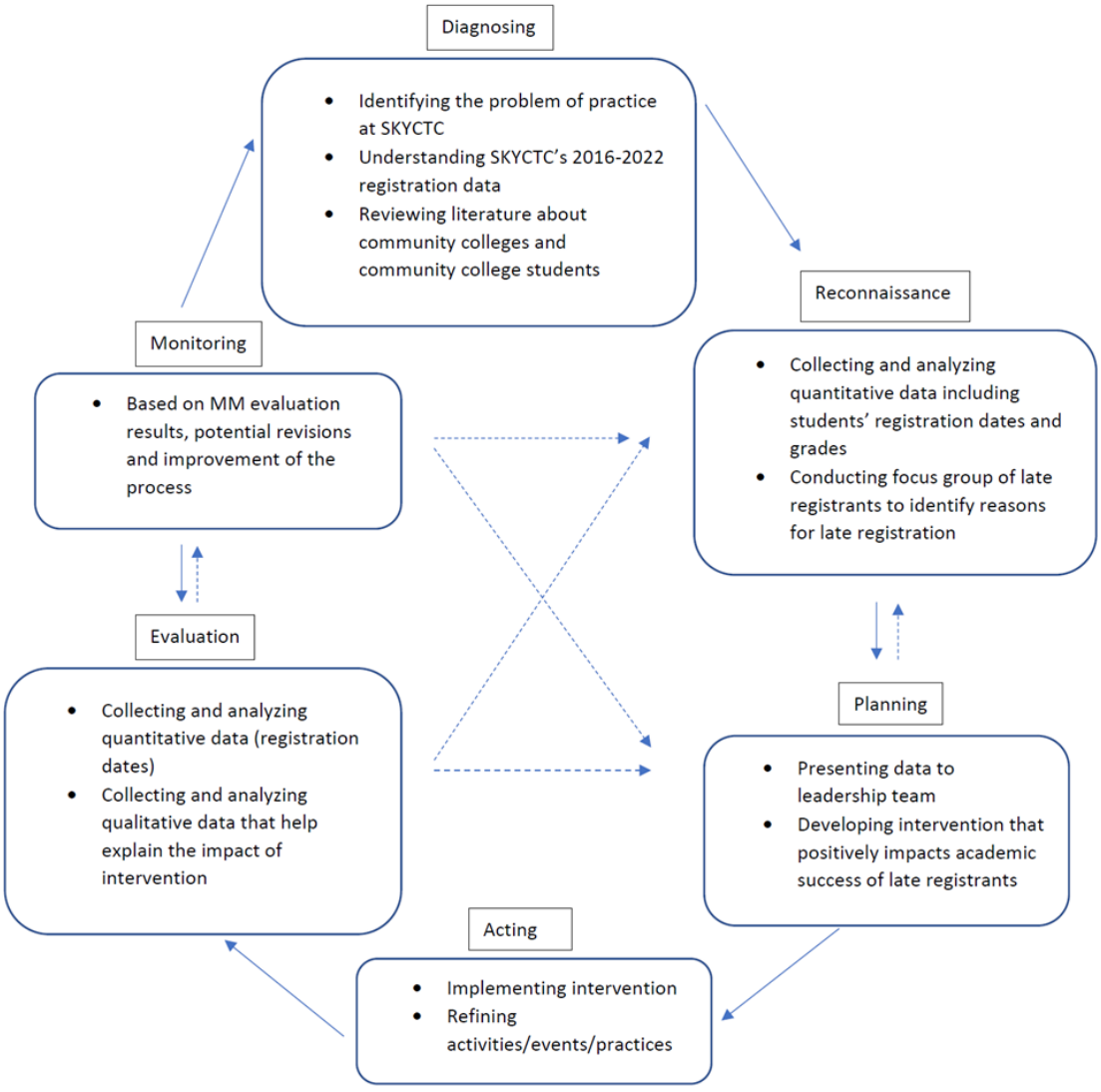
The Acting phase of the MMAR framework was the implementation of the planned intervention. Refining the activities and practices in place was also necessary to support the intervention's successful implementation.

The effectiveness of the intervention was assessed during the Evaluation phase. The collection and analysis of quantitative and qualitative data was used to evaluate the intervention's impact.

Outcomes of the Evaluation phase were used to determine the need to revise the intervention for optimal results in the Monitoring phase. Upon review of the intervention's impact, a potential return to the Reconnaissance or Planning phase may be necessary to continue improving the intervention's effectiveness. The Mixed Methods Action Research Study Design is shown in Figure 9.

Figure 9

Mixed Methods Action Research Study Design



Reconnaissance Phase Design and Overarching Research Question

A concurrent quantitative + qualitative design was used to collect and analyze data in the Reconnaissance phase of the MMAR study. This design was chosen because it allows for the simultaneous collection and analysis of quantitative and qualitative data. Gathering quantitative and qualitative, complementary, data at the same time also lends itself to a more collaborative approach (Ivankova, 2015). Quantitative data will offer an understanding of trends and patterns, while qualitative data will expound upon the experiences and perceptions of participants, thereby enriching the interpretations with context and depth. Secondly, this design aligns with the iterative nature of action research, facilitating rapid cycles of data collection, reflection, and action.

Alternatively, the research skills necessary to implement this design could be a con. If the data does not produce complementary evidence, but instead divergent and conflicting outcomes, it could create a challenge for the researcher. Also, if the quantitative and qualitative data explores different concepts, another challenge may arise in the analysis stage. Synthesizing data from different paradigms requires deliberate and careful planning to ensure coherent and valid conclusions. (Ivankova, 2015).

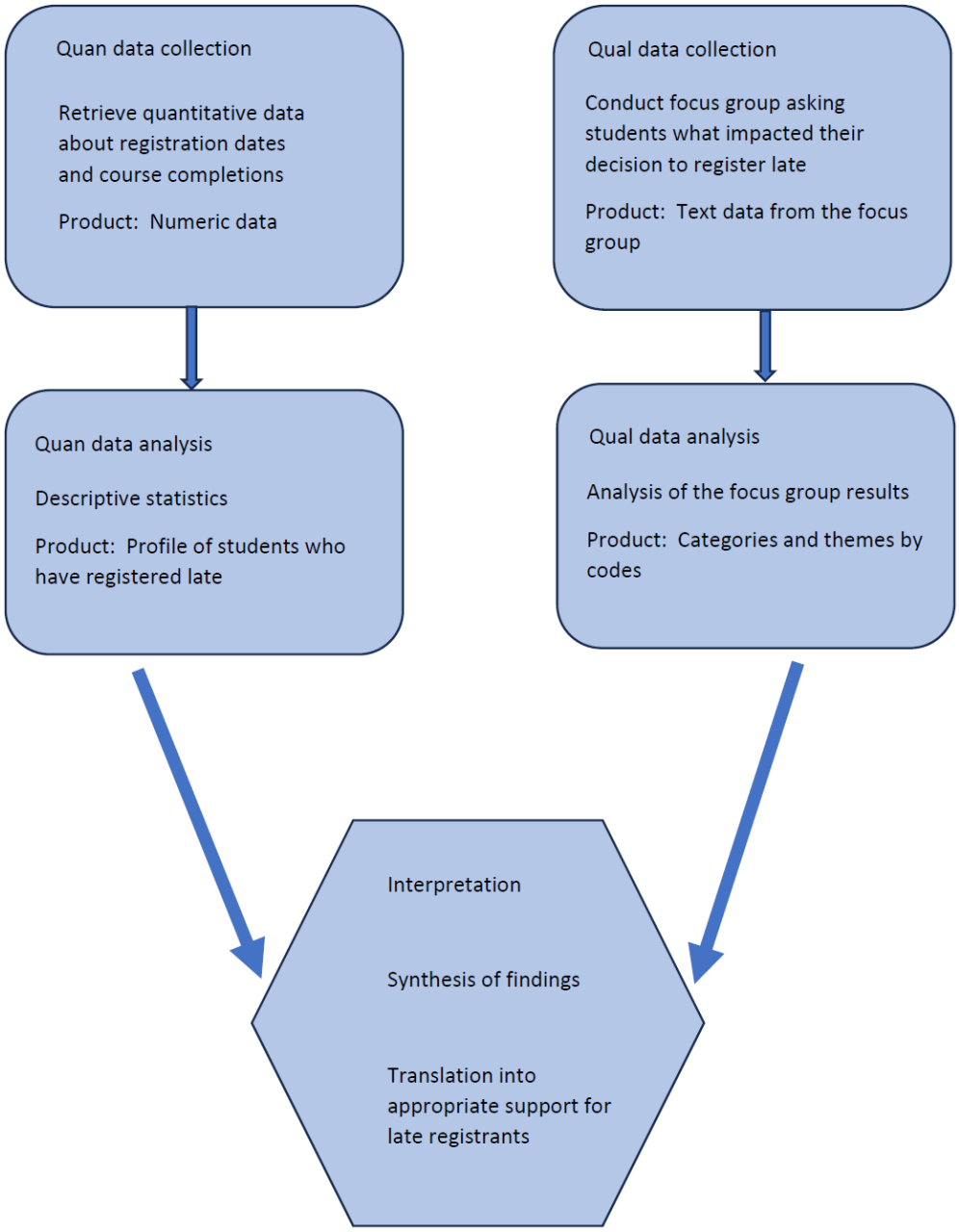
The advantage of the concurrent design is that it allows verifying and generating knowledge in the same study phase. This is achieved by using confirmatory and exploratory research questions simultaneously (Teddlie & Tashakkori, 2009). The concurrent design suggests that the quantitative and qualitative strands are conducted independently. The strands may be completed at the same time or with a time lapse (Ivankova, 2015). Figure 10 depicts activities and products for each stage of the concurrent design.

Phase Weighting

Two equal strands were used, and both strands were weighted equally. They were weighted equally because each strand complementarily addresses aspects of the same mixed method question (Ivankova, 2015).

Figure 10

Concurrent Quan + Qual Design



Integrated MMAR Question

How might enhancements in student support services improve academic outcomes for late registrants in community college settings as measured by grades and course completion rates on late registrants and as described through the experiences and perceptions of these students?

Quantitative Strand

Quantitative Research Questions

- What profile emerges of the Spring 2022 cohort based on a descriptive analysis of their demographic and academic performance variables?
- What is the relationship between the letter grade earned and age range, ethnicity, and gender?
- What is the relationship between the letter grade earned and the submission of the FAFSA?

Quantitative Sample

The population of 463 students who registered late was used to obtain the quantitative data. The qualitative data was obtained through purposeful sampling because the goal is to obtain corroborating evidence.

The sample was enrollment data for students who registered within 10 days of the beginning of the semester (late registrants). There were 463 students who registered late for the Spring 2022 semester.

Data Source

Data were retrieved from the student information system, PeopleSoft. The Director of Institutional Effectiveness developed a query that identified students enrolled in Spring 2022 that included the date that they registered for each course, the grade earned in each course, and the student's overall GPA at SKYCTC. The query also included demographic data about the student as well as background academic information (high school GPA and ACT scores). The data retrieved from the student information system were valid. Each field in PeopleSoft represented the respective information for students included in the aggregate information.

Data for the quantitative strand were the enrollment data from SKYCTC. These data included the registration date, course, grade earned in the course, age, gender, ethnicity, high school grade point average, SKYCTC grade point average, submission of the FAFSA (Free Application for Federal Student Aid), and ACT scores. From the total enrollment at SKYCTC, students who registered late were evaluated to better understand the relationship between late registration and academic performance. Descriptive statistics were used to gain insight into student strata which may exist among late registrants at SKYCTC.

Procedures

A data matrix of all enrollees from Spring 2022 was downloaded from PeopleSoft with the variables in Table 3.

Table 3

Variables Retrieved from PeopleSoft

Variable Name	Definition	Type	Range/Scale	Relevance to Study
Registration Term	The semester being considered	Categorical	Fall, Spring, Summer	Indicates the time frame for course enrollment and analysis
Class number	Five-digit number unique to each course taught per semester	Categorical	00000-99999	Identifies specific courses for analysis
Grade received	Letter grade earned at the end of the course	Categorical	A, B, C, D, E, F, I MP, P, W	Measures academic performance
Catalog number	Nomenclature for the specific course that designates the subject area and level	Categorical	Varies (e.g., ENG 101)	Classifies course by subject and difficulty
Course start date	Date that the course begins	Continuous	Dates	Helps to correlate start times with academic outcomes
High school GPA	Overall grade point average (GPA) earned in high school	Continuous	0.0-4.0	Provides context for academic background
ACT English	Score in the English subtest of the ACT	Continuous	1-36	Assesses baseline English proficiency
ACT Math	Score in the math subtest of the ACT	Continuous	1-36	Assesses baseline math proficiency
ACT Reading	Score in the reading subtest of the ACT	Continuous	1-36	Assesses baseline reading proficiency
Age	Age of the student	Continuous	Years	May influence academic performance and enrollment patterns
Ethnicity	Ethnicity of the student	Categorical	Categories (e.g. Hispanic, White)	Contextualizes demographic influences on academic performance
Gender	Gender of the student	Categorical	Male, Female, other	Examines gender differences in academic outcomes

Table 3 continued				
SKYCTC GPA	Overall GPA earned in coursework completed at SKYCTC	Continuous	0.0-4.0	Direct measure of college academic performance
Submission of FAFSA	Date that the student submitted the FAFSA	Continuous	Dates	Indicates financial aid planning and potential barriers

Data Analysis

Descriptive statistics and Chi-Square were the data analysis procedures used to understand more about the relationship between independent variables age, ethnicity, gender, high school GPA, ACT English score, ACT Math score, ACT Reading score, and submission of the FAFSA and the dependent variables registration date, grade received in the course, SKYCTC GPA. I hypothesized an analysis of the PeopleSoft data would produce a profile, or a description that produces useful information, of the student who registers late. The analysis of the PeopleSoft data helped me to understand that there is not one profile of students who register late. The variables of age, ethnicity, gender, high school GPA, ACT English, ACT Math score, ACT Reading score, and submission of the FAFSA are all relevant to this study as they could have produced the student who is more prone to register late.

Qualitative Strand

The qualitative strand is to gain insight into student perspectives, beliefs, and roles in the registration process at SKYCTC. Insights gained from this strand assisted in determining the format and content for action. Qualitative data were collected from the students through a focus group informed by a focus group protocol.

A focus group was conducted to provide qualitative data from students who have registered during the late phase to investigate why they have registered late. Focus groups are an efficient method of gathering the perceptions and viewpoints of different stakeholders within one session. It can help to assess the scope of the problem (Hays & Singh, 2012).

Qualitative Research Question

What do late registrants say impacted their decision to register late?

Qualitative Sample

I used a nonprobability purposeful strategy to select the study sample (Ivankova, 2015). Participants were students who registered late at SKYCTC and earned a grade of D, E, or withdrew from the course. Focus group participants were selected from a pool of late registrants.

Instruments

I used a focus group to gather qualitative data. Focus groups gather subjects from the study population together in a specific setting to discuss an issue as a group. The focus group questions were based on the findings in the quantitative strand. The focus group questions centered around reasons that the students registered late and were adapted from the dissertation by Keck (2007).

Focus groups are a valuable qualitative research method that can be used to collect rich and in-depth data from participants. This research method allows individual study participants' viewpoints to be heard (Hays & Singh, 2012). In this situation, students who have experience with late registration can create a "description of the essence of the experience for all the individuals" (Creswell, Hanson, Plano, & Morales,

2007). The relaxed setting of the focus group allows participants to disclose shared experiences and encourage the input of others (Hays & Singh, 2012).

Collecting qualitative data was done via a focus group. After hosting focus groups with no participants attending, finally, on October 25, two students completed the first focus group, and three students completed the focus group held on October 26. The students had previously registered late for courses in Spring 2022 and earned a grade of D, E, or W (withdrew).

Procedures

From the students who registered late in the quantitative phase, a purposeful sample was drawn to select those who were invited to the focus group. The focus group was conducted free of bias or preconceived notions about what the student will say. (Ivankova, 2015).

On September 27, 2022, I sent an invitation to 72 students who had registered within two weeks of the beginning of the Spring 2022 semester and earned a grade of D, E, or withdrew from the course. These students were contacted via their KCTCS email account. Reminder emails were sent on September 29 and October 5. The focus group was scheduled for October 6 during the lunch break hour (12:20 pm-1:15 pm). They were invited to come to a conference room on the Main Campus for lunch or participate virtually via Microsoft Teams. No students responded to the emailed invitation or came to the focus group.

The students did not respond to the email invitation, nor did they open the email according to the open rate statistics of Microsoft Outlook. As a community college, we have a transient student population that we suspect comes to campus to attend class and

leave as soon as class is over. Responsibilities, such as work and family, typically tend to compete with school. In addition to their behavior on campus, they do not seem to respond to email messages either.

Another focus group was scheduled for October 20 at the lunch break hour on the Main Campus. For this group, I enlisted the help of SKYCTC Student Support Services staff in the TRIO program. TRIO is a Department of Education grant-funded program aimed at supporting first-generation, low-income and/or students with disabilities. Students in the TRIO program are closely connected to the staff in a mentor-like role. The Student Support Services staff sent an introductory email to students in the TRIO program introducing the idea of a focus group, the purpose of the focus group, and explaining that I would send them an email inviting them to attend the focus group. Of the 72 students originally contacted, 12 students were TRIO participants. The 12 students were invited to a focus group via their KCTCS email. This session was held in the TRIO Resource Room for familiarity to the students. Lunch was served. No students responded to the emailed invitation or came to the focus group. Emailed invitations were sent on October 13, 18, and 19.

A third focus group was scheduled for October 26, 2022. Due to the lack of response that I was getting from the emailed invitations, I called students who had class on Tuesdays and invited them to attend the focus group on Tuesday, October 26. Fifteen of the original 72 students who registered late for the Spring 2022 semester and earned a grade of D, E, or withdrew from that course were invited to the focus group. A reminder email was sent on October 25. Lunch was provided. Of the 15 students who were invited, two showed up for the focus group. The focus group was audio recorded. The students

verbally agreed to the informed consent. They each answered five questions about their experience with late registration.

Immediately after the focus group concluded, I called students who were enrolled in online classes (36) and who had class on Wednesday (six) to invite them to a focus group on Wednesday, October 27. This group was offered via Microsoft Teams. A reminder email was sent on October 26. Of the 42 students invited to the focus group, three logged in to the meeting via Microsoft Teams. The students verbally agreed to the informed consent. Each of the students answered questions about their experience with late registration.

Data from the focus group were collected beginning September 27 when the initial email was sent to students inviting them to the first focus group. Data collection concluded on October 27. Recordings and transcriptions from each of the focus groups were saved in a folder on my password-protected OneDrive account.

Data Analysis

I printed the transcript from each focus group to compare the responses. The transcripts of each focus group transcribed each of the comments from the focus group participants. The transcript from October 26 included responses from two focus group participants. The transcript from October 27 included responses from three focus group participants. I arranged the responses into a table to identify themes. Emergent codes, or codes that appear inductively from the text, were used to facilitate the communication of the qualitative data (Ivankova, 2015).

Transcriptions of student responses from the focus groups were reviewed to determine common themes. Similar responses were grouped together. The responses that were grouped together were then coded.

Data Integration and Quality

In the concurrent quantitative + qualitative MMAR design, the quantitative data was used to evaluate registration dates, grades earned in those courses, final high school grade point average (GPA), and placement exam scores. The qualitative data from the focus groups were combined with the quantitative data. Figure 10, earlier in this chapter, is a visual depiction of the concurrent quantitative + qualitative research design used for this study.

Findings

Quantitative Findings. Quantitative data "play a supplemental role in action research due to the fact that action research studies address practically oriented questions for a specific sample and give less emphasis to generalizing the results to a larger population" (Ivankova, 2015). Descriptive statistics were used to describe and summarize quantitative information and to identify trends and patterns in the data while uncovering potential relationships among the variables. Descriptive statistics can be used to present information about the problem of practice in the professional setting that may inform the development of the intervention during the Reconnaissance phase of an MMAR study. Continuous variables in the analysis were age, high school GPA (HS GPA), ACT ENGLISH, ACT MATH, ACT READING, SKY GPA, thus, they would be subject to the descriptive statistics, mean, minimum, maximum, and standard deviation. The descriptive statistics for each of the continuous variables are shown in Table 4.

Table 4

Descriptive Statistics of Continuous Variables

Variable	N	Minimum	Maximum	Mean	Std. Deviation
CURRENT AGE	463	17	63	25.03	8.08
HS GPA	327	1.56	4.00	3.03425	.61
ACT ENGL	318	8	31	18.45	4.65
ACT MATH	321	12	28	18.50	3.52
ACT READ	319	8	35	19.77	5.03
SKY GPA	463	.000	4.00	2.48	1.11

The mean for the HS GPA is 3.03. For the 327 students who submitted an official high school transcript, their average HS GPA was a 3.03. This would equate to a B average for the late registrants.

The mean ACT ENGL, MATH, and READ scores for the approximately 320 students who submitted the ACT score were 18, 19, 20, respectively. According to the Academic Readiness Indicators submitted by CPE in Figure 4, the scores are consistent with the ACT scores deemed as academically ready to complete college level coursework (ACT English-18, ACT math-19, and ACT reading-20). The ACT is a measure of skills that should have been mastered at high school. The ACT measures skills that are important for success in postsecondary education and that are obtained in high school (About the ACT test-K-12 solutions, 2022).

Reconnaissance Quantitative Research Question 1. What profile emerges of the Spring 2022 cohort based on a descriptive analysis of their demographic and academic performance variables?

There is not one profile used to describe the relationship between demographic and academic performance variables. From assessment of the quantitative data, it was determined that late registrants vary in their demographics. We cannot generalize the outcomes of the descriptive analysis to say that a particular student is more prone to register late and earn a certain grade.

What is the breakdown by registration date?

The rush of enrollment is apparent during the two weeks preceding the semester's start. The peak days of registration were January 4 and 10, with 100 students registering each day. Table 5 is a breakdown of enrollment by registration date.

Table 5

Frequencies by Registration Date

Registration Date	N	%
01-JAN-22	2	0.4%
02-JAN-22	7	1.5%
03-JAN-22	15	3.2%
04-JAN-22	100	21.6%
05-JAN-22	71	15.3%
06-JAN-22	85	18.4%
07-JAN-22	66	14.3%
08-JAN-22	2	0.4%
09-JAN-22	15	3.2%
10-JAN-22	100	21.6%

What is the ethnic breakdown of late registrants?

The ethnic breakdown of late registrants is seen in Table 6. The peak days of late registration were on January 4 and January 10. Table 7 is an ethnic breakdown of the late registrants according to the day that they registered by ethnicity.

Table 6

Frequency of Late Registrants by Ethnicity

Ethnicity	N	%
American Indian/Alaska Native	6	1.3%
Asian	26	5.6%
Black/African American	40	8.6%
Hispanic/Latino	34	7.3%
Non-Specified	3	0.6%
Two or More Races	16	3.5%
White	338	73.0%
Total	463	100%

Table 7

*Registration Date * Ethnicity Crosstab*

		American Indian/Alaska Native		Asian		Black/African American		Hispanic/Latino		Non Specified		Two or More Races		White		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
	01-JAN-22	0	0.0%	0	0.0%	0	0.0%	1	2.9%	0	0.0%	0	0.0%	1	0.3%	2	0.4%
	02-JAN-22	0	0.0%	0	0.0%	0	0.0%	1	2.9%	1	33.3%	0	0.0%	5	1.5%	7	1.5%
	03-JAN-22	0	0.0%	1	3.8%	2	5.0%	0	0.0%	0	0.0%	0	0.0%	12	3.6%	15	3.2%
	04-JAN-22	2	33.3%	7	26.9%	7	17.5%	3	8.8%	0	0.0%	4	25.0%	77	22.8%	100	21.6%
	05-JAN-22	0	0.0%	2	7.7%	8	20.0%	3	8.8%	0	0.0%	4	25.0%	54	16.0%	71	15.3%
	06-JAN-22	0	0.0%	6	23.1%	12	30.0%	9	26.5%	0	0.0%	3	18.8%	55	16.3%	85	18.4%
	07-JAN-22	4	66.7%	1	3.8%	3	7.5%	3	8.8%	2	66.7%	1	6.3%	52	15.4%	66	14.3%
	08-JAN-22	0	0.0%	0	0.0%	0	0.0%	1	2.9%	0	0.0%	0	0.0%	1	0.3%	2	0.4%
	09-JAN-22	0	0.0%	1	3.8%	2	5.0%	1	2.9%	0	0.0%	1	6.3%	10	3.0%	15	3.2%
	10-JAN-22	0	0.0%	8	30.8%	6	15.0%	12	35.3%	0	0.0%	3	18.8%	71	21.0%	100	21.6%
Total		6	100.0%	26	100.0%	40	100.0%	34	100.0%	3	100.0%	16	100.0%	338	100.0%	463	100.0%

What is the breakdown of late registrants by gender?

There were 269 female late registrants compared to 190 male late registrants. Table 8 is a breakdown of late registrants who registered each day by gender.

Table 8

*Registration Date * Sex Crosstab*

	Sex							
	F		M		U		Total	
	N	%	N	%	N	%	N	%
01-JAN-22	1	0.4%	1	0.5%	0	0.0%	2	0.4%
02-JAN-22	7	2.6%	0	0.0%	0	0.0%	7	1.5%
03-JAN-22	6	2.2%	9	4.7%	0	0.0%	15	3.2%
04-JAN-22	76	28.3%	23	12.1%	1	25.0%	100	21.6%
05-JAN-22	37	13.8%	33	17.4%	1	25.0%	71	15.3%
06-JAN-22	44	16.4%	40	21.1%	1	25.0%	85	18.4%
07-JAN-22	30	11.2%	36	18.9%	0	0.0%	66	14.3%
08-JAN-22	1	0.4%	1	0.5%	0	0.0%	2	0.4%
09-JAN-22	10	3.7%	5	2.6%	0	0.0%	15	3.2%
10-JAN-22	57	21.2%	42	22.1%	1	25.0%	100	21.6%
Total	269	100.0%	190	100.0%	4	100.0%	463	100.0%

Reconnaissance Quantitative Research Question 2. What is the relationship between the letter grade earned and age range, ethnicity, and gender?

What letter grade was earned by late registrants according to age range (younger than 22 vs. 22 or older)?

Table 9 shows the breakdown of grades earned by students in the age range of younger than 22 or older than 22. There is not a significant relationship between official letter grade earned and age, $\chi^2(9, N=463)$, 9.848, p=.363. Thus, I accepted the null hypothesis that says there is not an association between the official letter grade earned and age.

Table 9

*Official Letter Grade * Age Range Crosstab*

		22+		under 21		Total	
		N	%	N	%	N	%
	A	71	30.3%	62	27.1%	133	28.7%
	B	34	14.5%	49	21.4%	83	17.9%
	C	29	12.4%	33	14.4%	62	13.4%
	D	16	6.8%	17	7.4%	33	7.1%
	E	37	15.8%	33	14.4%	70	15.1%
	F	0	0.0%	2	0.9%	2	0.4%
	I	2	0.9%	0	0.0%	2	0.4%
	MP	1	0.4%	1	0.4%	2	0.4%
	P	7	3.0%	4	1.7%	11	2.4%
	W	37	15.8%	28	12.2%	65	14.0%
Total		234	100.0%	229	100.0%	463	100.0%

What is the letter grade by ethnicity?

There was a significant relationship between official letter grade earned and ethnicity, $\chi^2(54, N=463)$, 86.430, p=.003. Thus, I accepted hypothesis that says there is an association between the official letter grade earned and ethnicity. The official letter grade earned is not independent of ethnicity. Table 10 is the breakdown of letter grades earned by each ethnicity. The Chi-square test is shown in Table 11.

The association between official letter grades earned and ethnicity is consistent with the literature about the enrollment breakdown of community college students. As noted in the literature, race and ethnicity alone do not label students as at-risk. The average high school GPA and ACT scores support the idea that this population is not at-risk. However, the community college student may face additional risk factors not

addressed in this study. Support from home can be a factor in the student's success. That support, or lack thereof, may result from the student being a first-generation college student, having a low household income, or having cultural or language barriers (Horton, 2015).

Table 10

*Official Letter Grade * Ethnicity Crosstab*

		American Indian/Alaska Native		Asian		Black/African American		Hispanic/Latino		Non Specified		Two or More Races		White		Total	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
	A	0	0.0%	10	38.5%	5	12.5%	14	41.2%	2	66.7%	2	12.5%	100	29.6%	133	28.7%
	B	1	16.7%	3	11.5%	6	15.0%	4	11.8%	0	0.0%	8	50.0%	61	18.0%	83	17.9%
	C	0	0.0%	5	19.2%	3	7.5%	2	5.9%	0	0.0%	2	12.5%	50	14.8%	62	13.4%
	D	0	0.0%	3	11.5%	5	12.5%	2	5.9%	0	0.0%	1	6.3%	22	6.5%	33	7.1%
	E	4	66.7%	2	7.7%	9	22.5%	6	17.6%	0	0.0%	1	6.3%	48	14.2%	70	15.1%
	F	0	0.0%	0	0.0%	0	0.0%	1	2.9%	0	0.0%	0	0.0%	1	0.3%	2	0.4%
	I	0	0.0%	0	0.0%	0	0.0%	1	2.9%	0	0.0%	0	0.0%	1	0.3%	2	0.4%
	MP	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	6.3%	1	0.3%	2	0.4%
	P	0	0.0%	0	0.0%	4	10.0%	0	0.0%	0	0.0%	1	6.3%	6	1.8%	11	2.4%
	W	1	16.7%	3	11.5%	8	20.0%	4	11.8%	1	33.3%	0	0.0%	48	14.2%	65	14.0%
Total		6	100.0%	26	100.0%	40	100.0%	34	100.0%	3	100.0%	16	100.0%	338	100.0%	463	100.0%

Table 11

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	86.430	54	.003
Likelihood Ratio	69.818	54	.073
N of Valid Cases	463		

What is letter grade by gender?

There is not a significant relationship between official letter grade earned and gender, $\chi^2(18, N=463)$, 26.721, p=.084. Thus, I accepted the null hypothesis that says there is not an association between the official letter grade earned and gender. The official letter grade earned is independent of gender. The letter grade earned according to their gender is shown in Table 12.

Table 12

*Official Letter Grade * Sex Crosstab*

	Sex							
	F		M		U		Total	
	N	%	N	%	N	%	N	%
A	75	27.9%	58	30.5%	0	0.0%	133	28.7%
B	49	18.2%	34	17.9%	0	0.0%	83	17.9%
C	34	12.6%	27	14.2%	1	25.0%	62	13.4%
D	18	6.7%	15	7.9%	0	0.0%	33	7.1%
E	49	18.2%	19	10.0%	2	50.0%	70	15.1%
F	0	0.0%	2	1.1%	0	0.0%	2	0.4%
I	1	0.4%	1	0.5%	0	0.0%	2	0.4%
MP	2	0.7%	0	0.0%	0	0.0%	2	0.4%
P	7	2.6%	3	1.6%	1	25.0%	11	2.4%
W	34	12.6%	31	16.3%	0	0.0%	65	14.0%
Total	269	100.0%	190	100.0%	4	100.0%	463	100.0%

Reconnaissance Quantitative Research Question 3. What is the relationship between the letter grade earned and the submission of the FAFSA?

What is letter grade by FAFSA submission?

There is not a significant relationship between official letter grade earned and whether the student submitted a FAFSA, $\chi^2(9, N=463)$, 6.007, p=.739. Thus, I accept the null hypothesis that says there is not an association between the official letter grade earned and whether the student submitted a FAFSA. The official grade earned is independent of whether the student submitted a FAFSA. Table 13 is the submission of the FAFSA according to the letter grade earned.

Table 13

*Official Letter Grade * Submission of FAFSA Crosstab*

	FAFSA					
	Yes		No		Total	
	N	%	N	%	N	%
A	65	28.5%	68	28.9%	133	28.7%
B	43	18.9%	40	17.0%	83	17.9%
C	24	10.5%	38	16.2%	62	13.4%
D	16	7.0%	17	7.2%	33	7.1%
E	38	16.7%	32	13.6%	70	15.1%
F	1	0.4%	1	0.4%	2	0.4%
I	0	0.0%	2	0.9%	2	0.4%
MP	1	0.4%	1	0.4%	2	0.4%
P	6	2.6%	5	2.1%	11	2.4%
W	34	14.9%	31	13.2%	65	14.0%
Total	228	100.0%	235	100.0%	463	100.0%

Qualitative Findings.

From the focus group feedback, it emerged that students were often uncertain about the specific registration dates at the time they decided to enroll, or they didn't believe that those dates were relevant to them. The students who registered late were not aware of registration dates or even their performance in their courses. While they did not say so outright, the group's general perception of late registration was negative. Despite their less than positive opinion of late registration, they would still engage in late registration again.

The qualitative interviews produced some beneficial data about the late registrants involved in the focus groups. One of the first inferences from the data from the focus groups is there is a large amount of information the students are unaware of. Based upon the researcher's experience as a practitioner, when the students decided to register late,

the students were not aware that the semester was about to begin; they just did not make a connection between registration deadlines and the course they were taking.

There was also the feeling that the registration schedule does not really apply to them from the focus group responses. This was evidenced by the comment that the student “didn’t think she had registered late for any course”. One student even adamantly denied that she had registered late for any courses.

Course selection was important to students in being a reason not to engage in late registration. If there are certain courses you would prefer to take at a certain time, the thought is to register earlier. Course selection also becomes a topic when considering whether to register. If the course is in a subject area that the student has taken previously, late registration does not have much of an impact. But if the student has not completed coursework in the discipline, they would be apprehensive about enrolling late in that subject area. The late registrants from the focus group suggested each of these possibilities.

The academic performance of students in this sample was poor, earning a grade of D, E, or withdrawing. Surprisingly, however, the students who participated in the focus groups’ overall assessment of their performance was at a satisfactory level. Only one student stated that she was not satisfied with her performance. This lack of realistic expectations is a concern for this population.

Table 14

Focus Group Responses Coded by Theme

Topic	Theme	Detail
Decision to register late	Unsure/unaware [of something]	Unsure if she would return. Didn't realize it was time.
	Process	Completing appeal process delayed registration.
	Does not apply to me	Didn't think she registered late for any course. Didn't register late for any courses.
Course selection	Preference	Had to enroll in courses she didn't want to take. Sign up early; prefer 8 o'clock classes, must register early.
Academic performance	Good	Actually performed better than a course she registered for on time. Satisfied; wish she could have taken more. Passed, "good enough for me." 4 on a scale of 1-5 -didn't have any problems. Both experiences great [late and regular registration].
	Satisfactory	Ok, no additional resources needed.
	Negative	Not satisfied; not a course she wanted to take.
	Indifferent	Didn't notice much difference [experience in the course]. Passed; "good enough for me."
Opinion of late registration	Negative	Don't do it; out of the loop if mind was set on certain classes. Different subject; don't recommend. Not good idea to register late, but if you do subject matters. Don't register late but not end of world if you do.
Engage in late registration again	Contingency	Depends on if you are doing good in course and if you want same professor. Grit-depends on major and how courses lined up. If you register late, don't take difficult classes. Meet with advisor early to get classes you need.

Meta-Inferences

Meta-inferences help foster consistent and credible conclusions about the studied issue (Ivankova, 2015). The qualitative data retrieved from the focus groups suggested that the late registrants were not properly informed about the registration schedule at SKYCTC. The information provided to students about the opportunity to register for the upcoming semester was sent via multiple media outlets, but we do not have knowledge of if the message was received. Based upon the mean high school GPA, ACT reading score, and the SKYCTC GPA (a 3.03, 20, and 2.48, respectively), it can be surmised that this population is capable of reading and understanding the message about registration. Receipt of the message and taking action from the registration message are areas of concern. Lack of clarity in the messaging is not the issue at hand.

Another meta-inference from this study is students did not feel that the registration schedule applied to them, or lack of accountability taken by the students. Scheduling at the secondary level is more prescriptive with fewer options, and a guidance counselor often registers the students for their entire schedule without student input. High school students do not often see the urgency in registering for courses because they are not subjected to the same kind of rules and regulations associated with college course registration. Further, in high school, students do not often get denied the preferred course schedule because the course is full. Thus, it may be the case that students at SKYCTC believe it is someone else's responsibility to register them for a subsequent semester. Perhaps they have not faced the demands at the community college, or they have had a poor experience registering for an alternative course. The transition of academic ownership from the guidance counselor to the student is an important step that may not

have ever been effectively managed. The average age of the late registrants was 25. However, when considering the actual ages of the late registrants, the quartiles of this population present a slightly different picture. Of the late registrants, 75% of this population were aged 22 and below. The lack of academic ownership appears to be present in this group as they are not taking accountability for their own academic schedule. The registration data did not include whether the student had been enrolled previously at a college or university and was responsible for their own registration in future semesters.

There seems to be a disconnect between the late registrants' perception of their academic performance in the course and the grades earned in the courses that they registered late. The participants in the focus group's overall assessment of their academic performance was satisfactory. Yet, their grades were a withdrawal or below a C. The reluctance to admit the poor performance to an authoritative figure suggests the premise that we need to provide support for this group of students. This also suggests that there may be hesitancy to seek help.

Research Ethics

The study design and data collection plan was explained to the Institutional Review Board (IRB) at the University of Kentucky. The IRB application was approved on August 30, 2022. I followed stated guidelines and data collection procedures.

The safety precautions used in the research will minimize risks of breach of confidentiality and invasion of privacy. To reduce the chances of a breach of confidentiality, all data will be stored on the secure KCTCS server which requires an active KCTCS account and to be credentialed to access the data.

Planning Phase

Problem of Practice

The purpose of the Planning phase was to use the meta-inferences from the Reconnaissance phase to inform the intervention. The problem of practice at SKYCTC was students who register within two weeks of the beginning of the semester do not perform as well as students who register on time. Understanding the registration timing will aid in learning which students may need additional support. Ultimately, providing the appropriate support for late registrants could positively impact College completion metrics.

Stakeholder Involvement

According to Ivankova, "All stakeholders who have a stake in the issue engage in the process of investigation to find effective solutions to resolve the problem" (2015). The Cabinet, Director of Institutional Effectiveness, Director of Career & Academic Planning, and Director of Admissions at SKYCTC were all directly involved and had a stake in the problem of practice presented in this study. Thus, the Cabinet and Directors of Institutional Effectiveness, Career & Academic Planning, and Admissions worked collaboratively with the researcher to identify an intervention for the late registrants. Presenting the meta-inferences from the study to the Cabinet, Directors of Institutional Effectiveness, Career & Academic Planning, and Admissions allowed them to understand more about the work that had been done within this realm.

The stakeholders were involved in identifying the appropriate intervention. Data from the Reconnaissance phase were presented to the stakeholders in a staff meeting, including the Cabinet, Director of Institutional Effectiveness, Director of Career &

Academic Planning, and Director of Admissions, for review and feedback. Feedback from the stakeholders was used to help develop or inform the action plan or intervention. The support should be in the form of encouragement to complete the course, offer help, and provide necessary information.

Actions Considered

A possible solution to this problem, from the literature, is that the institution can implement an enrollment blackout period. The blackout period was not a feasible solution for SKYCTC because 24% of the total enrollment engage in late registration. Group sessions to address the topic of time management, organizational skills, and productive study habits is another possible solution. Group sessions would be required for students who register late. Special tutoring sessions for students who register late that are on or subject to being placed on academic probation would be another alternative solution. Because the academic standing of this population was not considered in the study, the tutoring sessions were not considered as an option.

The first meta-inference involved the late registrants' lack of information about the registration schedule. The Cabinet wanted clarification on the ways that the registration schedule was sent out to the students. Email was documented as the most frequent communication sent out to students. In addition to the email explaining that the registration block opened on October 1 for the spring semester, weekly messages were sent to the students encouraging them to meet with their advisors to initiate registration. When this schedule of email communication was disclosed to the Cabinet, all the members agreed that there was a lack of action taken on the part of the students between the time information was provided to the students about course registration and the

beginning of the semester. As a College, SKYCTC leadership has agreed that prohibiting students from engaging in late registration is not a decision with which we are comfortable. If 24% of total enrollment at SKYCTC engages in late registration, we must identify an intervention to aid in their success. The registration dates were available to the students. The inaction of the late registrants drove a desire to offer support for this population of students to help them successfully complete the semester.

The responsibility shifts from the guidance counselors at the high school level to the student at SKYCTC for the student's registration each semester appears to be a responsibility that the student may not be prepared for. Academic ownership is a foreign concept for many students at SKYCTC as their parents typically assume the responsibility as the student leaves high school and enrolls at the College. When this information was presented to the Cabinet, the conversation quickly shifted to how do we support first-generation students. First-generation students often have additional barriers that impact their overall academic success, such as a lack of understanding of what it takes to be successful at the college level (Horton, 2015). The parents do not know how to provide the appropriate support for their son or daughter. The opportunity for SKYCTC to step in and provide resources to help these students obtain success is evident.

The disconnect between the late registrants' perception of their academic performance and reality was an obvious concern. Whether the student was aware of the poor performance or he did not want to admit their poor performance, there was a consensus among the Cabinet members that SKYCTC could not risk waiting on the students to solicit help. If the intent is to improve student success metrics, per the

performance-based funding model, we must implement an intervention aimed at increasing student success. This finding was in alignment with the statement from Ivankova that, “Developing an action/intervention grounded in a systematic and comprehensive assessment of the problem from stakeholders’ perspectives helps to efficiently reveal critical areas for targeted intervention and identify effective strategies for improvement” (2015).

Based upon the meta-inferences from the focus group participants in the Reconnaissance phase in conjunction with the literature about student success intervention programs, an intervention was developed in the form of encouragement to complete the course, offer help, and provide necessary information for students. Despite their negative feelings about late registration, there was not enough information to discontinue the practice. Family Scholar House (FSH) was a natural fit to provide the level of support necessary to help the students maintain enrollment in their courses and make informed decisions about their academic career.

Timeframe

The meta-inferences were presented to the Cabinet during a meeting held on November 1, 2022.

Summary

In this chapter, I described the steps that were taken during the Reconnaissance phase of this MMAR concurrent quantitative + qualitative study design. The quantitative data retrieved from PeopleSoft, the student information system, were analyzed using descriptive statistics. Focus groups of late registrants were conducted to obtain qualitative data to further the knowledge about the quantitative data. The meta-inferences were

reviewed to select an appropriate intervention for the late registrants. Chapter 3 will outline steps taken to implement the intervention.

Chapter 3: Action, Evaluation, and Recommendations

Introduction

SKYCTC is not unlike other institutions of higher education in its quest to improve student success metrics. An increase in student enrollment should not come at the expense of improving the metrics of retention, course completion, and overall student success (as measured by GPA). The focus on increased retention and course completion also becomes a conversation about the variables that impact each of those metrics. The timing of student registration became a topic of discussion when reviewing the performance of late registrants against the general population.

This MMAR study was a multi-strand review of quantitative and qualitative data. Although the quantitative strand's findings did not produce a profile that can be used when students engage in late registration, the result was support of this group is necessary to continue improving retention and course completion rates. The Acting phase of the study focused on a way to encourage late registrants to finish the semester successfully.

Acting Phase

Purpose of the Intervention

Based upon the meta-inferences from the Reconnaissance phase and literature about early intervention programs, an intervention was developed in the form of care calls to offer encouragement to complete the course, offer resources, and provide necessary information for students. FSH is an organization dedicated to helping disadvantaged families with a comprehensive, holistic continuum of care that meets them where they are and empowers them toward their educational, career, and family goals. The mission of FSH is “to end the cycle of poverty and transform our community by

empowering families and youth to succeed in education and achieve life-long self-sufficiency" (Family Scholar House, 2022). All 16 colleges of KCTCS have completed an agreement with the FSH organization to provide unified outreach and services to students across the state. As a philanthropic organization, FSH offers their services at no cost to the students or the colleges of KCTCS.

FSH was selected to provide the level of support necessary to help the students maintain enrollment in their courses and make informed decisions about their academic career. FSH, as a non-profit organization, is comprised of representatives who, as one of their many services, will conduct call campaigns on behalf of the partner college. FSH representatives serve as success coaches for students to encourage and support preparation for high-demand careers (Family Scholar House, 2022).

Objectives or Outcomes

Through our partnership, FSH offered to provide resources that can help students stay on track toward their educational goals.

Tasks and Activities

SKYCTC submitted a list of students to FSH. The list that I submitted included the student ID, name of the student, and the student's phone number. The phone number was retrieved from the student's record in PeopleSoft. Student phone numbers are directory information permissible to be accessed per Family Educational Rights and Privacy Act (FERPA) guidelines.

FSH representatives attempted to contact the students on behalf of SKYCTC. During the calls to the students on the list, FSH representatives offered support in one or more of the topics of career and success coaching, advocacy support, and technology

assistance. FSH can even provide financial assistance for basic necessities and educational needs with the goal of increased educational success.

When I submitted the list of students who should receive the outreach, or care call, I also submitted a description of the purpose of the outreach with the intended outcome. The preference of FSH was that I submit talking points to allow the representatives to have more of a conversation than a scripted call. The following served as talking points for FSH.

We would like to reach out to students on the attached list to see:

- *how they are doing*
- *if they need any assistance (success coaching, career coaching, technology assistance, emergency assistance)*
- *if the students need advocacy support and/or health and wellness coaching.*

We want to support the students in every way possible on their educational journey.

We want to help them stay on track toward reaching their educational goals.

In return, from FSH, I received a list that documented the outcome of the phone calls. The list was provided in an Excel file that had six columns. The first column is the student ID. I replaced the Student ID with a different arbitrary number for each student. The next three columns are designated for each question that was asked of the student during the care call. The final two columns represent if the student had additional comments or if the student had no response at all. See a layout of the information provided by FSH in Table 15. The document that is provided by FSH is confirmation that the care calls were completed.

Table 15

Example of Care Call Responses Provided by FSH

		I can offer success coaching, career coaching, technology assistance, emergency assistance.	Also offer advocacy support and/or health and wellness coaching.		
Student	How are you doing?	Need any assistance?	Need any assistance?	Add'l comments	No response
1	Semester is going ok		Recently had Covid. Dropped down to one class.	Thanks for the help.	

At the time of submission, three students had already withdrawn from their courses which brings the total number of potential participants to 69, heretofore referred to as the target group. FSH representatives called all members of the target group up to three times each. Voicemails and messages were left for students who did not answer. Attempts continued until either the FSH representative spoke with a student, or the third attempt had been completed. Nearly 200 calls were attempted by FSH. Sometimes three attempts were not made if the student answered the call, if the voicemail was full, or if there was an incorrect phone number. Phone calls were made from November 8-11, 2022. Notes from each interaction with the student were documented. Results of the phone calls were returned to me on November 14, 2022.

Site

The FSH representatives conducted care calls in their call center.

Timeline

I sent the target group list of late registrants who had earned a D, E, or withdrew from any course in Spring 2022 and were enrolled in Fall 2022, to FSH on November 7, 2022. The intervention, care calls conducted by FSH, took place from November 8-11, 2022. Results from the care calls conducted by FSH were sent to the researcher on November 14, 2022.

Resources

The care calls were made by the FSH representatives in their call center.

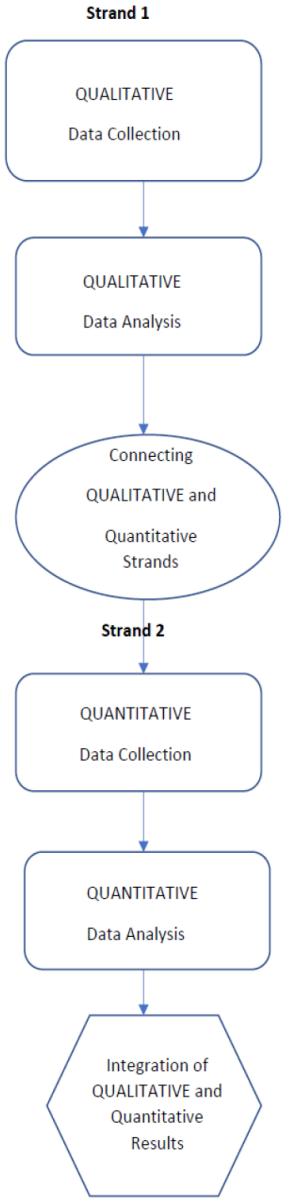
Evaluation Phase

A sequential qualitative → quantitative design was used to collect and analyze data in the Evaluation phase of the MMAR study. This design uses qualitative data to

identify unknown variables and relationships, according to Ivankova (2015). An advantage of this design is its straightforward design and ease of implementation by a single researcher. This design allows for in-depth input from study participants to inform the quantitative data collection. Though it is considered straightforward, a drawback of this design could be the length of time that is required to collect and analyze data. The quantitative strand is often shaped by the qualitative findings. The quantitative results can be used to help confirm or generalize the qualitative results (2015). I submitted an amendment to the original IRB submission to account for the data sources used in the quantitative strand. The conclusions drawn from the sequential qualitative→quantitative design could be erroneous and incomplete depending upon qualitative findings that are inconsistent (Ivankova, 2015). Figure 11 depicts the steps in the Evaluation phase.

Figure 11

Evaluation Phase: Sequential Qual--> Quan MMAR Study Design



Procedure	Product
FSH Care calls to 69 late registrants from Spring 2022 who matriculated to Fall 2022	Text data responses
Content analysis	Themes
Connecting qualitative responses to quantitative data	Identify quantitative data to review
PeopleSoft registration data from Fall 2022	Numeric data
Analysis of withdrawal rates	Numeric results
Interpretation and explanation of qualitative and quantitative results	Synthesis of findings

Integrated MMAR Question

How were late registrants' Fall 2022 completion rates affected by the intervention and what was late registrants' perception of the intervention during the Fall 2022 semester?

Qualitative Strand

Evaluation Phase Qualitative Research Questions

1. What were the late registrants' responses to the FSH calls?
2. What is the comparison between the late registrants who did engage with FSH and those who did not?

Sample. The sample was the target group, or 69 late registrants from the Spring 2022 semester enrolled in Fall 2022, who received the intervention from FSH. Of the 69 late registrants, eight students engaged with FSH and 61 students did not answer or return the care call when a message was left for the student.

Data Source. The type of documents analyzed for this study were personal documents (O'Leary, 2014). Personal documents are first-person accounts of an individual's experiences that take the form of reflections, journals, or reports (O'Leary, 2014). The notes FSH sent to me at the conclusion of the phone calls served as personal documents as they provided an account of the 69 students' experiences with the care calls. Table 15 shows responses to each question asked by FSH to the late registrants. The questions asked were the titles for columns B, C, and D. Each of the students is in column A and numbered 2-70. There are detailed accounts for eight of the students who interacted with FSH. There were calls made to 25 students, but no message was left due

to the voicemail being full or not having the voicemail set up. Messages were left for 35 students, but the call was not returned. One student hung up on the call.

Procedures. The personal notes were saved in a password-protected Excel file and were accessed beginning November 16, 2022. The Excel file sent to me was organized by the responses.

Data Analysis. The qualitative data were analyzed for common themes. The themes that emerged were an appreciation for the outreach; semester was going ok/well; or they did not need any support. No response is a response as well, and that was the outcome for most of the outreach. Eighty-eight percent of students did not respond.

Document analysis is a qualitative social research method. In document analysis, the researcher interprets documents and gives meaning around a topic (Bowen, 2009). This form of qualitative research allows the researcher to analyze documents and incorporate coding content into themes like how the focus group interview transcripts were analyzed (Bowen, 2009). Document analysis is often used as one part of triangulation, which is the combination of methodologies of the same phenomenon (Bowen, 2009). Triangulation involves using at least two resources that use different data sources and methods. Triangulating brings together evidence that establishes credibility (Bowen, 2009).

There are seven basic steps to conducting document analysis as shown in Table 16.

Table 16

Document Analysis Steps

Steps of document analysis	Researcher's action
List your resources.	Notes from the FSH care calls were used for document analysis.
Decide how to organize the information.	Information is usually organized by unit of meaning (what you are looking for in your texts) and sets of categories (characteristics of the content). The notes from FSH were organized by the students' responses.
Make copies of notes.	Creating a copy avoids damage to original documents. A password-protected copy was saved from the original document.
Ensure authenticity.	Ensure trustworthiness. The source of the document was verified by the researcher.
Check for biases.	Ensure that biased information does not skew results. There is no biased information as the FSH representatives were not aware of the students' identity.
Ask questions. The questions determine the background of the document and how it can help with the research.	Who wrote, researched, or created this document? This document is a compilation of the notes from the care calls conducted by FSH. What is this document about? This document provides responses to the questions asked by FSH representatives to the target group. When was this document written? The document was written at the conclusion of the care calls from November 11-13, 2022. The document was submitted to the researcher on November 14. Where did this document come from? The document originated with the FSH representatives and was submitted to the researcher. Why do I think this document is useful in my research? This document outlines the students' comments about the care call.
Evaluate the document.	Using these criteria, it establishes a framework for the document analysis.

Quantitative Strand

Evaluation Phase Quantitative Research Questions

1. What was the withdrawal rate for the sample during the Fall 2022 semester?
2. What percentage of the sample engaged with FSH?

Sample. The sample was enrollment data for the target group who received the intervention from FSH. Of the 69 late registrants, eight students engaged with FSH and 61 students did not answer or return the care call when a message was left for the student. Two of the eight students were of non-traditional age (greater than 25). The same two non-traditional students were also the only students out of eight who submitted a FAFSA. The median age for the 69 late registrants was 22.

Data Sources. Data were retrieved from the student information system, PeopleSoft. Each field in PeopleSoft represented the respective information for students included in the aggregate information.

Procedures. A data matrix of the target group was downloaded from PeopleSoft with the following variables in Table 17:

Table 17

PeopleSoft Variables used for Evaluation

Variable Name	Definition	Type	Range/Scale	Relevance to Study
Registration Term	The semester being considered	Categorical	Fall, Spring, Summer	Indicates the time frame for course enrollment and analysis
Class number	Five-digit number unique to each course taught per semester	Categorical	00000-99999	Identifies specific courses for analysis
Catalog number	Nomenclature for the specific course that designates the subject area and level	Categorical	Varies (e.g., ENG 101)	Classifies course by subject and difficulty
Enrollment status	Status of student's enrollment	Categorical	E=enrolled; W=withdrawn	Indicates whether student maintains enrollment in a course or has withdrawn

Data were retrieved on December 23, 2022.

Data Analysis. I used a crosstab to analyze the registration data that includes the registration term, class number, catalog number, and the enrollment status. I compared the courses that late registrants (who earned a grade of D, E, or withdrew from the Spring 2022 semester) were enrolled in from the Fall 2022 semester. There were 230 courses in total—70 courses withdrawn from, and 160 courses completed. I tabulated the frequency that students withdrew from specific courses.

Data Integration and Quality

One of the benefits of mixed methods research is the integration of quantitative and qualitative data (Bryman, 2006; Creswell and Plano Clark, 2011). In the Evaluation phase, the qualitative data were used to inform the development of quantitative

instruments. The qualitative data were also used to assess the validity of quantitative data (O'Cathain, Murphy, and Nicholl, 2010).

Quantitative data were used to identify unknown variables and relationships based upon the initial qualitative data (Ivankova, 2015). The quality of the study was confirmed by the study design and data collection plan explained in the modification submitted to the Institutional Review Board (IRB) at the University of Kentucky. The IRB modification was approved on December 22, 2022. I followed stated guidelines and data collection procedures.

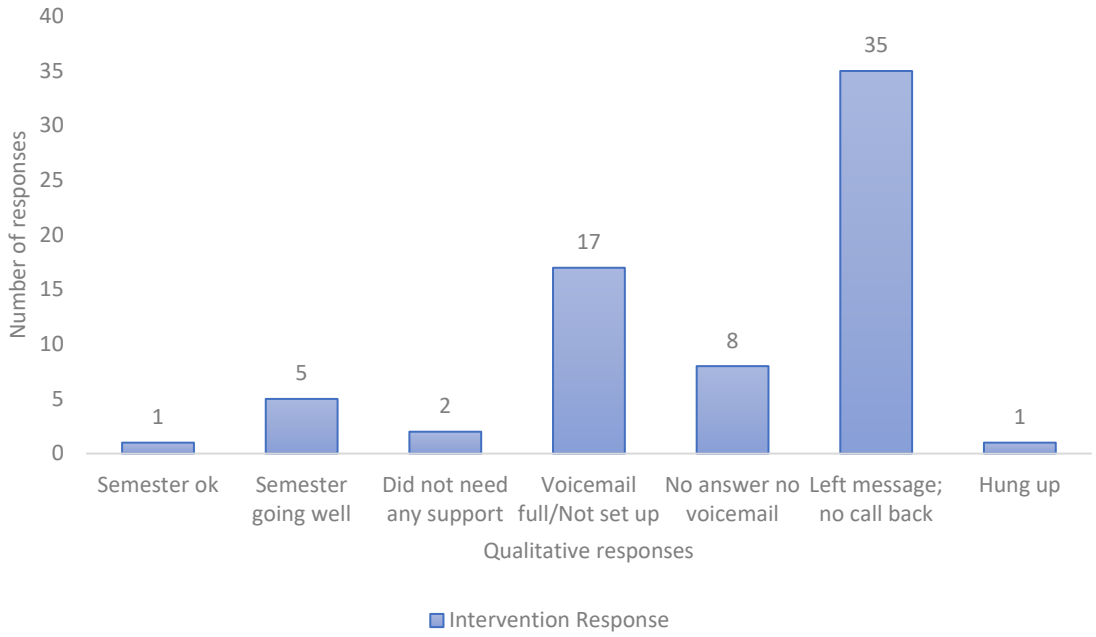
Findings

Qualitative Findings

Care calls conducted with late registrants were in line with results from the focus groups. The students in the focus groups were overwhelmingly positive about their academic status, and the same is true for the care calls conducted by the FSH. Six of the eight who engaged with FSH said that the semester was going ok/well. The statement that they did not need any support also corresponds with the focus group responses. There seems to be hesitancy to admit that they need help or a reluctance to seek help. Figure 12 shows qualitative results from the FSH phone calls.

Figure 12

FSH Intervention Responses



Evaluation Phase Qualitative Research Question 1. What were the late registrants' responses to the FSH calls?

Eight students provided a response to the conversation initiated by FSH. The conversation naturally flows with FSH representatives offering to help with career and success coaching, advocacy support, and technology assistance. FSH can even provide financial assistance for basic necessities and educational needs.

Five students were appreciative of the outreach and made comments like, "Thanks for reaching out," "Thanks for the help," and "Thanks for the call." These comments were in addition to the statements made about their course status.

Evaluation Phase Qualitative Research Question 2. What is the comparison between the late registrants who did not engage with FSH and those who did?

Table 18 is a comparison of late registrants who accepted the care call and those who did not.

Table 18

Comparison of Late Registrants

	Accepted care call (n=8)	Did not accept care call (n=61)
Average age	25	26
First-generation	2 (25%)	25 (41%)
First time at SKYCTC	3 (18%)	11 (37.5%)
Graduated high school	8 (100%)	57 (93%)
Earned GED	0	4 (7%)
Gender	3 females (37.5%);	42 females (68.9%);
	5 males (62.5%)	19 males (31.1%)

See Table 19 for the ethnicity frequency of the late registrants who did not accept the calls from FSH. The ethnicity of the students who accepted the care call was seven White and one African-American. The gender breakdown of the late registrants who did not accept the call from FSH was 69% females and 31% males. The breakdown was 37.5% females and 62.5% males who engaged with FSH.

Table 19

Frequency of Ethnicity of Late Registrants who Did Not Engage with FSH

ETHNICITY		
	N	%
Asian	6	9.8%
Black/African American	12	19.7%
Hispanic/Latino	6	9.8%
Non Specified	1	1.6%
Two or More Races	2	3.3%
White	34	55.7%
Total	61	100.0%

Quantitative Findings

When comparing the courses that late registrants were enrolled in for the Fall 2022 semester, the quantitative results yielded some interesting findings. This analysis aimed to identify unknown relationships based on qualitative data (Ivankova, 2015). The crosstab (see Appendix A) produced a list of courses that students withdrew from in the Fall 2022 semester. FYE 110 (First Year Experience) and MAT 150 (College Algebra) had the highest number of withdrawals, both with four. ENG 102 (Writing II) and HIS 101 (World Civilizations I) followed closely behind, tying for second place with three withdrawals each. Ten courses had two withdrawals, and 36 courses had one withdrawal (see Appendix A). This comparison also supports the quantitative findings from the Reconnaissance phase that there is no specific profile for the late registrant. The course data indicates that the students are first year students as well as upperclassmen, as indicated by the ENG 102 course. Their skill level may also be assessed from this data. These students have already achieved college readiness benchmarks because they are not enrolled in any co-requisite or developmental courses.

Each of the students who engaged with FSH were high school graduates. As they transitioned to adulthood, there could have been a shift in the level of support for higher education due to their parents' highest educational level.

Evaluation Phase Quantitative Research Question 1. What was the withdrawal rate for the sample?

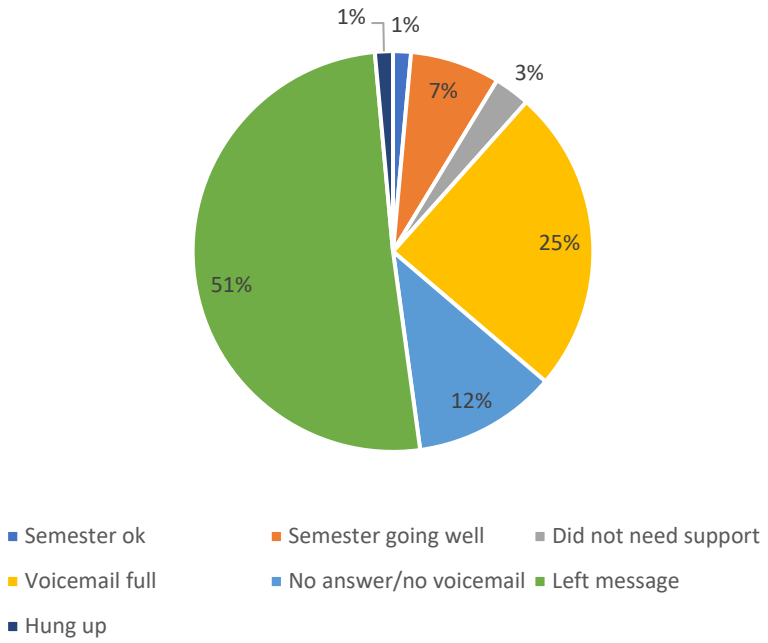
The withdrawal rate is equal to the number of courses the students withdrew from compared to the total number of courses they were enrolled in for the Fall 2022 semester. There were 70 courses that the students withdrew from out of a total of 230 courses, or a 30% withdrawal rate. Though this seems high, the students in the sample must be considered. These students may be predisposed to withdraw from a course. In Spring 2022, they completed courses with a grade of D, E, or withdrew from the course. To put this in perspective, from the Spring 2022 semester, the late registrants (463 students) withdrew from 188 courses out of a total of 1,292 courses, or a 15% withdrawal rate. However, this rate does not produce a true comparison because it is not known if the students were previously enrolled at SKYCTC; if previously enrolled, had the student earned a grade of D or below in the course; and if the student had previously withdrawn.

Evaluation Phase Quantitative Research Question 2. What percentage of the sample engaged with FSH?

Eight students, or 11.5% of the sample of 69 students were actively engaged with FSH. It is interesting to note that four of the eight students who engaged with FSH withdrew from a course in the Fall 2022 semester. The response percentages are in Figure 13.

Figure 13

FSH Intervention Responses in Percentages



Eight students, or 11.5% of the sample of 69 students were actively engaged with FSH. However, five of the eight students, or 62.5%, engaging with the FSH, were appreciative of the phone call.

Effectiveness of Intervention. The effectiveness of this intervention could be better told with greater student engagement. We do not know the reason for the students opting to withdraw from the courses, and it could have been beyond the scope of the resources offered by the FSH. This intervention could be a method supported by Tinto to aid the student in feeling connected to the College, which bolsters the success metrics of persistence and retention (2017).

The high proportion of students who did not engage with FSH, 61, could be concerning. This is not an anomaly in this type of intervention. Eimers (2000) found in

her study that students may have already departed the institution at the time of the intervention. Whether physically or mentally, there seemed to have been a disconnection that occurred between the institution and the student. With this gap between the institution and student, the likelihood of the student accepting the phone call and engaging with the representatives from FSH is slim.

Skepticism seemed to mount with the onset of COVID. Students became leery of answering unsolicited phone calls (Rohan, 2021). The doubt formed in students' minds overshadowed the intervention's sincere intent. The students were unaware of the outreach efforts of SKYCTC. If they understood the purpose of the care calls, many of the students would have benefitted from the outreach. The students could have felt the connection to the institution and the feeling of belonging by answering the phone or returning the message from FSH. However, skepticism got in the way.

Eimers also noted the quality of the students' phone numbers as a problem in her study (2000). Students provide inaccurate phone numbers, or they frequently change their cell phone number. Consequently, when the care calls are made, students cannot be contacted due to the wrong number, disconnected number, or the number being out-of-service. The students do not have an incentive to call back when a message is left for the student (Eimers, 2000).

Each of the aforementioned reasons could have had an impact on the student participation in the intervention. The number of students who engaged with FSH likely would have increased if they knew the purpose of the care calls. Thus, alternative communication strategies that permitted a preview of the intent of the intervention might have proven more successful. For instance, texting allows you to explain and introduce

the reason for the message. From there, if the student sees value in the outreach, they can decide to engage. Future research should involve a texting campaign to determine the outcome of its efforts. To strengthen the qualitative evaluation section, there are some additional quantitative questions that could be offered in subsequent iterations of this study. First, "were the students first-generation college students?" will provide insight into the overall problem. First-generation college students have challenges that may prohibit or limit their academic performance (Ishitani, 2006; McCarron & Inkelas, 2006; Naumann et al., 2003; Pascarella et al., 2003; Pascarella et al., 2004; Terenzini et al., 1996; Tinto, 1993). The support of their parents may be narrow. Their parents may legitimately want to help the student with completion of a college degree, but knowing how to support their son or daughter is the real issue. The admissions, registration, and financial aid process may appear as a daunting task to parents that have no experience with higher education (Pascarella et al., 2004). That lack of knowledge and fear can be passed down to the student. Though they encourage their children to pursue higher education, that deficiency in understanding the processes necessary to be successful while in college can be detrimental.

The parent may also be resistant to the need for earning a college credential (McConnell,2000; Terenzini et al., 1996; Vargas, 2004). The value of a college degree may not be understood and could undermine the student's goal (McConnell, 2000; Saenz, Hurtado, Barrera, Wolf, & Yeung, 2007). Without a clear understanding of the benefits of continuing their education beyond the secondary level, parents may discourage the student from pursuing education at the collegiate level. This may happen covertly or even overtly. The cost of a college education appears exorbitant to a person unfamiliar with

higher education (Smith, 2001). Completion of a college degree may mean the student moves away for employment in their field of study. The time needed to attend class and study is time pulled away from the family and their needs (Gofen, 2009; McConnell, 2000; Soria & Stebleton, 2013). The reasons can be numerous in the parent's mind as to why the student should not go to college.

Social capital is defined as the value of a relationship another person provides in knowledge and support in a social situation (Stanton-Salazar, 2001). Social capital is a value that parents of first-generation college students may lack when compared to parents who have been to college. The parents' ability to share their experience with the admissions process, enrolling in courses, and completing the financial aid process can be invaluable to the student in knowing how to maneuver through the path to a college degree (Pascarella et al., 2004).

Reflection. A substantial challenge during the intervention was the percentage of students who did not engage with FSH. Voicemails were left for students who did not answer the phone call, but there was nothing to obligate the student to return the phone call. Some students had also changed their phone number. This could have impacted the percentage of students who engaged with FSH. Further investigation into the quantitative data could reveal potential reasons for the lack of student engagement.

There could have been many reasons for the students not to answer the phone call or return the message. The percentage of students who opted to not engage with FSH was a bit surprising. As a student support professional, it's disheartening to learn that valuable resources for student support are unknown to many students, especially considering what's been learned about the effectiveness of traditional outreach methods (phone calls).

There is an opportunity here to provide the students with information about the outreach efforts of SKYCTC. All students must meet with an advisor before registration for the subsequent semester. During each advising appointment, advisors should mention the myriad of ways that SKYCTC will extend support. This would be an inescapable method of connecting with the students. Advisors can tell the students that there is an early alert mechanism by which we contact students and offer tutoring, financial, and mental health resources. Advisors should encourage students to be open and share any concerns that they may have so that we can work to mitigate them. Email has proven to be ineffective as an efficient way to share information with students.

Researchers have investigated how educational institutions have changed their communication with students in the aftermath of the COVID-19 pandemic (Rohan, 2021; Whelehan, 2020; Glantz et al., 2021). Communication has a new level of importance since the pandemic as the information spanned the gamut from health and safety protocols to mental health checks. Because of the abundance of electronic communication sent to students, there has been an increase in suspicion of the legitimacy of the message (Rohan, 2021). The absence or reduction of face-to-face interaction with students tends to also reduce the level of trust with the institution. The students may have ignored phone outreach and not returned voicemails due to questioning the legitimacy of the phone call.

Texting, using social media, and using the chat feature on a website are communication channels utilized by higher education institutions to connect with their students (Bannister, 2021). The phrase, "meeting the students where they are," has taken on a new meaning as institutions strive to reach students via their preferred method of

communication. Engaging with students will continue to be a moving target that we must learn to evaluate and adjust as effective communication of institutional policies and practice is critical (Atanasio, 2021).

Additional Potential Explanatory Factors for Target Group Response

Further assessment of the target group is necessary to understand the target group's lack of engagement with FSH. Factors that impact the target group may be related to their tendency to accept additional resources offered through outreach from FSH. Whether the student is a first-generation college student, if the student is also a parent, and the likelihood of the student to also be late in submitting the application for admission are all factors that were further reviewed for a potential explanation.

First-Generation Students. A first-generation college student's status influences their college experience. Knowing when to reach out to an advisor and understanding the need to communicate difficulty in a course early is critical to receiving appropriate support (Pascarella et al., 2004). To compare these statistically, I will look at the variable that tells if the student is a first-generation college student. This can also be compared to the total population to see if there is an additional risk associated with first-generation students who register late. See Table 20 that shows the frequency of first-generation students in the group of late registrants who did not answer the care calls from FSH. There were 25 students, or 41%, who may have had the additional factors that typically impact first-generation students. This was a greater percentage than that of the overall student population, 34.1%, as seen in Table 21.

Table 20

Frequency of Late Registrant First-Generation Students in Target Group

	1ST GEN	
	N	%
Not 1st gen	36	59.0%
1st	25	41.0%
Total	61	100.0%

Table 21

Frequency of First-Generation Students of SKYCTC Overall

	1ST GEN	
	N	%
Not 1st gen	1707	65.9%
1st	883	34.1%
Total	2590	100.0%

Students as Parents. Students that are parents are another population that can be further reviewed. Their involvement with their children limits the available time for college activities and events (Reichlin & Augeri, 2015). Time management becomes a critical aspect of the student's collegiate journey and ultimately their success. Procrastination is an element that may make or break the student-parents ability to persist. Properly managing the time that they can allocate to studying and preparing for their classes is an issue that student-parents must learn to address (Zambrano, 2016). They must learn to appropriately use free time when it becomes available. Procrastinating and waiting until the last minute may become detrimental to the student-parents' overall success. Working on assignments prior to the deadline can prove beneficial to prevent submission of late work or failing grades pending any emergency that could arise closer to the deadline.

Motivation to succeed can be the difference between a student-parent persisting or not (Bye et al., 2007). Being a role model to show their children the importance of finishing what you start and earning a college degree may be enough to push the student-parent across the finish line (Chambers, 2020). In addition to extrinsic motivation, intrinsic motivation and self-efficacy in setting and accomplishing a goal can also be a major incentive (Zimmerman, 2000).

The importance of the student-faculty relationship is heightened for student-parents (Soria & Stebleton, 2012). Maintaining open communication with faculty is necessary to properly inform them of any conflicts that may be present throughout the semester as a result of their children. Attendance in class or completion of an assignment could be impacted by circumstances related to the care of the child. Having open dialogue to ensure that faculty are aware of the situation with their child(ren) is essential in managing a positive student-faculty relationship.

Student-parents face a situation where the needs of their children often supersede college expectations or deadlines (Gault, Reichlin, & Román, 2014). It is an extra responsibility that does not compromise the time or dedication of non-parents. Subsequently, the student-parents may be hesitant to take on any additional responsibilities that could be presumed to accompany outreach from college departments. Consequently, the evaluation of the frequency of the student-parents in the total student population compared to the frequency of the student-parents who are late registrants will provide some guidance as to the students who have responsibilities that go beyond that of traditional students. The question to be answered here is, “Is there a greater ratio of student-parents in the population of late registrants when compared to the overall student

population?" 18 students out of 61 late registrants who did not engage with FSH, or 29.5%, were parents, as seen in Table 22. Of the greater student population, 28.1% were parents. Table 23 shows the frequency of the total student population. The greater percentage within the late registrants who did not take part in the intervention could explain the additional responsibilities of parenthood that reduced the available time for the care calls.

Table 22

Frequency of Late Registrants who are Parents in Target Group

STUDENT-PARENTS		
	N	%
No Kids	43	70.5%
Kids	18	29.5%
TOTAL	61	100.0%

Table 23

Frequency of Students who are Parents in SKYCTC Overall

STUDENT-PARENTS		
	N	%
No Kids	1861	71.9%
Kids	729	28.1%
TOTAL	2590	100.0%

Late Application and Late Registration. Evaluating the admissions application's timing and late registration data could signal a trend. If students complete the admissions application and register for courses late, it begs the question of whether the student is habitually late on each activity or if lateness is a result of something else. Reviewing the dates of submission of admissions application and enrollment for the late registrants compared to the greater student population will open the discussion of if the

activity is perceived as being optional. The open-access mission of the community college is designed to encourage students to enroll without regard for when they begin the admissions process (Shannon & Smith, 2006). The community college meets the needs of the community and works with the students no matter where they are. The incentive to disregard deadlines can come as a detriment to student achievement. Table 24 is the frequency of late registrants who did not receive the intervention. The percentage of late registrants who submitted the admissions application late but did not engage with FSH is 19.7%. In comparison, 16.9% of the total student population submitted the admissions application late, as seen in Table 25.

Table 24

Frequency of Late Registrants who Submitted a Late Admissions Application

	APP DATE?	
	N	%
On-time	49	80.3%
Late	12	19.7%
Total	61	100.0%

Table 25

Frequency of Students who Submitted a Late Admissions Application

	APP DATE?	
	N	%
On- time	2151	83.1%
Late	439	16.9%
Total	2590	100.0%

Overall, the target group did have a greater percentage of students who were first-generation college students, student-parents, and late in submitting the admission application. However, the percentages were not as great as to pinpoint a reason for the

lack of engagement. The nature and tendencies of this group of students may just be needy in terms of the support and resources provided to ensure student success. The efforts offered by the college must be numerous and comprehensive to cast the widest net and reach the greatest number of students.

Researcher Ethics. In the Evaluation phase, a modification to the IRB was necessary because the late registrants' academic records were accessed. The IRB modification was approved on December 22, 2022. I followed stated guidelines and data collection procedures, to include confidentiality and data sensitivity.

Monitoring Phase

The Monitoring phase combines inferences from the Evaluation phase and provides an improvement or a revision to the intervention (Ivankova, 2015). The most obvious inference from the Evaluation phase is how to get more students to engage with the FSH. The intervention is a great opportunity for students to discuss barriers to their success and be provided solutions. Because the FSH mission is to empower families and youth to succeed in education and achieve life-long self-sufficiency, more student engagement will beget greater student success.

The abysmal response rate obtained by FSH resulted in an opportunity cost that SKYCTC cannot afford. The FSH intervention with late registrants occurred at a critical time that could have positively impacted their academic success. The lack of response by 88% of the target group indicated the group of students that may have benefitted from another form of intervention that had greater participation and success.

Data from the study were shared with the Director of the Career and Academic Planning Center, Director of Student Life and Engagement, Registrar and Director of

TRIO programs. Each of these staff members are actively involved in student retention. They provided feedback about how to get students to answer the phone when care calls are made to increase engagement. We typically realize success when interacting with students via text. Perhaps that will be an option for FSH as well.

Instead of prohibiting late registration, the potential next step will be more outreach from staff to check on the students' progress and success. Late registration makes college more accessible for students who may be registering late due to circumstances beyond their control. Making sure that students are aware of the types of resources available to them is a necessary responsibility of staff at SKYCTC. Greater importance should be placed upon the advising appointment required for next semester's registration. During that appointment, the advisor can discuss the ways that SKYCTC reaches out to students to provide resources.

Another next step for SKYCTC is to communicate the registration dates more frequently and often. It was apparent in the focus group interviews that email is not the most effective method of communication. Yet, we rely upon email to communicate most. Working with the faculty and staff to stress the importance of speaking to students about the registration schedule and the need to register earlier than later is a necessity for SKYCTC.

Discussion and Implications

Interpretation of Findings

The quantitative findings did not produce a profile, or a description that characterizes the late registrant. However, it did identify some characteristics to be mindful of when categorizing this population. To flourish in the college environment

requires a stark contrast to the expected high school behaviors (Mullen, 2008). In high school, the parent and guidance counselor typically take responsibility for many scholastic activities, including course registration. Though the average age of the population was 25, 75% of the population was aged 22 and below. The age of 22 and below could lend itself to increased parental involvement in college decision-making (Horton, 2015). The focus group participants suggested they needed to be made aware of the registration schedule indicating a possible disconnect or lack of taking responsibility for their registration.

The overall reading comprehension of the target group is above average. The high school GPA and the ACT score in English, math, and reading all support that the group has successfully mastered the skills necessary to complete college-level coursework. The assessment of the group's academic propensity is essential in understanding their ability to complete coursework at the college level. In other words, expecting this population to earn a final grade of C or above in a college-level class is within reach. The average ACT scores also denounce the claim that the late registrants are at-risk.

The sample of late registrants exhibited the ability to complete college-level coursework. The study proposed an initiative to support students' academic progress by conducting care calls through FSH. Of the eight students who engaged with FSH, 62.5% appreciated the call. This expression of appreciation aligns with the students' need to establish a sense of belonging to the institution (Tinto, 2017). The percentage of students who did not engage with FSH (88%) validates that there is more to be done with this population. Employing different modes of communication, such as text messaging, could increase participation.

FSH's attempts to reach students was flawed. Students are skeptical of phone calls, especially from unfamiliar phone numbers (Rohan, 2021). Despite the low participation rate, there was not a shift in FSH's method of communicating with the students. To expand their reach and extent of support, further research into how to connect with students is necessary.

From the feedback provided by FSH, it appears that the interactions that did occur with the students were not very robust. If the mission of FSH is 'to end the cycle of poverty and transform our community by empowering families and youth to succeed in education and achieve life-long self-sufficiency,' it seems that the conversation would be more extensive to identify need.

Implications for Leadership, Policy, and Practice

Educational leadership, policy, and practice depend heavily on documentation. An institution's accreditation hangs in the balance because of what can and cannot be documented. The same has been the mode within which we operate when communicating with our students. Sending an email often can prove that we communicated on a certain date, at a certain time, and the frequency of communication. However, I learned through my interactions with students in this study that email communication does not elicit the desired outcome. As humans, we desire interaction, and our students are no different. We can achieve the same documentation goals by making announcements in class, speaking to a student during an advising appointment, or working with a student during a visit to the Registrar's Office and following the interaction up with an email to confirm what was discussed. Effective communication requires that you have a recipient who has received

the message. Thus, as educational leaders, we must adapt our way of thinking to include all students and their communication preferences.

The performance-based funding model rewards colleges with high student completion and success. For colleges to help students achieve greater success, colleges need to place a greater emphasis on the support and resources they offer students. Before students can take advantage of the resources, they must be made aware of what is available. Communicating with students requires the college to use different measures to ensure the message is received. This study identified a variety of factors that make the community college student population what it is. First-generation college students, student-parents, non-traditional students, different ethnicities, and college-ready students are just a few of the unique characteristics that make one standard message difficult to relay using one method. Effective communication remains a challenge that colleges must master to realize greater student support consumption and, consequently, greater student success.

Does performance-based funding lead colleges to accept more academically prepared students with the intent of increasing completion and success metrics? The community college is applauded for being an open-access institution that meets the needs of the community (Shannon & Smith, 2006). The ability to be so nimble and yielding to each demand brings into question, “Where do community colleges excel?” They excel at offering student support services, hands-on experiences, and more individualized attention at an affordable tuition rate. Of course, the college would love to attract and accept more scholars, but not at the expense of educating and preparing those at-risk students who need additional support.

A late registration policy aligns with the community college's mission. The community college student population often has additional non-academic barriers that limit, or even prohibit student success. The decision to register becomes a last-minute decision not because of the desire to attend college, but because of the non-academic barriers that must come together like a puzzle. Do you have reliable transportation? Is someone available to get the kids on and off the school bus? Do you have childcare? Can your family maintain its standard of living with you working a reduced number of hours? Sometimes the answers to these critical questions are not confirmed until closer to the beginning of the semester. Upholding strict registration deadlines and being inconsiderate of life responsibilities can be perceived as being cold and harsh, the opposite of the community college's student-centered practices. Should late registration be abolished? Can SKYCTC wait for students' life to be perfectly aligned without non-academic barriers present to compromise their time, effort, and ability? The answer to both questions is 'no'. The beauty of the community college is its ability to meet the needs of the community, and the community needs and demands flexibility in the registration schedule.

To mitigate the academic performance of 11% of the student population who registered late and earned below a C, SKYCTC must identify practical interventions to optimize the performance-based funding equation. Workshops and study sessions that focus on time management, organizational skills, and test-taking strategies would be beneficial (Smith, Street, Olivarez, 2000). Providing additional support is necessary to encourage late registrants' academic success.

Implications for Future Research

Future actions to support the success of late registrants at the community college must consider the factors that may compromise their success. Community college students also have work and family commitments that sometimes take priority over academic coursework. Availability of online courses and other flexible course scheduling may positively impact the academic success of late registrants. Communicating the urgency of registering for those courses earlier would be most beneficial. The method of communication must be comprehensive in attempting to reach all students. Email has proven to be ineffective in reaching most students. Students tend to prefer text messages, social media, and personalized outreach.

The diverse community college student population demands that we communicate with them differently. Perhaps workshops would be an effective way to reach students that are unaware of how to contact their advisor or what steps to take to register for classes. More frequent meetings with the advisor could aid the student in understanding their current academic status.

The student may not know what questions to ask to obtain the support they need. Gathering feedback from students who engage in late registration is necessary to determine what interventions are needed. There must be an emphasis on empowering the student to take responsibility for their academic journey. Student success seminars can coach the students on making the transition from high school to college. Explicitly communicating this transition is a critical conversation that must happen and cannot be an assumption that someone else discussed the transition with students.

This study can be expanded to consider the registration behavior of new students. The work of Smith, Street, and Olivarez focused on how new students' registration behavior influenced their academic performance compared to the returning student population (2000). New students have many factors that affect them differently than returning students. Which office they should seek assistance with registration may be one of the early questions impacting the new student's ability to register. Drilling down to what affected the new student's timing of their decision to register would be an area for future research.

Non-traditional student registration behavior could also be researched. This is an interesting topic because of the life responsibilities that could compromise their time to devote to class and studying (Bean & Metzner, 1985). Even the time it takes to complete the activities leading to their course registration could be infringed upon by other responsibilities like work, children, and household maintenance. The non-traditional student is unique in the dedication and determination that the student has to accomplish their dreams of earning a college credential, but life sometimes gets in the way. Researching the nuances of the non-traditional student through the lens of late registration will likely produce valuable results.

Parents often have responsibilities that take priority over everything else. The health and welfare of their offspring, at times, can limit the time and mental capacity necessary to focus on other tasks. Assisting the children with completing school assignments is also something that may take up valuable hours in the day. Besides the activities that must be done as a parent, there is also the nurturing side that must be exhibited to reassure the child that they are still a priority despite the time that completing

higher education requires of the parent. Gaining new perspective into how parents navigate the registration process in a timely fashion and still get everything done can be beneficial.

Supporting the first-generation student is critical to advancing the student success metrics at every higher education institution. The first-generation student faces many challenges that are difficult to pinpoint the best solution. How do you educate this population about the importance of meeting with their advisor and selecting courses for the next semester sooner rather than later? It may not be quite that simple as the students could have other demands that affect their ability to attend classes the following semester. Working to improve how the family is situated financially may be a necessity and not an option. Helping to care for younger siblings while the parent(s) work to provide for the family is another factor that may compromise the time available for studying (Yizar, 2010). These situations are real life scenarios that many first-generation students face when deciding whether to continue their higher education studies.

There could also be a noticeable difference between students at the university versus students at the community college level. Students' preparedness at the university can be a factor in their ability to complete a course regardless of the time needed to prepare for the course. Overall, their academic preparation until that point could overcome any shortcomings in the subject area that they are registering late.

Researcher Bias

Definition of Researcher Bias

Whether intentionally or unknowingly, the researcher influences the process of carrying out research. Researcher bias may exist at any stage of the research process.

Study design, data collection, data analysis, or publication can each be influenced by the researcher to achieve the desired results (Chenail, 2011).

Identification of Potential Sources of Bias

Different types of bias exist in mixed methods action research. Design bias is related to the structure and methods of research. In design bias the preferences of the researcher supersede what works best for the research context.

Data collection bias exists when using a tool or method that is not suitable for the research population. For example, bad survey questions may lead to incorrect assumptions.

Sampling bias can occur when systematically members of the population are excluded from the data sample or members are more likely to be selected than others (Chenail, 2011).

Strategies to Minimize Bias

To minimize bias, I disclosed my assumptions, beliefs, and biases. I have also triangulated data using multiple sources (focus group interviews, relevant literature, registration data from PeopleSoft) to aid in the interpretation (Creswell & Clark, 2007).

I maintained close contact with the stakeholders, and the departments responsible for the admission and registration of students report to me. I have established an opinion of the typical late registrant, but that line of thought was debunked.

Limitations and Strengths of the Study

One limitation of this study is not interviewing late registrants who were successful in the courses they registered late for. This population could have feedback that is worth its weight in gold. Understanding what makes students successful can help

the institution identify where to apply the resources. If we are raising the performance of all students, knowing the most beneficial support from a student's perspective can be constructive. It would have been beneficial to know what led late registrants to be successful in their courses—completing a focus group with the population of students who registered late for a course but earned a grade of C or better could also produce useful results. The takeaway could be useful tips for students who earned below a C.

A strength of the study is the focus on underperforming students. This study focused on the students who could have been more successful in their attempt to complete courses in which they registered late. Individuals frequently perform better when attention is paid to them. The attention in the form of care calls is not cost-prohibitive to most institutions. Form a group responsible for making care calls and the results could be so great that the institution cannot afford not to do it. The care calls can be applied to all students, not just at-risk students. In alignment with studies from the Human Relation Theory, production often increases when attention is focused on the employees (Bolman & Deal, 2013).

Another strength is that the intervention can be applied to all students. Care calls can be replicated for other students at the institution. Outreach to the student body to check in and offer help or support is consistent with the Human Relations Theory (Bolman & Deal, 2013). Once an activity is successful, it can be labeled as a best practice and, thus, taken to scale.

The research only focused on students at one institution. However, late registration is an activity that occurs at many higher education institutions. To apply the results of this study to other institutions, there needs to be an understood definition of late

registration. Some institutions allow students to enroll in a course after the course has begun. This could create a different set of concerns with how the student obtains any notes or material assigned prior to the student's enrollment in the course. Coming to some agreement about the length of time addressed in the study will help apply the recommendation to said institution.

Conclusion

Late registration is not solely to blame for a student's performance in a course. Academic preparedness and access to financial resources can also contribute to student success. Each of the factors in this study, age, ACT scores, first-generation student status, and whether they are a parent, in conjunction with registering late for a course could be a recipe for poor academic performance. Alone, however, late registration cannot be labeled as the culprit for poor academic performance. This MMAR study provided the context for why students engage in late registration and what the institution can do to aid their performance. This study aimed to examine the characteristics and academic performance of students who register late for college courses and to identify strategies to support their success.

Understanding that this population of students can complete the courses that they registered late for begs the question, what prevented the student from performing at their highest level? There is reluctance from this population of students to admit that there is a problem, as evidenced by the focus groups. The students were disillusioned in their perception of their academic performance in the courses they registered for late.

Although this study did not address what prevented the students from performing well, it tested an initiative to support their success in the form of care calls performed by

FSH. SKYCTC partnered with FSH to end the cycle of poverty and achieve life-long self-sufficiency by helping students maintain enrollment. Care calls have not proven to be the most effective initiative in this post-COVID world (Rohan, 2021). The community college students' willingness to engage with an outsider about their academic performance via an unsolicited phone call is quite low.

Despite its dated moniker, snail mail is still effective at getting the message out. Postcards are an effective method of communicating information to students because often, the parent receives the mailed document. When the parent gets involved, typically, the response is timely.

Talking to the students is effective as well. The faculty making announcements in class about the registration schedule, advisors making phone calls to encourage registration, and peer mentors speaking to their classmates about early registration are all viable options to help communicate this important time. Having a discussion will open the door for students to express any concerns they may be experiencing. The conversation that began as a reminder to register for the next semester may evolve into a cry for help that could easily be resolved before the student has to withdraw from or fail courses and result in the student being retained and persisting to the next semester.

Targeted outreach, in the form of text messaging and social media outreach, is just one of the ways that we can interact with the students who registered late for any courses. From the beginning of the semester, the faculty should make students aware of tutoring services on campus. Tutoring can be beneficial for all students. Whether professional or peer tutors provide the services, reinforcing the material can help the

student perform better. Peer tutors can form study groups that can continue outside of that course and be a built-in support system throughout their college career.

Timely communication about the student's status in the course can also be beneficial. Frequent feedback can keep students engaged in the course and may feed their desire to perform their best. The feedback that suggests ways that the work could be made better would be the most advantageous. The feedback could also open the lines of communication between the faculty and the student.

The practical application of this study to other institutions would require conversations about what constitutes late registration. This definition has yet to be widely established and would likely cause more harm if a blanket application of this study were utilized. Your definition of late registration could greatly alter success metrics as well. Regardless of the definition of late registration, the intervention can still be used to support students in their journey.

Ultimately, the responsibility of informing students about the next semester's registration schedule rests with the institution. We must depend on more than just a mode of communication that has proven to be troublesome at best. Just because we can document when the message was sent via email does not mean that the student received that message. Thus, as educational leaders, we must employ different methods of communication to make the message inescapable. We must learn to adapt and adjust to meet the students where they are to ensure greater student success.

Appendix A: Catalog number * Enrollment Status Crosstab

*Catalog number * Enrollment status Crosstab*

Catalog number	Enrollment status	
	Enrolled	Withdrew
FYE110	5	4
MAT150	4	4
ENG102	3	3
HIS101	0	3
ACC201	1	2
ACT281	0	2
BAS110	0	2
BAS160	6	2
BIO112	1	2
CIT105	4	2
ENG101	6	2
IRW100	3	2
MAT110	2	2
MAT61	1	2
ACC202	1	1
ACT196	2	1
BAS267	1	1
BAS270	1	1
BAS283	3	1
BAS287	1	1
BIO139	6	1
BRX220	0	1
CAD100	0	1
CHE140	0	1
CHE145	0	1
CIT144	1	1
CIT161	0	1
CIT170	1	1
COM181	2	1
COM254	0	1
CUL270	0	1
ECO201	0	1
EDU201	0	1
ELT110	0	1
HIS102	1	1

Appendix A continued			
	HIS240	0	1
	IMT200	0	1
	IMT280	0	1
	IMT281	0	1
	MAT100	2	1
	MAT105	0	1
	MIT295	1	1
	MUS100	1	1
	NFS101	1	1
	NPN106	2	1
	NPN108	2	1
	PSY185	0	1
	REL121	0	1
	SOC151	1	1
	SPA101	0	1

Appendix B: IRB approval

EXEMPTION CERTIFICATION

IRB Number: 48480

On 8/30/2022, it was determined that your project entitled "Examining the relationship between late registration and academic performance" meets federal criteria to qualify as an exempt study.

Please note that before conducting surveys and interviews with teachers you must first submit, and receive IRB-approval for, a modification request providing final materials and procedures for these activities.

Because the study has been certified as exempt, you will not be required to complete continuation or final review reports. However, it is your responsibility to notify the IRB prior to making any changes to the study. Please note that changes made to an exempt protocol may disqualify it from exempt status and may require an expedited or full review.

The Office of Research Integrity will hold your exemption application for six years. Before the end of the sixth year, you will be notified that your file will be closed and the application destroyed. If your project is still ongoing, you will need to contact the Office of Research Integrity upon receipt of that letter and follow the instructions for completing a new exemption application. It is, therefore, important that you keep your address current with the Office of Research Integrity.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" available in the online Office of Research Integrity's IRB Survival Handbook. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at 859-257-9428.

Appendix C: Focus group protocol

Opening Statement/Conversation

I am conducting this focus group to learn more about students' decisions to register late for classes and their experience in the late registration process and in the class for which they registered late. During this focus group I hope you will not only tell me about your experience, but that you will share your own ideas and opinions in regard to late registration. Do you have any questions before we begin?

Focus Group Questions

1. Tell me about your decision to register late, and how would you describe the circumstances which led you to register late?

2. Tell me about your experience in the late registered course, and how did it compare with your experience in a course for which you registered on-time?

3. Describe your level of satisfaction with your performance in the late registered course.

4. How would you advise other students in regard to registering late for a course, and would you late register for any courses in the future?

5. Would your advice to other students and/or your decision to register late vary depending of the type of course or the subject area of the course?

Probing Questions

What do you mean?

Would you explain that more fully?

Could you give me an example?

Tell me more about what you were thinking?

Could you tell me more about that?

Appendix D: IRB modification approval

Modification Review

Approval Ends:	IRB Number:
8/29/2028	48480

TO: Brooke Justice, BA; MBA
Educational Leadership Studies
PI phone #: [redacted]
PI email: brookejustice@uky.edu

FROM: Chairperson/Vice Chairperson
Nonmedical Institutional Review Board (IRB)

SUBJECT: Approval of Modification Request

DATE: 12/22/2022

On 12/21/2022, the Nonmedical Institutional Review Board approved your request for modifications in your protocol entitled:

Examining the relationship between late registration and academic performance

If your modification request necessitated a change in your approved informed consent/assent form(s), the new IRB approved consent/assent form(s) to be used when enrolling subjects can be found on the approved application's landing page in E-IRB. [Note, subjects can only be enrolled using consent/assent forms which have a valid "IRB Approval" stamp unless special waiver has been obtained from the IRB.]

Note that at Continuation Review, you will be asked to submit a brief summary of any modifications approved by the IRB since initial review or the last continuation review, which may impact subject safety or welfare. Please take this approved modification into consideration when preparing your summary.

For information describing investigator responsibilities after obtaining IRB approval, download and read the document "PI Guidance to Responsibilities, Qualifications, Records and Documentation of Human Subjects Research" available in the online Office

of Research Integrity's IRB Survival Handbook. Additional information regarding IRB review, federal regulations, and institutional policies may be found through ORI's web site. If you have questions, need additional information, or would like a paper copy of the above mentioned document, contact the Office of Research Integrity at 859-257-9428.

References

Abdullah, S. (2017). Is timing everything? The impact of early, standard, and late orientation and registration on the retention of community college students [ProQuest LLC]. In *ProQuest LLC.*

About the act test – K12 solutions. ACT. (n.d.). Retrieved October 2, 2022, from https://www.act.org/content/act/en/products-and-services/the-act-educator/the-act-test.html#order-reg-materials

About SACSCOC. SACSCOC. (2022, August 24). https://sacscoc.org/about-sacscoc/

Allensworth, E. & Clark, K. (2019). Are GPAs an inconsistent measure of college readiness across high schools? Examining assumptions about grades versus standardized test scores.

American Association of Community Colleges. *Fast Facts*. Washington, D.C.: American Association of Community Colleges, 2021. https://www.aacc.nche.edu/research-trends/fast-facts/.

Anderson, G. (2019). More SAT test takers but lower scores. *Insider Higher Ed*. Retrieved from https://www.insidehighered.com/admissions/article/2019/09/24/minority-and-first-generation-sat-scores-fall-behind.

Angelo, D. (1990). The relationship between late registration and student persistence and achievement. *College and University*, 65(41), 316-327.

Armstrong, W. B. (1999). *Explaining community college outcomes by analyzing student data and instructor effects* (Order No. 9912621). Available from ProQuest Dissertations & Theses Global. (304497547).

http://ezproxy.uky.edu/login?url=https://www.proquest.com/dissertations-theses/explaining-community-college-outcomes-analyzing/docview/304497547/se-2

Atanasio, R. (2021). Engaging students in a post-pandemic world. (Research brief No. 3). Driving Toward a Degree. https://drivetodegree.org/wp-content/uploads/2021/06/TYT105_D2D21_03_Engage_Rd5.pdf

Ayers, D., (2017). Three functions of the community college mission statement. *New Directions for Community Colleges*, 180, 9-17.

Bahr, P., Gross, J., Slay, K., & Christensen, R. (2015). First in line: student registration priority in community colleges. *Educational Policy, 29*(2), 342-374. DOI: 10.1177/0895904813492381

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review.* 84, 191-215; http://psycnet.apa.org/doi/10.1037/0033-295X.84.2.191

Bannister, M. (2021). "Over-communication" keeps students in the loop and increases enrollment despite COVID-19 uncertainty. Enrollment Management Report, 24(10), 12–12. https://doi.org/10.1002/emt.30737

Barnett, E., & Kopko, E. (2020). What really works in student success? Community College Research Center.

Baumeister, R., & Leary, M. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*(3), 497–529. https://doi.org/10.1037/0033-2909.117.3.497

Bean, J. (2005). Nine themes of college student retention. In A. Seidman (Ed.), College student retention: Formula for college student success (pp. 215-244). Westport, CT: Praeger.

Bean, J., & Metzner, B. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485–540. https://doi.org/10.2307/1170245

Becker, G. (1964). Human capital: A theoretical and empirical analysis, with special reference to education. University of Illinois at Urbana-Champaign's Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship, Available at SSRN: https://ssrn.com/abstract=1496221

Belcher, M., & Patterson, C. (1990). Who are late registrants, and what will they do when faced with a late registration fee? Miami, FL: Miami-Dade Community College. (ERIC Document Reproduction Service No. ED 328 324)

Belfield, C., & Crosta, P. (2012). Predicting Success in College: The importance of placement tests and high school transcripts. *CCRC Working Paper No. 42.* Community College Research Center. Retrieved from Social Science Premium Collection http://ezproxy.uky.edu/login?url=https://www.proquest.com/reports/predicting-success-college-importance-placement/docview/968113257/se-2

Bolman, L., & Deal, T. (2013) *Reframing Organizations: Artistry, choice, and leadership.* San Francisco, CA: Jossey-Bass.

Bowen, G. (2009), Document analysis as a qualitative research method, *Qualitative Research Journal*, *9*(2), 27-40. https://doi.org/10.3316/QRJ0902027

Brookhart, S., Guskey, T., Bowers, A., Mcmillan, J., Smith, J., Smith, L., Stevens, M., & Welsh, M. (2016). A century of grading research. *Review of Educational Research, 86*, 803 – 848.

Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research, 6*(1), 97-113.

Burns, K. (2010). At issue: Community college student success variables: A review of the literature. *The Community College Enterprise, 16*(2), 33-61.

Bye, D., Pushkar, D., & Conway, M. (2007). Motivation, interest, and positive affect in traditional and nontraditional undergraduate students. *Adult Education Quarterly, 57*(2), 141-158. doi:10.1177/0741713606294235

Carlan, P. (2001). Adult students and community college beginnings: Examining the efficacy of performance stereotypes on a university campus. *College Student Journal*, *55*(2).

Chambers, L. D. (2020). Nevertheless, she persisted: Single mothers' pursuit of a bachelor's degree (Order No. 28259709). Available from GenderWatch; ProQuest Dissertations & Theses Global; Social Science Premium Collection. (2468374783). http://ezproxy.uky.edu/login?url=https://www.proquest.com/dissertations-theses/nevertheless-she-persisted-single-mothers-pursuit/docview/2468374783/se-2

Chenail, R. (2011). Interviewing the investigator: Strategies for addressing instrumentation and researcher bias concerns in qualitative research. *The*

Qualitative Report, *16*(1), 255-262. Retrieved from http://www.nova.edu/ssss/QR/QR16-1/interviewing.pdf

Chilton, B. (1964). The relationship between certain factors of late and regular registrants. ProQuest Dissertations and Theses.

Clowes, D., & Levin, B. (1989). Community, technical, and junior colleges: Are they leaving higher education? *The Journal of Higher Education, 60*(3), 349. https://go.openathens.net/redirector/uky.edu?url=https://www.proquest.com/scholarly-journals/community-technical-junior-colleges-are-they/docview/205298371/se-2

College Board. (2020). What is a test-optional college?. https://blog.collegeboard.org/what-is-a-test-optional-college

Conley, D. (2008). Rethinking college readiness. *The New England Journal of Higher Education, 22*(5), 24-26. http://ezproxy.uky.edu/login?url=https://www.proquest.com/trade-journals/rethinking-college-readiness/docview/196922620/se-2?accountid=11836

Council on Postsecondary Education. (2022). College readiness. http://www.cpe.ky.gov/ourwork/collegereadiness.html.

Council on Postsecondary Education (2022.) Interactive Data Center. https://reports.ky.gov/t/CPE/views/KentuckyPostsecondaryEducationInteractiveDataDashboard/Enrollment.

Creswell, J. (2014). *Research Design Qualitative, Quantitative, and Mixed Methods Approaches.* Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J., & Clark, V. (2007). Designing and conducting mixed methods research. Thousand Oaks, CA: Sage.

Creswell, J., Hanson, W., Plano Clark, V., & Morales, A. (2007). Qualitative research designs: Selection and implementation. *Counseling Psychologist*, *35*(2), 236-264.

Creswell, J. & Plano Clark, V. (2011). Designing and conducting mixed methods research. 2nd Edition, Sage Publications, Los Angeles.

Cuseo, J. (2004). "Red flags": Behavioral indicators of potential student attrition, Retrieved from http://listserv.sc.edu/archives/fye-list.html.

Davis, J., DeSantis, A., & Jaeger, A. (2022). The strategic role of community college presidents in activating student success outcomes. In C. Cutler White & A. B. Clayton (Eds.), Expanding community college opportunities: Access, transfer, and completion. *New Directions for Community Colleges*, 198, pp. 149–159. JohnWiley & Sons, Inc. https://doi.org/10.1002/cc.20517

Donovan, H. (1956). It's in the book: A commencement address. s.n.

Doyle, W. R. (2012). Playing the numbers: Remediation: No easy answers. *Change, 44*(6), 60-63. doi: 10.1080/00091383.2012.728956

Drucker, P., (1973). *Management: Tasks, responsibilities, practices*. New York, NY: Harper & Row.

Early economic return on Higher Education Investment Report (2021). (n.d.). https://www.cpe.ky.gov/data/reports/2021roireport.pdf

Eimers, M. (2000, May). *Assessing the impact of the early alert program*. Paper

presented at the Annual Forum of the Association for Institutional Research, Cincinnati, OH. (ERIC No. ED 446511). Retrieved from http://www.eric.ed.gov/PDFS/ED446511.pdf

Ewell, P., & Jones, D. (1994). Pointing the way: Indicators as policy tools in higher education. In Sandra Ruppert (ed.), *Charting Higher Education Accountability: A Sourcebook on State-Level Performance Indicators.* Denver, CO: Education Commission of the States.

Family Scholar House. (2022). https://familyscholarhouse.org/.

Favero, N., & Rutherford, A. (2019). Will the tide lift all boats? Examining the equity effects of performance funding policies in U.S. higher education. *Research in Higher Education*, *61*(1), 1-25.

Ford, G., Stahl, K., Walker, M., & Ford, A. (2008). Better late than never? The relation of registration date to class performance. *College Student Journal*, 42(2), 402.

Freeman, A. (2019). The influence of late course registration on student success in higher education. (Order No. 27802085). Available from ProQuest Dissertations & Theses Global. (2393196666). http://ezproxy.uky.edu/login?url=https://www.proquest.com/dissertations-theses/influence-late-course-registration-on-student/docview/2393196666/se-2

Freer-Weiss, D. (1999). Forces that influence late-admitted students. *Community College Review,* 27, 26-50.

Freer-Weiss, D. (2004). Community college freshmen: Last in, first out? *Journal of College Student Retention, 6*(2), 137-154.

Gault, B., Reichlin, L., & Román, S. (2014). College affordability for low-income adults:

Improving returns on investment for families and society. *Institute for Women's Policy Research, c412*. Retrieved from http://www.iwpr.org/initiatives/student-parent-successinitiative/resources-publications#sthash.5M9oBNS9.dpuf

Geltner, P. (2001). The characteristics of early alert students, fall 2000. Santa Monica College, CA. Report No. RR-2001.6.1.0 (ERIC Document Reproduction Service. No. ED 463 013).

Gofen, A. (2009). Family capital: How first-generation higher education students break the intergenerational cycle. *Family Relations Interdisciplinary Journal of Applied Family Studies 58(1)* 104-120.

Glantz, E., Gamrat, C., Lenze, L., & Bardzell, J. (2021). Improved student engagement in higher education's next normal. EDUCAUSE Review, Retrieved March 2, 2023, from https://er.educause.edu/articles/2021/3/improved-student-engagement-in-higher-educations-next-normal

Glass, J., & Harrington, A. (2002). Academic performance of community college transfer students and "native" students at a large state university. *Community College Journal of Research and Practice, 26*(5), 415-430. http://ezproxy.uky.edu/login?url=https://www.proquest.com/scholarly-journals/academic-performance-community-college-transfer/docview/62303935/se-2

Glasser, W. (1998). Choice theory: A new psychology of personal freedom. New York: Harper Perennial.

Goldrick-Rab, S. (2010). Challenges and opportunities for improving community college student success. *Review of Educational Research, 80*(3), 437-469. https://doi.org/10.3102/0034654310370163

Hays, D., & Singh, A. (2012) *Qualitative inquiry in clinical and educational settings.* New York, NY: Guilford.

Hausmann, L., Schofield, J. & Woods, R. (2007). Sense of belonging as a predictor of intentions to persist among African American and white first-year college students. *Res High Educ* 48, 803–839 https://doi.org/10.1007/s11162-007-9052-9

Hodara, M. & Jaggars, S. (2014). An examination of the impact of accelerating community college students' progression through developmental education. *The Journal of Higher Education*, 85(2), 246-276, DOI: 10.1080/00221546.2014.11777326

Horton, J. (2015). Identifying at-risk factors that affect college student success. *International Journal or Process Education, 7*(1), 83-101.

Ishitani, T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *Journal of Higher Education, 77*(5), 861-885.

Ivankova, N. (2015). *Mixed methods application in action research: From methods to community action*. Thousand Oaks, CA: Sage Publications, Inc.

Jenkins, D., Lahr, H., Fink, J., & Ganga, E. (2018). *What we are learning about Guided Pathways. Part 1: A reform moves from theory to practice.* Community College Research Center. Retrieved from Social Science Premium Collection

http://ezproxy.uky.edu/login?url=https://www.proquest.com/reports/what-we-are-learning-about-guided-pathways-part-1/docview/2101364344/se-2

Jones, L. (2016). Bridging the workforce and civic missions of community colleges. *New Directions for Community Colleges, 2016*(173), 121-129. https://doi.org/10.1002/cc.20197

Kachur, T., & Barcinas, S. (2020). Community college adult learner experiences with a student success environment. American Association for Adult and Continuing Education.

KCTCS Board of Regents Policies. KCTCS. (n.d.). https://policies.kctcs.edu/board-policies/statutes.aspx

Keck, K., & Poppink, S. (2007). Community college retention: The role of late registration policies. ProQuest Dissertations and Theses.

Kelderman, E. (2020). 'We haven't begun to feel the real economic damage'. *The Chronicle of Higher Education.* https://www.chronicle.com/article/we-havent-begun-to-feel-the-real-economic-damage [Google Scholar]

Keller, M., DeBaun, B., & Warick, C. (2020). (rep.). S*upporting the class of 2021 through postsecondary transition*.

Kelly, R. (2009). A comparison of transfer and native students at Northern Arizona University. Available from Education Database. (305059607). http://ezproxy.uky.edu/login?url=https://www.proquest.com/dissertations-theses/comparison-transfer-native-students-at-northern/docview/305059607/se-2

Kentucky Community and Technical College System. (n.d.). *Mission, vision, & values*. https://kctcs.edu/about/mission-vision-values/index.aspx

Kuh, G. (2007a). Making students matter. In J. Burke (Ed.), *Fixing the fragmented public University* (pp 235-264). Bolton, MA: Anker.

Kuh, G. (2007b). What student engagement data tell us about college readiness. *Peer Review, 9*(1), 4-8.

Kuh, G., Kinzie, J., Buckley, J., Bridges, B., & Hayek, J. (2006). What matters to student success: A review of the literature. *National Symposium on Postsecondary Student Success: Spearheading a Dialog on Student Success*.

Leeds, D., & Mokher, C. (2020). Improving indicators of college readiness: Methods for optimally placing students into multiple levels of postsecondary coursework. *Educational Evaluation and Policy Analysis,42*(1), 87-109.

Levin, J. (2000). The revised institution: The community college mission at the end of the twentieth century. *Community College Review*. *28*(2), 1-25.

Levine-Brown, P., Anthony, S., & Boylan, H. (2018). The evolving role of U.S. community colleges: An interview with Walter G. Bumphus. *Journal of Developmental Education, 41*(3), 26-28. https://go.openathens.net/redirector/uky.edu?url=https://www.proquest.com/scholarly-journals/evolving-role-u-s-community-colleges-interview/docview/2122541120/se-2

Lovell, D. (2022). Administrative burden in the classroom: An embedded mixed methods study of how external pressure impacts the burden of student success at the

community college level. Texas Education Review, 10(2), 101-127. http://dx.doi.org/10.26153/tsw/41903

Maack, S. (2001) *Final analysis of academic assistance system.* Retrieved from ERIC database. (ED 466835).

Maalouf, K. (2012). The influence of late registration on academic outcomes and retention at a multi-campus community college (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI No. 3534955).

Machi, L., & McEvoy, B. (2016). *The literature review: Six steps to success*. Corwin.

Martin, K., Galentino, R., & Townsend, L. (2014). Community College Student Success: The role of motivation and self-empowerment. *Community College Review*, 42(3), 221-241.

Maslow, A. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370-396.

McCarron, G., & Inkles, K. (2006). The gap between educational aspirations and attainment for first-generation college students and the role of parent involvement. *Journal of College Student Development, 47(5),* 534-549.

McConnell, P. (2000). ERIC review: What community colleges should do to assist first-generation students. *Community College Review, 28*(3), 75–87.

McKinney, L., & Hagedorn, L. (2017). Performance-based funding for community colleges: Are colleges disadvantaged by serving the most disadvantaged students? *The Journal of Higher Education*, *88*(2), 159-182.

Mechur Karp, M. (2016). A holistic conception of nonacademic support: How four mechanisms combine to encourage positive student outcomes in the community

college. *New Directions for Community Colleges. 2016* (175), 33-44. https://doi.org/10.1002/cc.20210

Montondon, L. & Eikner, A. (1997). Comparison of community college transfer students and native students in an upper level accounting course. *Community College Review, 25*(3).

Montuori, A. (2011) Systems Approach. In: Runco MA, and Pritzker SR (eds.) Encyclopedia of Creativity, Second Edition, vol. 2, pp. 414-421 San Diego, CA: 2011.

Morphew, C. & Hartley, M. (2006) Mission statements: A thematic analysis of rhetoric across institutional type. *The Journal of Higher Education, 77*(3), 456-471. DOI: 10.1080/00221546.2006.11778934

Mullen, K. (2008). Social and academic factors that contribute to resiliency for at-risk students in Georgia universities. *Electronic Theses and Dissertations*. 192. https://digitalcommons.georgiasouthern.edu/etd/192

Mullin, C. (2012). Student success: Institutional and individual perspectives. *Community College Review, 40*(2), 126-144.

Munoz, M. & Portes, P. (2001). Predictors of academic achievement: The effects of demographic and psychosocial factors. U. S.: Kentucky.

National Center for Education Statistics (NCES) home page, part of the U.S. Department of Education. National Center for Education Statistics (NCES) Home Page, a part of the U.S. Department of Education. (n.d.). https://nces.ed.gov/

Naumann, W., Bandalos, D., & Gutkin, T. (2003). Identifying variables that predict college success for first-generation college students. *Journal of College Admission* (181), 4-9.

Newberry, A. (1996). The University of Kentucky Community College System: History, current status, and future challenges. Community College Journal of Research and Practice, 20(6), 519-538, DOI: 10.1080/1066892960200605

O'Cathain, A., Murphy, E., & Nicholl, J. (2010). Three techniques for integrating data in mixed methods studies. BMJ. 2010 Sep 17;341:c4587. doi: 10.1136/bmj.c4587. PMID: 20851841.

O'Hara, A. (2005). From university centers to community colleges: The evolution of a distinctive system of higher education in Kentucky. ProQuest Dissertations Publishing, Print.

O'Leary, Z. (2014). The essential guide to doing your research project (2nd ed.). Thousand Oaks, CA: SAGE Publications, Inc.

Ortagus, J.C., Kelchen, R., Rosinger, K., Voorhees, N. (2020). Performance-based funding in American higher education: A systematic synthesis of the intended and unintended consequences. Educational Evaluation and Policy Analysis, 42 (4), 520-550.

Outcomes measures. AACC. (2017). https://www.aacc.nche.edu/advocacy/outcomes-measures/

Park, R., & Scott-Clayton, J. (2018). The impact of Pell Grant eligibility on community college students' financial aid packages, labor supply, and academic

outcomes. *Educational Evaluation and Policy Analysis, 40*(4), 557-585. https://doi.org/10.3102/0162373718783868

Pascarella, E., Wolniak, G., Pierson, C., & Terenzini, P. (2003). Experiences and outcomes of first-generation students in community colleges. *Journal of College Student Development* (3), 420.

Pascarella, E., Pierson, C., Wolniak, G., & Terenzini, P. (2004). First- generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education, 75(3),* 249-284.

Pfleging, E. (2002). *An evaluation the early alert program at Columbia College*. Stanislaus, CA: Master of Arts Action Research Project. Retrieved from ERIC database. (ED478596)

Phelan, D.J. (2000). Enrollment policies and student access at community colleges. Education commission of the states, Denver, CO. (Educational Document Reproduction Service No. ED 439 763).

Piland, W. (1995). Community college transfer students who earn bachelor's degrees. *Community College Review, 23*(3), pp. 17-26.

Postsecondary Education Working Group. (2020). *Postsecondary Education Working Group* report. http://cpe.ky.gov/data/reports/performancefundingreport.pdf.

Reichlin, L., & Augeri, J. (2015). Reproductive health and women's educational attainment: Women's funds' strategies to improve outcomes for women. *Institute for Women's Policy Research, r465*. Retrieved from http://www.iwpr.org/initiatives/the-status-of-womenand-Girls

Research brief - higher education drives up earnings for Kentucky graduates. (2021). https://www.cpe.ky.gov/data/reports/earningsbrief-1.pdf

Richardson, Jr., R. & de los Santos, G. (2001). Statewide governance structures and two-year colleges, in *Community Colleges: Policy in the Future Context*, ed. Barbara K. Townsend and Susan B. Twombly (Westport, CT: Ablex Publishing), 48.

Rockstroh, E. C. (2011). *Examining student success: Student definitions and perceptions of success at the California Community Colleges* (Order No. 3474465). Available from Education Database. (898363774). http://ezproxy.uky.edu/login?url=https://www.proquest.com/dissertations-theses/examining-student-success-definitions-perceptions/docview/898363774/se-2

Rohan, A. (2021). *How has COVID-19 affected the way we communicate?* UAB News. Retrieved March 1, 2023, from https://www.uab.edu/news/research/item/11542-how-has-covid-19-affected-the-way-we-communicate

Roueche, J. E. & Roueche, S. D. (1994a). Climbing out from between a rock and a hard place: Responding to the challenges of the at-risk student. Battle Creek, MI: Kellogg Foundation. (ERIC Document Reproduction Service No. ED 369 445)

Roueche, J. E. & Roueche, S. D. (1994b). Responding to the challenge of the at-risk student. *Community College Journal of Research and Practice, 18,* 1-11. DOI: 10.1080/1066892940180101

Rubin, P. & Gonzalez Canché, M. (2019). Test-flexible admissions policies and student enrollment demographics: Examining a public research university. *The Review of Higher Education.* 42(4), 1337-1371.

Saenz, V., Hurtado, S., Barrera, D., Wolf, D., & Yeung, F. (2007). *First in my family: A profile of first-generation college students at four-year institutions since 1971*. Los Angeles, CA: Higher Education Research Institute, UCLA.

Safer, A. M. (2009). The effect of late registration for college classes. College Student Journal, 43(4), 1380.

Schak, J. (2021). A policymaker's guide to using new student debt metrics to strengthen higher education accountability. In *Project on Student Debt.* Project on Student Debt.

Seidman, A. (Ed.). (2005). *College student retention*. Westport, CT: American Council on Education/Praeger Publishers.

Shannon, H. & Smith, R. (2006) A case for the community college's open access mission. *New Directions for Community Colleges*. 136, 15-21.

Smith, A. B., Street, M., & Olivarez, A. (2000). The effects of early, regular, and late registration on student success in community colleges. ProQuest Dissertations and Theses.

Soria, M., & Stebleton, J. (2012). First-generation students' academic engagement and retention. *Teaching in Higher Education, 17*(6), 673-685.

Southern Association of Colleges and Schools Commission on Colleges. (2018). *Resource manual for the principles of accreditation: Foundations for quality enhancement.* https://sacscoc.org/app/uploads/2019/08/2018-POA-Resource-Manual.pdf

Stanton-Salazar, R. D. (2011). A social capital framework for the study of institutional agents. *Youth & Society*, *43*, 1066-1109.

http://dx.doi.org/10.1177/0044118X10382877

Stice, P., & Smith, M. (Eds.). (1989). Community colleges: Pathway to Kentucky's future. Lexington: University of Kentucky Community College System

Strategic agenda for postsecondary education. Kentucky Council on Postsecondary Education. (n.d.). https://cpe.ky.gov/ourwork/strategicagenda.html

Strategic plan. SKYCTC. (n.d.). https://southcentral.kctcs.edu/about/mission-vision/strategic-plan.aspx

Syverson, S. (2007). The role of standardized tests in college admissions: Test-optional admissions. *New Directions for Student Services*, 2007: 55-70. https://doi.org/10.1002/ss.241

Taylor, Z., & Manor, L. (2021). (De)Glossing financial aid: Do colleges and universities actually use financial student aid jargon? *Journal of Student Financial Aid, 50*(2) http://ezproxy.uky.edu/login?url=https://www.proquest.com/scholarly-journals/de-glossing-financial-aid-do-colleges/docview/2859211947/se-2

Teddlie, C. and Tashakkori, A. (2009) Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences. Sage, London.

Terenzini, P., Springer, L., Yaegar, P., Pascarella, E., & Nora, A. (1996). First-generation college students: Characteristics, experiences, and cognitive development. *Research in Higher Education 37(1)* 1-21.

Thelin, J. (2004). *A history of American higher education*. Baltimore, MD: The Johns Hopkins University Press.

Tinto, V., (1993). *Leaving college: Rethinking the causes and cures of student attrition.*

(2nd ed.). Chicago, LL: University of Chicago Press.

Tinto, V. (2001). *Taking student retention seriously*. Paper presented at the Annual Recruitment and Retention Conference, Austin, TX. Retrieved from http://www.mcli.dist.maricopa.edu/fsd/c2006/docs/takingretentionseriously.pdf

Tinto, V. (2008). Improving Graduation Rates. *Change, 40*(4), 5-5. Retrieved from http://www.jstor.org.libproxy1.usc.edu/stable/40178078

Tinto, V. (2017). Reflections on student persistence. *Student Success, 8*(2), 1-8.

Tompkins, P. (2013). Late registration and student success in on-campus and online classes. Available from ProQuest Dissertations & Theses database. (UMI No. 1508349181).

Tompkins, P. & Williams, M. R. (2015). At issue: A comprehensive review and synthesis of the literature on late registration. Community College Enterprise, 21(2), 62-75.

Townsend, B. (2001). Redefining the community college transfer mission. *Community College Review*. 29(2), 29-43.

Vargas, J. H. (2004). *College knowledge: Addressing information barriers to college*. Boston, MA: The Education Resources Institute.

Whelehan, D. (2020). Students as partners: A model to promote student engagement in post-COVID-19 teaching and learning. *All Ireland Journal of Teaching and Learning in Higher Education*. 12(3). 1-10.

Yizar, J., Jr. (2010). *Enrollment factors that predict persistence of at-risk (low income and first generation) students' journey towards completion of a baccalaureate degree at Idaho State University* (Order No. 3448146). Available from ProQuest Dissertations & Theses Global; Social Science Premium Collection. (859608178).

http://ezproxy.uky.edu/login?url=https://www.proquest.com/dissertations-theses/enrollment-factors-that-predict-persistence-at/docview/859608178/se-2

Zambrano, M. (2016). How to aid in the academic success of college student mothers. Available from GenderWatch; ProQuest Dissertations & Theses Global; Social Science Premium Collection. (1815535705). http://ezproxy.uky.edu/login?url=https://www.proquest.com/dissertations-theses/how-aid-academic-success-college-student-mothers/docview/1815535705/se-2

Zaritsky, J., & Toce, A. (2006). Supplemental instruction at a community college: The four pillars. *New Directions for Teaching and Learning,* (106), 23-31. https://doi.org/10.1002/tl.230

Zimmerman, B. (2000). Self-efficacy: An essential motive to learn. *Contemporary Educational Psychology*, *25*(1), 82-91. doi:10.1006/ceps.1999.1016

Zottos, G. (2005). The impact of late registration on academic outcomes of urban community college students. (doctoral dissertation). Retrieved from Dissertations & Theses: Full Text. (Publication No. AAT 3180484)

VITA

Brooke Leigh Justice

Education

Master of Business Administration, Western Kentucky University, 2006

Bachelor of Arts, Spanish & Communication Studies, Western Kentucky University, 2004

Professional Positions

Vice President of Student Services, Southcentral Kentucky Community & Technical College, 2018-current

Associate Vice President of Enrollment Management, Southcentral Kentucky Community & Technical College, 2014-2018

Registrar, Southcentral Kentucky Community & Technical College, 2008-2014

Academic Advisor, Western Kentucky University, 2006-2008