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Goal-Based Evaluation Comparing Community College Developmental Student Engagement with National Norms

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This is to certify that the doctoral study by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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MEd, Cambridge College 1994

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Doctoral Study Submitted in Partial Fulfillment

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Abstract

At Hillcrest Community College (HCC; pseudonym) most developmental education (DE) students do not progress in their studies from DE to college-credit-bearing courses required to matriculate toward earning a credential. Student engagement is important for student success, but HCC had never completed a study of student engagement among its DE students. The purpose of this quantitative goal-based evaluation was to compare HCC DE student engagement with the Community College Survey of Student Engagement (CCSSE) national norms to determine if engagement contributed to the problem. Kuh's theory of student engagement was the theoretical basis of the study, and the overarching research question sought to clarify the extent to which HCC students were engaged. Institutional data archived from the 2016 CCSSE administered to HCC students (N = 169) and national data calculated by CCSSE (N = 211,168) were used for analysis using a one-sample t test. The primary research question was evaluated via 5 secondary questions associated with 5 CCSSE benchmarks. Secondary research questions were evaluated by testing 38 hypotheses for indicators associated with benchmarks. Null hypotheses were retained for 33 of 38 indicators using Cohen's $d \pm .50$ a priori criterion established for magnitude of effect size. Study results indicated that HCC DE students are mostly similar to DE students nationally in terms of engagement except for their use of computer labs. Evaluation report recommendations included maintaining existing engagement programs for DE students at HCC with attention to increasing DE student use of computer labs, and continuing to monitor engagement as future CCSSE data becomes available. HCC can benefit from an awareness that its DE students are engaged and can seek other ways to improve DE student outcomes and related benefits for positive social change at HCC.

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Dedication

First and foremost, I dedicate this doctoral study back to God. I give Him honor, glory, and praise for being my all and all throughout my entire doctoral journey. Thank you, Lord, for the abundance that is making my life richer and for the blessings filling my life in the form of this research study. I am so grateful for the mustard seed faith and the constant reminder of Galatians 6:9 KJV--And let us not be weary in well-doing: for in due season we shall reap, if we faint not.

I dedicate this doctoral study to the loving memory of my beloved grandmother, Amanda Thompson Walton, my heavenly angel. I dedicate this study to my husband, Milton L. Lyle, Jr., for his continued and unwavering love, support and understanding during my pursuit of the Ed.D degree that made the completion of my project study possible. To my son, Jerrell Lamar Lyle, born of my heart and remains the wind beneathe my wings. To my mother, Inez Tucker, for instilling the importance of education and nurturing my love of learning at an early age. To all who came before me, and made sacrifices so that I may achieve higher heights.

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I also extend my gratitude to my committee members, Dr. Richard Hammett, and Dr. Floralba Arbelo Marrero. I greatly appreciate your time, expertise, clarity and scholarly point of view.

To all of my professional colleagues who provide unconditional support by assisting me with the collection of data or provided other assistance or encouragement throughout this process. I am forever grateful for the encouragement provided by my family, both immediate and extended. To my husband, Milton L. Lyle, Jr., thank you for your unconditional love, support, and being my number one cheerleader. To my son, Jerrell Lamar Lyle, thank you for being my right-hand assistant and for being the best son that a mother could ever hope for in life. To my parents, Joe and Inez Tucker, thank you for the gift of life and for loving me unconditionally. To my siblings, Ralph and Patricia, thank you for your unwavering support and love since the beginning of time. It is an honor to be your oldest sister. To Dr. Matteel Jones, I will be forever indebted to you. I am especially grateful for the inspiration provided for this season and in all of my endeavors. A special thank you to my Pastor, Dr. Kenneth C. Doe and my dearest friend, Geneva D. Cole, who continuously prayed for me from the very beginning to this present moment. Thank you to all others who provided encouragement or support in words or deed.

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Section 1: The Problem

The Local Problem

The Hillcrest Community College (HCC; a pseudonym) dean of Arts and Sciences reported that the overall passing rate for fall 2015 developmental education (DE) courses ranged from 47% to 66%, preventing more than one-half of DE students from being eligible to enroll in credit-bearing college courses and progressing in their program curriculum. The lack of progression in college-level courses costs students federal financial aid tuition dollars. Failure in DE courses leads to failure to meet federal satisfactory academic progress (SAP) requirements to receive financial aid. Student progression and success has been linked to student engagement, and students who are engaged are less likely to fail, withdraw, or leave the institution (Tinto, 1993). Pascarella and Terenzini (2005) indicated that a substantial amount of research literature points to student engagement as one of the significant underlying influences in student attainment. Substantiated by decades of research, engagement entails psychological investment in an effort directed toward learning, demonstrating cognitive interest, and understanding or mastering the knowledge and skills necessary to complete an academic curriculum. Engagement curbs the divide between what students can and will accomplish (Hossler, Kuh, & Olsen, 2001; Newmann, 1992; Pascarella, & Terenzini, 1991, 2005; Salomon, & Globerson, 1989). HCC has DE student program supports, but has never completed a study of student engagement among DE students. Without study data, HCC does not know if students enrolled in its DE courses are engaged or engaged somehow differently than DE students at other community colleges.

The goal of DE is to prepare students to understand the college-level material and be successful in college (Bettinger, Boatman, & Long, 2013). Countless DE students are not ready for the rigors of college-level coursework (Daiek, Dixon, & Talbert, 2012), and many DE students do not advance to college-level math and English (Hodara & Jaggars, 2014). Conversely, although underprepared students underperform academically and socially compared to better-equipped students, they tend to display a tremendous amount of persistence and resiliency in preparing themselves to attain college-level status (Melzer & Grant, 2016). If students are engaged at an institution, they are more likely to remain and graduate from college (Shinde, 2010). HCC does not know if and how DE students, the majority of whom do not progress, are engaged by the college.

Rationale

HCC's dean of arts and sciences supports a goal-based evaluation of DE student engagement. She indicated that 280 students, nearly 20% of all students at HCC, were enrolled in DE classes in the fall of 2015. The dean also emphasized HCC's need to use the Community College Survey of Student Engagement (CCSSE) data to inform programmatic decision-making for DE students and suggested a comparison with national data to evaluate HCC. Student engagement is essential to both the dean and the institution. According to the college's 2011 strategic plan, an institutional objective is helping underprepared students attain their educational goals through a personal pathway. The 2013 overall graduation rate at HCC was 9.9%, the lowest among the six community colleges of similar size within the state (College Completion, 2017). Of all 2-year public

colleges in the United States, HCC's graduation rate ranked in the 19th percentile (College Completion, 2017).

Combined, the dean's support, HCC's strategic plan, and low graduation rates at HCC all provide a rationale for this project study at the local level. Nationally, DE student progression and success is a concern for higher education administrators (Mohr, Eiche, & Sedlacek, 1998). Additionally, Pruett and Absher (2015) reported that among the most challenging issues confronting community college executives is addressing the requirements of the students enrolled in DE courses.

I completed a goal-based evaluation by utilizing data from the Community College Survey of Student Engagement (CCSSE, 2015b) to make a comparison between DE student engagement at HCC and the national norms. The CCSSE, a service and product of the Center for Community College Student Engagement (CCCSE, 2015a), is an engrained evaluation instrument that helps institutions concentrate on proper scholastic preparation and ascertain areas in which they can enhance their services and programs for students. The Community College Survey of Student Engagement (CCSSE) is meant to assist comminity colleges with the exploration of student engagement and its connection with desirable educational outcomes at 2-year institutions with the further goal of capturing the activities and experiences of students enrolled in community colleges (Nora, Crisp, & Matthews, 2011). Comparison of individual institutions with national benchmarks is also called for in the field of higher education leadership (Alstete, 1995). Benchmarking supplies key personnel with an external standard for measuring the quality of internal initiatives and also helps critical personnel

to recognize where opportunities for improvement might reside. In the case of HCC, I benchmarked institutional engagement indicators with CCSSE national norms, so as to better inform HCC about how to best serve DE students. Such benchmarking is called for by Kuh (2001), an originator of CCSSE benchmarks.

Pruett and Absher (2015) reported that among the most challenging issues confronting community college executives is addressing the requirements of the DE student. The advancement of methods, services, and interventions to help retention of DE students should be considered a high concern for policymakers, administrators, and community college educators. Thus, the purpose of this study was to compare whether HCC DE student engagement is equivalent to CCSSE national norms.

Definition of Terms

I used the following operational definitions of terms throughout this study:

Academic challenge: "Challenging intellectual as well as creative work is essential to collegiate quality and student learning. These survey pieces tackle the dynamics and level of assigned academic work, the intricacy of cognitive tasks given to students, and also the rigor of examinations utilized to assess student performance" (Center for Community College Student Engagement, 2017, p. 3).

Attrition: Attrition involves leaving higher education before achieving one's instructional objectives. Attrition is frequently correlated with students' inadequate academic preparation, an abundance of family and work duties, along with a lack of commitment or engagement with educational objectives (Schuetz, 2008). Attrition is a student's insufficient persistence to goal achievement (Pruett & Absher, 2015).

Benchmark: Bers (2012) defined benchmarks as quantitative criteria or standards by which something can be measured or judged. Benchmarks are targets or thresholds an institution aims to meet. Benchmarks permit an institution to determine whether it has reached its target or goal, to evaluate itself with peer institutions on the same standard, or establish a baseline from which improvement is desired or needed.

*Collaborative and active learning: "*Students who have opportunities to consider and demonstrate what they are learning in various settings gain greater insight when they are actively participating in their education. Through collaborating with other individuals to resolve problems or perhaps master difficult information, students acquire important skills that will prepare them to cope with real-life circumstances and issues" (Center for Community College Student Engagement, 2017, p. 3).

Developmental/remedial education: A plan of study in different areas intended to give the student a qualified prerequisite to college level studies that Pruett and Absher (2015) defined as coursework that is below college-level.

Evaluation: An evaluation determines the extent that an institution, organization, or program has achieved its objectives or goals (Pam, 2013).

Goal-based evaluation: Goals-based evaluation is a process utilized to establish the particular results of an organization development program when set alongside the objectives of the initial contracted plan (Foster, 2014).

One sample t *test:* The one Sample *t* test verifies whether the sample mean is statistically different from a recognized or hypothesized population mean. The one sample *t* test is a parametric test where the variable is referred as the test variable. A

single sample *t* test is utilized to compare a single sample mean to a stated constant (SPSS Tutorials, 2018). Independent or dependent variables are not factors when a one sample *t* test is applied.

Persistence: Persistence is a student's capacity to stay enrolled in college while demonstrating the continued behavior of progressing from one level to the next until degree completion (Garza & Bowden, 2014).

Retention: Retention is measured by the institution's ability to retain students on a continuous basis (Garza & Bowden, 2014).

Student effort: "Students' actions add substantially to their learning and also the probability that they will effectively attain their educational goals" (Center for Community College Student Engagement, 2017, p. 3).

Student engagement: Student engagement relates to the level of desire, optimism, interest, curiosity, and attention that students display while learning, that typically includes the amount of inspiration to study and progress in their academic curriculum (Kuh, 2003).

Student-faculty interaction: "Generally, the more communication students have with their instructors, the more likely they are to learn efficiently and also to persist toward the accomplishment of their educational goals. Through such interactions, faculty members provide guidance, become mentors, and role models for continuous, lifelong learning" (Center for Community College Student Engagement, 2017, p. 3).

Student involvement: Student involvement describes the quantity of psychological and physical engagement that the student dedicates to the comprehensive academic experience (Astin, 1999).

Support for learners: Students excel better and demonstrate contentment at colleges offering crucial support services, cultivate participation among organizations on campus, and also show commitment to their overall accomplishments (Center for Community College Student Engagement, 2017).

Significance of the Study

This study is significant for students of HCC, HCC as an institution, community colleges, and the field of higher education.

Significance to HCC Developmental Education Students

HCC students will ultimately benefit from this study if HCC creates, implements, and informs DE students about activities that they may take advantage of throughout their educational journey, and students are positively impacted by participating in engagement activities.

Significance to HCC as an Institution

Campus enrollments decrease when students underperform, thus adding additional tension on institutional budgets that are already overstretched. Both private and public universities and colleges report enrollment deficits along with other types of financial stress (Kuh, Jankowski, Ikenberry, & Kinzie, 2014). Research to improve engagement among DE students will help the college reach its mission and objectives.

Improvements to policies, curricula, services, and pathway programs might be made based on evaluation results. This is the original contribution of this study to HCC.

Significance to Community Colleges

Community colleges similar to HCC might be able to use the study results to improve their engagement of DE students. Due to difficulties gauging student engagement, as well as the other challenges that campuses cope with daily, Kuh et al. (2014) considered it critical for institutions to appraise their decision making with the statistics they collect on their students' learning systematically. The study will assist academic and student affairs professionals at HCC by identifying areas in which HCC DE students are engaged and not engaged. The study will also serve as a model for other community colleges to compare their DE student engagement with CCSSE national norms.

Significance to Higher Education

Kuh (2009a) surmised that, for the first decade of the 21st century, student engagement will remain an organizing construct for institutional assessment, improvement efforts, and accountability. Although there are a multitude of studies on student engagement, few empirical studies have been published comparing institutional indicators with national norm benchmarks using CCSSE data. This study adds to the collection of studies using CCSSE data.

Research Questions and Hypotheses

Community colleges continue to be recognized as a practical pathway for students to have access to higher education. The 2-year institutions, while devoted to their

mission, face tremendous accountability to find solutions to improve student success outcomes. One such measurement tool is the CCSSE, which is used to promote student engagement.

HCC decision makers did not know if and how DE students, the majority who do not progress in their studies, were engaged. The purpose of this study was to compare whether HCC DE student engagement is equivalent to the CCSSE national norms. I developed the primary research question for this study to clarify the extent to which HCC students are engaged as compared to CCSSE national norms. The question was: Is there a difference between HCC student engagement and CCSSE national norms?

The primary research question was evaluated via five secondary research questions corresponding with five CCSSE benchmark constructs: active and collaborative learning, student effort, academic challenge, student-faculty interactions, and support for learning. These research questions are as follows:

RQ1: Is there a difference in the means of active and collaborative learning engagement between HCC students and CCSSE national norms?

RQ2: Is there a difference in the means of student effort engagement between HCC students and CCSSE national norms?

RQ3: Is there a difference in the means of academic challenge student engagement indicators between HCC students and CCSSE national norms?

RQ4: Is there a difference in the means of student-faculty interaction engagement indicators between HCC students and CCSSE national norms?

RQ5: Is there a difference in the means of support for learners student engagement indicators between HCC students and CCSSE national norms?

Secondary research questions were evaluated by testing 38 hypotheses associated with indicators of student engagement. Indicators corresponded with questions asked on the CCSSE and were associated with the five benchmark constructs.

Correspondingly, there were 38 dependent variables, each measuring the mean of HCC for individual indicators. No independent variable exists for the one-sample *t* test procedure employed to test hypotheses (Rovai, Baker, & Ponton, 2014). Rather, I used a national mean score calculated by CCSSE developmental students for each indicator to compare with the mean of HCC.

CCSSE Benchmark Constructs

CCSSE benchmarks are categories of conceptually correlated survey items that concentrate on student behaviors and institutional practices that foster student engagement and that are distinctly related to persistence and student learning. The five CCSSE benchmarks are active and collaborative learning, academic challenge, student effort, student-faculty interaction, and support for learners.

Active and collaborative learning benchmark and indicators. Active and collaborative learning is one of five benchmarks which indicates that students learn more when they have opportunities to think about and apply what they are learning in different settings and are actively involved in their education (CCSSE, 2016). The 2016 CCSSE measured active and collaborative learning with seven indicators related to classroom participation, class presentation, project collaboration, preparation, tutoring, community

project, and discussed ideas. The research question and hypotheses associated with active and collaborative learning indicators were:

RQ1: Is there a difference in the means of academic and collaborative learning engagement between HCC students and CCSSE national norms?

$H_0$1: There is no difference in the means of the active and collaborative learning indicator (4a) “asked questions in class or contributed to class discussion” between HCC student and the CCSSE national norm.

$H_1$1: There is a difference in the means of the active and collaborative learning indicator (4a) “asked questions in class or contributed to class discussion” between HCC student and the CCSSE national norm.

$H_0$2: There is no difference in the means of the active and collaborative learning indicator (4b) “made a class presentation” between HCC student and the CCSSE national norm.

$H_1$2: There is a difference in the means of the active and collaborative learning indicator (4b) “made a class presentation” between HCC student and the CCSSE national norm.

$H_0$3: There is no difference in the means of the active and collaborative learning indicator (4f) “worked with other students on projects during class” between HCC student and the CCSSE national norm.

$H_1$3: There is a difference in the means of the active and collaborative learning indicator (4f) “worked with other students on projects during class” between HCC student and the CCSSE national norm.

$H_0$4: There is no difference in the means of the active and collaborative learning indicator (4g) “worked with other classmates outside of class to prepare class assignments” between HCC student and the CCSSE national norm.

$H_1$4: There is a difference in the means of the active and collaborative learning indicator (4g) “worked with other classmates outside of class to prepare class assignments” between HCC student and the CCSSE national norm.

$H_0$5: There is no difference in the means of the active and collaborative learning indicator (4h) “tutored or taught other students (paid or voluntary)” between HCC student and the CCSSE national norm.

$H_1$5: There a difference in the means of the active and collaborative learning indicator (4h) “tutored or taught other students (paid or voluntary)” between HCC student and the CCSSE national norm.

$H_0$6: There is no difference in the means of the active and collaborative learning indicator (4i) “participated in a community-based project as part of a regular course” between HCC student and the CCSSE national norm.

$H_1$6: There is a difference in the means of the active and collaborative learning indicator (4i) “participated in a community-based project as part of a regular course” between HCC student and the CCSSE national norm.

$H_0$7: There is no difference in the means of the active and collaborative learning indicator (4r) “discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)” between HCC student and the CCSSE national norm.

$H_1$7: There is a difference in the means of the active and collaborative learning indicator (Q4r) "discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)" between HCC student and the CCSSE national norm.

Student effort benchmark and indicators. Student effort is one of five benchmarks that measures students' behaviors contributing substantially to student learning and the probability that students will achieve their educational goals (Community College Survey of Student Engagement (CCSSE), 2016). The 2016 CCSSE measured student effort with eight indicators related to preparing assignments, resources, lack of preparation, personal enjoyment or academic enrichment, related program activities, tutoring (peer or other), and laboratories (skills and computer). The research question and related hypotheses for student effort were:

RQ2: Is there a difference in the means of student effort engagement between HCC students and CCSSE national norms?

$H_0$8: There is no difference in the means of the student effort indicator (4c) "prepared two or more drafts of a paper or assignment before turning it in" between HCC students and CCSSE national norms.

$H_1$8: There is a difference in the means of the student effort indicator (4c) "prepared two or more drafts of a paper or assignment before turning it in" between HCC students and CCSSE national norms.

$H_0$9: There is no difference in the means of the student effort indicator (4d) "worked on a paper or project that required integrating ideas or information from various sources" between HCC students and CCSSE national norms.

$H_1$9: There is a difference in the means of the student effort indicator (4d) "worked on a paper or project that required integrating ideas or information from various sources" between HCC students and CCSSE national norms.

$H_0$10: There is no difference in the means of the student effort indicator (4e) "came to class without completing readings or assignments" between HCC students and CCSSE national norms.

$H_1$10: There is a difference in the means of the student effort indicator (4e) "came to class without completing readings or assignments" between HCC students and CCSSE national norms.

$H_0$11: There is no difference in the means of the student effort indicator (6b) "number of books read on your own (not assigned) for personal enjoyment or academic enrichment" between HCC students and CCSSE national norms.

$H_1$11: There is a difference in the means of the student effort indicator (6b) "number of books read on your own (not assigned) for personal enjoyment or academic enrichment" between HCC students and CCSSE national norms.

$H_0$12: There is no difference in the means of the student effort indicator (10a) "preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)" between HCC students and CCSSE national norms.

$H_1$12: There is a difference in the means of the student effort indicator (10a) "preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)" between HCC students and CCSSE national norms.

$H_0$13: There is no difference in the means of the student effort indicator (13.1d) "peer or other tutoring" between HCC students and CCSSE national norms.

$H_1$13: There is a difference in the means of the student effort indicator (13.1d) "peer or other tutoring" between HCC students and CCSSE national norms.

$H_0$14: There is no difference in the means of the student effort indicator (13.1e) "use in skill labs (writing, math, etc.)" between HCC students and CCSSE national norms.

$H_1$14: There is a difference in the means of the student effort indicator (13.1e) "use in skill labs (writing, math, etc.)" between HCC students and CCSSE national norms.

$H_0$15: There is no difference in the means of the student effort indicator (13.1h) "computer lab" between HCC students and CCSSE national norms.

$H_1$15: There is a difference in the means of the student effort indicator (13.1h) "computer lab" between HCC students and CCSSE national norms.

Academic challenge benchmark and indicators. Academic challenge is one of five benchmarks which presumes that creative and challenging intellectual work is fundamental to collegiate quality and student learning (Community College Survey of Student Engagement (CCSSE), 2016). The 2016 CCSSE measured academic challenge with ten related indicators related to hard work, challenge, analysis, judgment,

information gathering, theories or concepts, application of information, course readings, course writing, challenges, and encouragement. Research questions and hypotheses for academic challenge were:

RQ3: Is there a difference in the means of academic challenge student engagement indicators between HCC students and CCSSE national norms?

$H_0$16: There is no difference in the means of the academic challenge indicator (4p) "worked harder than you thought you could to meet an instructor's standards or expectations" between HCC students and CCSSE national norms.

$H_1$16: There is a difference in the means of the academic challenge indicator (4p) "worked harder than you thought you could to meet an instructor's standards or expectations" between HCC students and CCSSE national norms.

$H_0$17: There is no difference in the means of the academic challenge indicator (5b) "analyzing the basic elements of an idea, experience, or theory" between HCC students and CCSSE national norms.

$H_1$17: There is a difference in the means of the academic challenge indicator (5b) "analyzing the basic elements of an idea, experience, or theory" between HCC students and CCSSE national norms.

$H_0$18: There is no difference in the means of the academic challenge indicator (5c) "synthesizing and organizing ideas, information, or experiences in new ways" between HCC students and CCSSE national norms.

$H_1$18: There is a difference in the means of the academic challenge indicator (5c) "synthesizing and organizing ideas, information, or experiences in new ways" between HCC students and CCSSE national norms.

$H_0$19: There is no difference in the means of the academic challenge indicator (5d) "making judgments about the value or soundness of information, arguments, or methods" between HCC students and CCSSE national norms.

$H_1$19: There is a difference in the means of the academic challenge indicator (5d) "making judgments about the value or soundness of information, arguments, or methods" between HCC students and CCSSE national norms.

$H_0$20: There is no difference in the means of the academic challenge indicator (5e) "applying theories or concepts to practical problems or in new situations" between HCC students and CCSSE national norms.

$H_1$20: There is a difference in the means of the academic challenge indicator (5e) "applying theories or concepts to practical problems or in new situations" between HCC students and CCSSE national norms.

$H_0$21: There is no difference in the means of the academic challenge indicator (5f) "using information you have read or heard to perform a new skill" between HCC students and CCSSE national norms.

$H_1$21: There is a difference in the means of the academic challenge indicator (5f) "using information you have read or heard to perform a new skill" between HCC students and CCSSE national norms.

$H_0$22: There is no difference in the means of the academic challenge indicator (6a) “number of assigned textbooks, manuals, books, or book-length packs of course readings” between HCC students and CCSSE national norms.

$H_1$22: There is a difference in the means of the academic challenge indicator (6a) “number of assigned textbooks, manuals, books, or book-length packs of course readings” between HCC students and CCSSE national norms.

$H_0$23: There is no difference in the means of the academic challenge indicator (6c) “number of written papers or reports of any length” between HCC students and CCSSE national norms.

$H_1$23: There is a difference in the means of the academic challenge indicator (6c) “number of written papers or reports of any length” between HCC students and CCSSE national norms.

$H_0$24: There is no difference in the means of the academic challenge indicator (7) “mark the response that best represents the extent to which your examinations during the current school year have challenged you to do your best work at this college” between HCC students and CCSSE national norms.

$H_1$24: There is a difference in the means of the academic challenge indicator (7) “mark the response that best represents the extent to which your examinations during the current school year have challenged you to do your best work at this college” between HCC students and CCSSE national norms.

$H_0$25: There is no difference in the means of the academic challenge indicator (9a) "encouraging you to spend significant amounts of time studying" between HCC students and CCSSE national norms.

$H_1$25: There is a difference in the means of the academic challenge indicator (9a) "encouraging you to spend significant amounts of time studying" between HCC students and CCSSE national norms.

Student-faculty interaction benchmark and indicators. Student-faculty interaction is one of five benchmarks that measure students' opportunity to learn effectively and persist toward academic achievement. Student-faculty interaction is based on the premise that overall educational goal attainment of students is enhanced with an increase in number of interactions with instructors (Community College Survey of Student Engagement (CCSSE), 2016). The 2016 CCSSE measured student-faculty interaction with six related indicators capturing student interaction with instructors to include: email communication, discussion of assignments or grades, career plans, non-classroom assignments, performance feedback, and non-coursework activities. Research questions and hypotheses for student-faculty interaction are presented.

RQ4: Is there a difference in the means of student-faculty interaction engagement indicators between HCC students and CCSSE national norms?

$H_0$26: There is no difference in the means of the student-faculty interaction indicator (4k) "used e-mail to communicate with an instructor" between HCC students and CCSSE national norms.

$H_1$26: There is a difference in the means of the student-faculty interaction indicator (4k) “used e-mail to communicate with an instructor” between HCC students and CCSSE national norms.

$H_0$27: There is no difference in the means of the student-faculty interaction indicator (4l) “discussed grades or assignments with an instructor” between HCC students and CCSSE national norms.

$H_1$27: There is a difference in the means of the student-faculty interaction indicator (4l) “discussed grades or assignments with an instructor” between HCC students and CCSSE national norms.

$H_0$28: There is no difference in the means of the student-faculty interaction indicator (4m) “talked about career plans with an instructor or advisor” between HCC students and CCSSE national norms.

$H_1$28: There is a difference in the means of the student-faculty interaction indicator (4m) “talked about career plans with an instructor or advisor” between HCC students and CCSSE national norms.

$H_0$29: There is no difference in the means of the student-faculty interaction indicator (4n) “discussed ideas from your readings or classes with instructors outside of class” between HCC students and CCSSE national norms.

$H_1$29: There is a difference in the means of the student-faculty interaction indicator (4n) “discussed ideas from your readings or classes with instructors outside of class” between HCC students and CCSSE national norms.

$H_0$30: There is no difference in the means of the student-faculty interaction indicator (4o) "received prompt feedback (written or oral) from instructors on your performance" between HCC students and CCSSE national norms.

$H_1$30: There is a difference in the means of the student-faculty interaction indicator (4o) "received prompt feedback (written or oral) from instructors on your performance" between HCC students and CCSSE national norms.

$H_0$31: There is no difference in the means of the student-faculty interaction indicator (4q) "worked with instructors on activities other than coursework" between HCC students and CCSSE national norms.

$H_1$31: There is a difference in the means of the student-faculty interaction indicator (4q) "worked with instructors on activities other than coursework" between HCC students and CCSSE national norms.

Support for learners benchmark and indicators. Support for learners is one of five benchmarks that presupposes that students are more satisfied and perform better at colleges dedicated to student success and which promote positive working and social relationships among different groups on campus (Community College Survey of Student Engagement, 2016). The 2016 CCSSE measured support for learners with seven related indicators associated with support by providing encouragement, coping skills, social skills, financial assistance, academic advising and planning, and career counseling. Research questions and hypotheses for support for learners are presented.

RQ5: Is there a difference in the means of support for learners student engagement indicators between HCC students and CCSSE national norms?

$H_0$32: There is no difference in the means of the support for learners indicator (9b) “providing the support you need to help you succeed at this college” between HCC students and CCSSE national norms.

$H_1$32: There is a difference in the means of the support for learners indicator (9b) “providing the support you need to help you succeed at this college” between HCC students and CCSSE national norms.

$H_0$33: There is no difference in the means of the support for learners indicator (9c) “encouraging contact among students from different economic, social, and racial or ethnic backgrounds” between HCC students and CCSSE national norms.

$H_1$33: There is a difference in the means of the support for learners indicator (9c) “encouraging contact among students from different economic, social, and racial or ethnic backgrounds” between HCC students and CCSSE national norms.

$H_0$34: There is no difference in the means of the support for learners indicator (9d) “helping you cope with your non-academic responsibilities (work, family, etc.)” between HCC students and CCSSE national norms.

$H_1$34: There is a difference in the means of the support for learners indicator (9d) “helping you cope with your non-academic responsibilities (work, family, etc.)” between HCC students and CCSSE national norms.

$H_0$35: There is no difference in the means of the support for learners indicator (9e) “providing the support you need to thrive socially” between HCC students and CCSSE national norms.

$H_1$35: There is a difference in the means of the support for learners indicator (9e) "providing the support you need to thrive socially" between HCC students and CCSSE national norms.

$H_0$36: There is no difference in the means of the support for learners indicator (9f) "providing the financial support you need to afford your education" between HCC students and CCSSE national norms.

$H_1$36: There is a difference in the means of the support for learners indicator (9f) "providing the financial support you need to afford your education" between HCC students and CCSSE national norms.

$H_0$37: There is no difference in the means of the support for learners indicator (13.1a) "academic advising/planning" between HCC students and CCSSE national norms.

$H_1$37: There is a difference in the means of the support for learners indicator (13.1a) "academic advising/planning" between HCC students and CCSSE national norms.

$H_0$38: There is no difference in the means of the support for learners indicator (13.1b) "career counseling" between HCC students and CCSSE national norms.

$H_1$38: There is a difference in the means of the support for learners indicator (13.1b) "career counseling" between HCC students and CCSSE national norms.

Review of the Literature

For this study, I reviewed scholarly peer-reviewed articles, journals, books, public data, dissertations, and professional association websites and magazines focusing on

research published within the past 5 years (2013-2018). I gathered materials by searching the *Education Resource Information Center (ERIC), Education Source, Google Scholar, SAGE Premier, EBSCO,* and various college sites. The following search terms were used singularly or in combination with each other: *attrition*, *benchmarks*, *developmental education, community college, student engagement, at-risk, student assistance, admission, Community College Survey of Student Engagement (CCSSE), Community College Survey of Student Engagement (CCSSE) Benchmarks*, and *persistence*.

This literature review provides an overview of the theoretical framework of the study, the responsibility of a community college, the design and purpose of DE, issues with DE, a description of DE students, support for community college students enrolled in DE courses, services and programs afforded within academic affairs projected to promote success, attrition of DE students, the experience of students enrolled DE, and student engagement. I first present the theoretical framework and position student engagement as critical to student retention and success.

Theoretical Framework

The theoretical framework for this research was Kuh's (2009b) theory of student engagement. Kuh is best known for his work with the National Survey of Student Engagement (NSSE), an instrument for measuring the level of student participation in 4-year institutions of higher education. Empirically established best practices in undergraduate education are represented by NSSE survey items. Best practices reflect the behaviors of students and institutions that are associated with the desired outcomes of college (NSSE, 2015). The instrument corresponding to the NSSE for 2-year colleges,

the CCSSE, can similarly be used to help 2-year colleges measure and track students' engagement with their coursework, their peers, and college faculty and staff.

Student engagement involves both the energy and time students invest in educationally purposeful activities and the effort institutions commit to using effective educational practices. The student engagement theory I used in this research is consistent with theoretical models that feature the interplay between student behaviors and perceptions of psychosocial engagement and the institution (Kuh, 2001).

Tinto's (1975) theory of student departure and Astin's (1993) theory of involvement, instrumental in supporting Kuh's theory of student engagement, both deal with the matter of persistence and are among the most extensively cited approaches to understanding persistence of the 1st-year undergraduate student in higher education literature (Milem & Berger, 1997). The theories were merged and developed over time to form the concept of student engagement which represents the time and energy students commit to pursuits that are empirically connected to desired results of college and what institutions do to cause students to get involved in these activities (Kuh, 2009b).

Tinto (1993) introduced a theoretical model of student retention, which addressed the association between students and the institutional setting. Tinto's principle of student departure is different in that it involves a student's choice to stay or withdraw from an institution resulting from diverse interactions between members and the student in the college's environment. Tinto identified integration of students into both academic and social settings of a campus community as critical to retention. The degree of student

integration governs whether the student will either persist to degree obtainment or leave the institution before obtaining a degree (Garza & Bowden, 2014).

Astin's (1993) theory of involvement emphasizes the relationship between social and academic connections and academic gratification. Astin's concept of involvement, compared with traditional pedagogical methods, concentrates on the commitment as well as the actions of the student. Thus, institutional policies and practices may be gauged by the level of involvement which they foster.

Astin's (1993) theory is based on five assumptions. First, involvement demands the investment of physical and psychological momentum in activities, people, or tasks (objects), whether general or specific. Second, involvement is an uninterrupted theory; different students are involved in different objects at various rates of energy. Third, student involvement has characteristics comprised of both qualitative and quantitative attributes. Fourth, the amount of development or learning is directly proportional to the quality and quantity of involvement. Fifth, the educational efficiency of a policy or practice is connected to the institution's capability to encourage student involvement.

Lundberg (2014) found that Kuh's engagement version of student retention expands on Tinto's principles of student departure and Astin's involvement concept by concentrating on the responsibility of an institution for building an engaging environment. Central to all engagement and involvement is the idea that student investment with the college experience, especially with faculty and peers, is rewarding for student learning (Lundberg, 2014). The impetus for measuring what students invest

in their college experience is not merely an outside mandate, but is a progressive approach to campus stakeholders' accountability (Kuh et al., 2014).

The association between student engagement, as assessed by the CCSSE and student success is grounded in years of investigation by the CCSSE has collected information for over a decade (McCormick, Gonyea, & Kinzie, 2013a). What started as bold experimentation in altering the discourse about improvement and quality in undergraduate education—as well as providing the parameters of measurement to inform and understand that discourse—has become a trusted fixture in better education's evaluation landscape (McCormick et al., 2013a). Consequently, it makes sense that the CCSSE's measures of student engagement may function as a useful representation for the desired student collegiate experience (McClenney, Marti, & Adkins, 2012a). Together, Tinto's theory of student departure, Astin's theory of involvement, and Kuh's theory of student engagement frame the institutional practices and experiences that relate to the retention of students. Because Kuh's theory of student engagement represented an integration of previous theories and served as the basis for the development of CCSSE, I used it as the central framework on which to ground this goal-based evaluation.

Community Colleges

Community colleges are exceptional institutions of higher education dedicated to open access and community support (Garza & Bowden, 2014). Since they were established in 1901, community colleges have aspired to advocate for educational equity and to provide institutional access to the local community (Wilson, Hu, Basham, & Campbell, 2015). The issue of impartiality has been raised about community colleges, as

has the question as to whether all students have a place in community colleges, including students who are learning disabled, underprepared, or under skilled. Such questions have fueled the debate about whether these students should be directed toward alternatives such as employment, trade and training schools, or the military (Garza & Bowden, 2014). Community colleges provide a level of responsibility when acknowledging that equity and access are not the same as open admissions policy. To have equity and access, community colleges need to do more than merely enroll students; it must commit to providing support services such as academic and career advising, financial aid literacy, and counseling. Community colleges provide support services such as the ones listed to help make sure that every student has an opportunity for scholastic success (Garza & Bowden, 2014).

Historically, community colleges have had the duty of supplying an appropriate admittance point to higher education for all students (Garza & Bowden, 2014). Community colleges are an exceptional choice for first-generation students because community colleges offer both academic and vocational or occupational programs typically in a more intimate and local campus environment (Everett, 2015). Community colleges have a fundamental role in educating and training the vast number of underprepared, non-traditional, or low-income students in the last several decades (Stuart, Rios-Aguilar, & Deil-Amen, 2014). Though a majority of community college students enroll academically underprepared, what is meaningful is how students accomplish and overcome academic challenges (Martin, Galentino, & Townsend, 2014).

Historically, as community colleges advanced to serve local communities, the avenue to higher education opportunities expanded (Martinez & Bain, 2014). The numerous students requiring remediation may indicate that DE favorably influences community colleges from a monetary viewpoint because DE is an abundant source of income for numerous community colleges (Cafarella, 2016). But community colleges are fighting to keep the tradition of open access within the push for fiscal and academic accountability (Torraco & Hamilton, 2016). Hatch and Bohlig (2015) noted that community colleges have and continue to experience an unparalleled level of community interest because they can potentially boost the proportion of adults with postsecondary qualifications.

Altering how community colleges present DE has developed into a noteworthy policy lever to boost student achievement (Kosiewicz, Ngo, & Fong, 2016). Several community colleges are investigating accelerated DE models. Accelerated DE models are being investigated for their long-term success in sustaining underprepared students. Accelerated models allow students to accomplish completion of non-credit courses and enroll in college-level English and math in a condensed time frame (Jaggars, Hodara, Cho, & Xu, 2015). Xueli (2016) wrote that regardless of the access and potentials these colleges provide, assisting students to make educational progress and enhancing student outcomes continues to be a challenge.

Developmental Education

DE has become a gatekeeper to long-term achievement in postsecondary education. For that reason, many DE programs at technical colleges have expanded and

also have advanced over time (Hawley & Chiang, 2017). Placement into credit-bearing courses in English and mathematics has customarily been based on the outcomes of standardized assessments alone. Consequently, students who do not obtain the set standard of scores recognized by the college or state policy are typically assigned to one or more DE courses (Bracco, Austin, Bugler, & Finkelstein, 2015). Even though the objective of DE is designed to support underprepared students to enroll and succeed in college-level math, reading and English, many developmental students do not realize their goal of completion (Hodara & Jaggars, 2014). Jaggars and Stacey (2014) recognized that, while there is no way to measure with ideal accuracy the exact number of students who require DE, federal data indicate that 68% of community college students nationwide take at least one remedial course. Only 28% of community college students who complete a DE course go on to receive a bachelor's degree within 8 years. Many students required to enroll in developmental courses withdraw before completing their designated sequence of DE courses and enrolling in college-level courses. In comparison, Smith (2016b) found that 86% of students have the confidence that they are academically ready for college, but 67% tested into developmental program courses. Even many high performing high school students require remediation in English, reading or math. Smith discovered that 40% of students who graduated from high school with a grade point average that equaled an A-minus had been placed into developmental classes.

Garza and Bowden (2014) examined the academic retention and achievement outcomes associated with a DE program. The program taught individual life skills, academic review abilities, familiarity with college rules, communication skills, creativity,

note-taking, goal setting, priority-managing, comprehension, test-taking, and relationship-building associated with an optimistic frame of mind. The research involved an evaluation of existing transcript statistics kept on file by the college's student records department. Participants comprised 1,557 first-time-in-college students who were mandated to enroll in one or more DE courses as a result of their placement. After the data were analyzed, Garza and Bowden determined that students who completed the DE course(s) tended to stay in college. The outcomes of the analysis support the theory that comprehensive integration programs are much more likely to result in student success (Garza & Bowden, 2014).

HCC academic and student affairs professionals will benefit from this research. The outcomes of the study may assist both divisions interested in student engagement by identifying areas where students are taking advantage of engagement activities and those areas where students are not and are in need of improvement. Faculty and campus life personnel will also be potentially cognizant of whether they are providing appropriate opportunities to enrich the overall educational experience in and out of the classroom. Furthermore, the outcomes of this study will afford faculty with information that is useful in assisting them in evaluating instructional tactics as well as framework learning experiences for the students enrolled in their courses. This research could be used to help students at HCC. Academic affairs professionals at HCC will be better informed to create experiences, tasks, and environments that are advantageous to DE students' overall engagement.

Issues with Developmental Education

Shaw (2014) contended that numerous remedial programs provided by colleges are comparable to the programs that were available 20 or more years ago. Some students acknowledged the reality that college for them will take more than two years, with the first year being spent in developmental or remedial classes (Shaw, 2014). Jaggars and Stacey's (2014) findings suggested that, in most cases, the conventional method of DE was not achieving its intended purpose—to enhance results for underprepared students. They further conveyed that these findings did not imply that DE should be dispensed with; large numbers of community college students require support to succeed academically. The outcomes suggested, however, that the curricula could benefit from substantial reform (Jaggars & Stacey, 2014).

While more than one-half of all community college students in the United States were deemed to need at least one DE course, the majority of these students did not fulfill their recommended sequence of remedial courses and which resulted in barriers to student progress (Quint, Jaggars, Byndloss, & Magazinnik, 2013). Bailey, Jaggars, and Scott-Clayton (2013) contended that the system of DE needs improvement, but instead of advocating for the removal of DE, the researchers recommended strengthening the services that community colleges afford students with weak academic skills. Crisp and Delgado (2014) proposed that research examining the effect of DE have not accounted for institutional characteristics presumed to influence developmental outcomes because approximately 30% of students who were referred to remediation do not enroll in any college credit-bearing courses. Venezia and Hughes (2013) indicated that remedial, or

DE has come to be regarded as a deterrent to student progress instead of as a support, and consequently, recommended implementation of alternate strategies. Meanwhile, Moss, Kelcey, and Showers (2014) indicated that DE research has primarily ignored the way the college level classroom environment regulates the outcome of remediation.

To best comprehend the viewpoint of DE, it is essential to compare students who are scholastically similar, some of whom are enrolled remedial education, as well as several of who are not (Jaggars & Stacey, 2014). The regression discontinuity approach is one methodological strategy that can precisely make this comparison. The regression discontinuity strategy compares students who scored at or just above the cutoff score for college-level course assignment with those who scored just below the cutoff (Jaggars & Stacey, 2014). Utilizing the regression discontinuity strategy, Jaggars and Stacey studied 63,650 students who were categorized into three levels of developmental math. Of the 63,650, only 11% successfully completed college-level introductory algebra. More than one-fourth of the population never enrolled in their initial remedial course. Of all the students who had the resolve to complete all three levels of remedial math, 2,500 (4%) of the original cohort, or almost one-fourth of those who completed all three developmental courses) did not enroll in the succeeding college-level math course. The researchers proposed that the impression of remediation may differ based on student demographics and level of academic groundwork. In most cases, the conventional method of DE was not accomplishing its proposed purpose: the purpose of expanding outcomes for underprepared students (Jaggars & Stacey, 2014).

Boylan and Trawick (2015) found that several states have implemented extensive and comprehensive changes in the way DE is executed. Several of the statewide mandates for DE have the possibility of enhancing the performance of underprepared students, and some have the possibility of making that performance worse. Mandates that enable students to avoid remedial courses without any additional intervention are apt to merely shift the issue of under-preparedness from remedial courses to college-level courses. Directives that endorse the integration of remedial courses and numerous support services have the potential to increase the performance of underprepared students. Boylan and Trawick (2015) further conveyed that these statewide mandates would be assessed and the data will determine if their objectives were accomplished. It is also important to note that most states have not mandated a comprehensive change in DE programs.

Boylan, Calderwood, and Bonham (2017) proposed that student experiences that remediation triggers attrition has led policymakers, scientists, along with postsecondary education leaders to concentrate their reform efforts practically exclusively on reforming remedial classes, teaching models, gateway courses, or perhaps curricula. Moreover, remediation with DE has been confused by stakeholders as well as implemented policies to eliminate or perhaps reduce DE in addition to remediation. Boylan et al. resolved that certain sound developmental applications which have contributed to completion and student success were eradicated due to the observation that DE and remediation are synonymous.

DE is undeniably the strategy most commonly employed by community colleges to students who are not prepared for college-level coursework to become prepared. Xu (2016) inferred that despite the high expectations around DE, there was significant uncertainty surrounding the usefulness of DE instruction and restricted evidence concerning the efficiency of this approach for students delegated to the lowermost level of the developmental categorization. Although countless scientific studies have examined the consequences of developmental coursework on students' academic results, the vast majority of these experiments drew inferences just on students scoring close to the developmental coursework project cutoff scores – that is, students that are on the margin of necessitating DE (Xu, 2016). In comparison, the outcome of DE on students who are enrolled in the lowest level of developmental sequence, those who are least scholastically prepared and who are most in demand for academic assistance, may or may not be engaged.

Xu's study examined different levels of writing and reading developmental coursework on student academic outcomes using a regression discontinuity design to confine the causal effects of unlike levels of developmental coursework on innumerable short-term and long-term outcomes. The result of Xu's (2016) analysis suggested that the consequences were generally minor for students on the verge of needing developmental courses. However, the evaluations had been negative for students assigned to the developmental sequence at the lowest level. The results, therefore, supported the increasing national thrust to reform DE programs (Xu, 2016).

Developmental Education Students

Because of the open admissions policies of community colleges, it is not unforeseen that a plethora of students arrive at campuses nationwide unprepared for college-level work and are required to enroll in more than one developmental, or perhaps remedial, courses that they earn no college credit (Clotfelter, Ladd, Muschkin, & Vigdor, 2015). Edgecombe, Cormier, Bickerstaff, and Barragan (2013) asserted that DE reforms only influenced the initial point of students' college experience and may not provide the intensity or perhaps the duration of supports essential to affect long-term outcomes.

Students are unprepared for college coursework for reasons that are many. Students arrive at college with different high school preparation. Students coming from poverty and privilege are prepared differently (Venezia & Jaeger, 2013). Students may also not be able to demonstrate solid coping and study skills necessary to successfully navigate the social and educational environments in higher education (What Works Clearinghouse, 2016). Nationwide, a large proportion of community college students are enrolled in remediation: mandated non-credit-bearing coursework in English, reading, and mathematics (Hern & Snell, 2014). Though remediation through coursework is a significant element of DE, it's not the sole element (Boylan & Trawick, 2015). Retention of students, including DE students, requires students to be supported outside of the classroom. Student support is the topic of the next section in the literature review.

Student Support

At absolutely no time is overall support for students, especially academic support, more important than during the perilous first year of their post-secondary education.

During the first year, student achievement remains uncertain, and students are receptive to institutional intervention (Tinto, 2012b). However, there were some students who needed more support than others to meet the expectations of the institution and succeed (Casazza & Silverman, 2013). The DE process must be first understood by students, after which modifying instruction and also providing interventions to possess the most promise for facilitating students' achievements (Saxon, Martirosyan, Wentworth, & Boylan, 2015). Institutional practices and policies that safeguard and enrich student welfare, those that provide adequate programs to support academic achievement, and those that also gauge students' satisfaction with their involvement, convey to students that the institution values them (Schreiner & Nelson, 2013). Knowing the crucial components that support student engagement is essential in assisting them to be successful in college (Brickman, Alfaro, Weimer, & Watt, 2013).

Creating programs that successfully educate developmental students is currently one of the most significant challenges for community colleges (Wurtz, 2015). As the college population increases in number and diversity, institutions are more challenged to understand students' academic preparedness to become equipped to serve them better. (Atherton, 2014). Saxon et al. (2015) questioned whether colleges truly looked at students' needs and then evaluated organizational and college assets to ensure they were balanced and equitable and not simply dependent on some arbitrarily, one-size-fits-all mindset. Bettinger et al. (2013) argued because of the demand for supports that focus on the competing responsibilities of students, specifically those taking care of dependents as

well as maintaining a balance between employment with schoolwork, in addition to the academic advising, tutoring, and mentoring programs.

The academic supports commonly presented during remedial courses may help integrate students into their academic environment, resulting in increased rates of completion and persistence of their degrees (Long & Boatman, 2013). Students gain from interactions with faculty who know and validate their students (Lundberg, 2014). Students recognized the variety of engagement factors across all outcome areas, from classroom involvement to the utilization of student support services as social and academic support. With respect to student support services, students were conscious of the services themselves as well as the advantages of using services (Dudley, Liu, Hao, & Stallard, 2015). The support program, which is typically designed for students who have no previous college experience, provide them with material that is useful concerning the institution, helpful in academic and career preparation, strategies to enhance study habits, along with possibilities to develop private skills such as basic financial literacy (Cho & Karp, 2013). Venezia and Jaeger (2013) asserted that current reforms and interventions used a range of strategies to attempt to handle student requirements for college readiness. Strategies varied from academic planning to psychosocial supports such as supports for resiliency, habits of mind, organization, persistence, and anticipation.

According to Smith (2016a), attempts to obtain the best strategy for helping remedial students in higher education have resulted in pilot programs thriving across the nation. In the fall of 2015, Tennessee evaluated co-requisite remediation in English, math, and reading at all of the state's 13 public community colleges (Smith, 2016a).

Corequisite remediation is an approach to DE that places students in entry-level college courses while they simultaneously receive academic support throughout the remediation period. (Smith, 2016a). Smith (2016a) reported on a study of corequisite remediation from the Tennessee Board of Regents, which oversees the state's 2-year institutions. Smith (2016a) reported mixed outcomes from the state study conducted using data on students in 2011. One outcome was negative: the overall course pass rate of students decreased. One outcome was positive: students were more successful in completing credit-bearing courses compared to students who took traditional prerequisite remedial courses.

The Community College Research Center (CCRC) at Columbia University's Teachers College also unveiled research that, according to the Tennessee outcomes, indicated co-requisite remediation is more economical for the student than the conventional prerequisite remedial model utilized in 2012 as the modification does not have an effect on the price for each student according to Smith (2016a). Overall, 51% of students in a co-requisite math course in fall of 2015 passed the college-level course, compared to 12% of students who started in a remedial course in 2012 and completed a credit-bearing math class within an academic year (Smith, 2016a). The CCRC study discovered that the co-requisite approach in math was 50% effective compared to the standard prerequisite strategy in enabling academically underprepared students to complete the college-level course. In writing, the efficiency gains or perhaps cost savings for the institution were 11% per successful student (Smith, 2016a).

Although access to student support for higher education is generally available, many students who start in a college program drop out or withdraw before achieving their individual academic or social goals. Colleges have established retention programs to intervene with students in response to student attrition. Student attrition is the topic of the next section in the literature review.

Student Attrition

Effectively every higher education institution in the United States is challenged by the problem of student success and retention (Garza & Bowden, 2014). Retention of students in higher education to goal fulfillment—whether that goal is the completion of a degree, diploma, certificate or some other vocational or educational reason—remains a predominant problem for all stakeholders connected to higher education (Pruett & Absher, 2015). Absent a comprehensive knowledge of students' pathways through an individual college, guesswork rather than empirical decision-making is used in the establishment of interventions and the adjustment of institutional policies and procedures to improve students' outcomes (Bahr, 2013).

Despite an enormous increase in student enrolling at the postsecondary level, particularly at the community college level, the effective completion rates for these students has remained stagnant since the 1970's (Kimbark, Peters, & Richardson, 2017). Hern and Snell (2014) found that in California, merely 19% of community college students who enrolled in three or more levels below college-level coursework in writing proceeded to finish a college-level English course in 3 years. One reason for the absence

of efficacy of DE may be high attrition from the remedial sequence (Jaggars & Stacey, 2014).

Bahr (2012) identified the junctures at which low-skilled and high-skilled remedial students' dropped out of college. Nonspecific attrition, course-specific attrition, and skill-specific attrition were included as three characterizations. Bahr concluded that the differential in college-level ability between lesser attaining remedial students and high-skill remedial students is significant in both size and implication. However, unknown is the combination of factors why students who start at the higher end of the remedial sequence are more prone to obtain college-level competency than are students who start at the lower end.

Each year, a large number of college students fail to finish their college education. Attrition happens in several ways. Academic failure, transfer to another institution, temporary withdrawal, reduction of course load, or completely drop out of students all contribute to attrition (Garza & Bowden, 2014). Students' lack of academic preparation, an abundance of family and work duties, along with a lack of commitment or engagement to educational objectives are other factors that correlate with attrition. Because these factors are considered mostly beyond the control of open-access institutions, attrition is typically regarded as something the student does instead of something the student and college work together to produce (Schuetz, 2008). Retention focuses on who stays while attrition focuses on who leaves.

Petty (2014) explored obstacles experienced by first-generation students that may potentially factor in the students' academic success and college completion. While

exploring these obstacles, Petty presented a theoretical approach to how motivation theories are utilized to encourage first-generation students intrinsically and extrinsically. Petty (2014) proposed that experiences provide social and academic pathways that assist first-generation students in overcoming inadequate planning for college through the use of resourceful techniques to encourage students.

Based upon a mixed methods procedure for which 4,200 students were measured, Mertes and Jankoviak (2016) found that the level to which students can effectively incorporate into an institution's social and academic systems ultimately articulates their commitment to the institution and governs whether they persist or eventually exit an institution. In various cases, hindrances to student success appear to be a consequence of a shortage of student responsibility as evidenced by paltry class attendance or a subpar work ethic (Cafarella, 2016).

In an effort to support students in overcoming barriers to success as well as to enhance academic results, community colleges have carried out a range of student support services, among that will continue to enhance the student success course. When reviewing techniques to boost successful completion and student retention, the student success training course materialized as a prominent and promising strategy for community colleges (Kimbark et al., 2017). Kimbark et al.'s (2017) sequential mixed methods research concluded that participation in SSC influenced student engagement, academic achievement, retention, and persistence on a community college campus. Data was collected from a sample of 197 SSC participants at a mid-sized community college and compared to a corresponding sample of 235 non-SSC participants. Twelve former

SSC participants were interviewed for an empirical comprehension of the SSC's impact on student engagement and students' decisions to remain enrolled in college. Results of this study suggested that a relationship existed between involvement and persistence. Additionally, participants indicated that taking the SSC not only transformed their observations of the value of the program but their study skills and community as well (Kimbark et al., 2017).

Garza and Bowden (2014) contended that students learn by being engaged. The principle of student involvement was founded in classical learning and psychoanalytic theory. The principle emphasizes students' commitment to their educational goals. Astin (1993) described involvement as the amount of energy, physical and psychological; a student dedicates to the educational experience. Involvement happens along a continuum of what happens on campus and the classroom. The degree of college student success is directly related to the degree to which a student is a participant within the institution (Astin, 1993). When implementing initiatives to improve outcomes for students enrolled in developmental courses, analyzing students' motivational attributes, especially those that are related to persistence and student performance is vital (Cantrell et al., 2013). Although access to college has expanded in recent years, graduation rates at community colleges remain low for students who need developmental or remedial courses to build its core skills (Scrivener et al., 2015). Understanding how persistence may be affected by educational strategies or modifications within the academic environment may have a substantial effect on student outcomes (O'Neill & Thomson, 2013).

Students' Experience in Developmental Education

Students enter the community college with a set of goals and expectations that are based on their characteristics and previous academic experiences. Once enrolled in college, they alter their objectives depending on their socio-academic experiences (positive and negative) at the community college and on the various experiences arising off campus in their family and work lives (Stuart et al., 2014). Dudley et al. (2015) studied student engagement as measured by the CCSSE and found classroom discussion, challenging courses, and acknowledgment of the need for student effort as important. "Students indicated that classroom discussion helps to 'reinforce the material,' helps them to better process the information by being more engaged, and creates a 'better' [classroom learning] experience (p. 8)." Challenging courses resulted in increased confidence, personal growth, and an opportunity to become more disciplined. Students' acknowledgment of effort needed was mitigated by actual behavior in and out of the classroom. Study participants expressed their high expectations of faculty but admitted to low preparation and low effort on their end (Dudley et al., 2015).

Koch, Slate, and Moore (2012) emphasized the need to understand how students perceive their DE experiences as valuable insight for schools on meeting the needs of the growing DE student population. Jang, Kim, & Reeve (2016) noted that students' perceive involvement as either a productive path of perceived teacher support, motivational satisfaction, and classroom engagement, or as a counter-productive path of perceived teacher control, motivational frustration, and classroom disengagement.

Valentine, Konstantopulous, and Goldrick-Rab (2017) suggested that the growing use of DE mirrors an increasingly normative transition from high school to college, which while predicated on completion of secondary schooling, does not necessarily imply adequate preparation for what is deemed postsecondary work. Placement into DE adds costs and, critically, time to a student's journey to a degree or certificate. Some of the observed differences in outcomes between students enrolled in DE in at least one subject and students not enrolled in DE are real in the sense that they reflect different levels of academic opportunities, preparation, and motivation (Valentine et al., 2017).

Student Engagement

Student engagement is now visible in the education literature as a means of enriching the overall academic experience (Angell, 2009). Although the term student engagement may be relatively new to higher education, having emerged in the late 1990s, the ideas that it encompasses have been around for several decades (McCormick, Kinzie, & Gonyea, 2013b). Student engagement was widely recognized as a significant influence on achievement and learning in higher education and as such was widely theorized and researched (Kahu, 2013). Learning, persistence, and attainment in college were consistently connected with students' being actively engaged with other students, with faculty and staff, and with the subjects they are studying (Center for Community College Student Engagement, 2013). Price and Tovar (2014) suggested that research studies using CCSSE generally found that student engagement in educationally effective practices had a positive effect on outcomes such as retention, persistence, grade point average, and in some instances, on degree completion. Hoops and Artrip (2016)

contended that effective self-regulated learners' step into the driver's seat of their college learning instead of letting outsiders, such as instructors and parents, decide when, where, why, and how they should learn. Brickman et al. (2013) stated that preparedness for college coursework (academic engagement) is supported by developing personal interests that help create, guide, and direct successful academic behavior. Furthermore, a study using data from the CCSSE showed that student engagement—in particular, the CCSSE benchmarks of Active and Collaborative Learning and Support for Learners—was a significant predictor of college completion (Center for Community College Student Engagement, 2013).

Educators are confronted with providing solutions to reasons why struggle with various curriculum content, demonstrate a lack of participation or simply do not engage in their educational process (Gaier, 2015). Understanding and identifying why students do what they do is among the many challenges in helping students learn (Gaier, 2015). Conversely, Tinto (1993) argued that "greater engagement in learning activities in the classroom, especially those that are seen as meaningful and validating" and increased contact with faculty "both inside and outside the classroom" increases student success (Tinto, 2012a, p. 65). Based on Tinto's (1975) early social-integration tasks, the idea generally suggests that students who are engaged in their academic setting are more prone to being retained, satisfied, and graduated than students who are not. Engagement in academically oriented social organizations provides students with emotional support and "promotes academic involvement" (Tinto, 2012a, p. 65).

According to CCSSE (2005), comparing engagement and outcomes for high-risk student groups is the most constructive way to evaluate whether all students are engaging in their education at equally high levels. Looking at student engagement for various groups of at-risk students often reveals gaps in engagement and performance that warrant additional attention and can help colleges identify the best engagement strategies for their students (CCSSE, 2005). This type of evaluation is crucial for community colleges that are motivated to develop and improve outcomes for those students who bring the greatest challenges to college with them, and for those same students who stand to achieve the most from their community college experience (CCSSE, 2005).

Benchmarking

Benchmarking is more than just collecting data. It involves adapting an innovative strategy of constantly questioning exactly how procedures are performed, seeking best practices, and applying new versions of operation (Alstete, 1995). According to Kuh (2001), benchmarking serves three essential factors: initially, they represent educational practices that resonate best with administrators and faculty members. Additionally, they are clear to individuals outside of the institution such as potential students and their parents. Next, the benchmarks empirically build present amounts of student engagement in good educational practices nationally. As a result, they characterize a baseline against what overall performance could be compared. Third, benchmarks allow stakeholders to compare student performance across various types of institutions and sectors.

CCSSE's benchmarks represent areas that academic research has proven to be essential in quality scholastic practice. A comparison of student engagement is proposed.

Thus, the purpose of this study is to evaluate if HCC DE student engagement is equivalent to CCSSE national norms. The benchmarks include collaborative and active learning, student-faculty interaction, academic challenge, student effort, and support for learners (CCSSE, 2017b) representing student actions as well as the institutional dynamics related to student success.

The CCSSE benchmarks and survey data were used in this research to measure the quality of student contribution and capabilities in educationally purposeful tasks as they relate to the specific principles of engagement. Using the survey data will provide HCC a gauge in evaluating how the campus environment helps to promote student engagement. Moreover, because the CCSSE developed consortiums of colleges with the additional applicable mission and context-specific concerns, the instrument is significant in providing superior and liable data (Kuh, 2009a).

Implications

Anticipated findings of the study are indicators of how DE students at HCC might be better served through engagement activities based on a comparison of HCC with CCSSE national norms. Findings will inform the project associated with the study. Possible project directions include an evaluation, professional development training, or a policy recommendation.

A goal-based evaluation report might result from study findings. The evaluation would be geared toward administrators, staff, and faculty who decide and approve DE programmatic activities. A goal-based evaluation "tells whether the program is being effective in meeting its objectives" (Centers for Disease Control, n.d., p. 2). The

objective of HCC institutional DE programming is to be equivalent to national indicators of student engagement for DE students (HCC Strategic Plan, 2011). By comparing HCC indicators of DE student engagement with national means, HCC will be informed about its effectiveness engaging DE students. Indicating areas in which HCC is below the national average regarding student engagement will enable HCC to make improvements to DE programming, both academic and student support programming. Comparing the same constructs as intended to measure and analyzing the data in the same manner as HCC and CCSSE will ultimately increase reliability. Therefore, a goal-based evaluation was embarked upon if indicators and benchmarks reveal a wide range of engagement topics which HCC needs to improve.

Professional development training for HCC administrators, faculty, or staff might be the resultant project of the study. By training HCC administrators, faculty, or staff about DE student engagement areas for which HCC is not equivalent to CCSSE national norms, these institutional representatives will be ready to lead the creation of new or revision of existing activities to support the engagement of DE students. Professional development will be the resultant project of this study if results reveal a particular area of engagement which HCC needs to improve. For example, if HCC academic engagement is revealed as not equivalent to CCSSE national norms, professional development training materials for DE faculty might be developed as a project. As another example, if student support services at HCC are not equivalent to CCSSE national norms, student services staff training might result from the study.

Depending on the results of the study, HCC might benefit most from a policy recommendation. If the comparative study reveals areas which are best addressed at the policy level, then one or more policy recommendations might be the project resulting from the study.

Summary

The local problem that drives the need for this project study is described in Section 1 linking student progression and success to student engagement. Without a study, HCC does not know if students enrolled in its DE courses are engaged or engaged somehow differently than students at other community colleges. The rationale for the study includes support by the dean, the strategic plan of HCC, and the field of higher education where higher education experts call for benchmarking institutions with national norms to strengthen institutions' ability to meet needs of DE students.

Additionally, I addressed the significance of this project study's potential usefulness for students of HCC, HCC as an institution, community colleges, and the field of higher education. To address this problem, I posed one primary research question that was evaluated by five secondary research questions corresponding with five CCSSE benchmark constructs: active and collaborative learning, student effort, academic challenge, student-faculty interactions, and support for learning. The secondary research questions were evaluated by testing 38 hypotheses associated with indicators of student engagement to comparatively evaluate HCC DE student engagement with CCSSE national norms using the five CCSSE benchmarks. A substantive review of the literature was presented to provide a context for DE and frame the larger problem of student

engagement. Topics addressed in the synthesis of scholarly articles include DE, community colleges, DE students, student support, student attrition, issues with DE, and students' experiences in DE, student engagement and benchmarking.

The ensuing section describes the quantitative research design and justifies the selection of the research methodology. The section also outlines how research participants were selected, articulates the role of the researcher, as well as addresses the study's limitations. Lastly, the ensuing section provides an overview of the data collection process and tools, defines methods used for both data collection and data analysis, as well as the overall quality of the study.

Section 2: The Methodology

Research Design and Approach

I used a non-causal comparative research design (McMillan, & Schumacher, 2010) to study differences in indicators of engagement between DE students at HCC and nationally. Researchers use comparative analysis to contrast institutions, societies, cultures, and nations (McMillan, & Schumacher, 2010). The population I studied was DE students at HCC. Formative evaluation was used to examine existing program elements and identify the needs of the population being served by a program (Centers for Disease Control, n.d.).

HCC does not know if and how DE students, the majority whom do not progress in their studies, are engaged. The purpose of this study was thus to compare if HCC DE student engagement is equivalent to CCSSE national norms. One primary and five secondary research questions and 38 indicators that include a hypothesis and null hypothesis were addressed in this study. Correspondingly, there are 38 dependent variables, each measuring the mean of HCC for individual indicators, benchmark constructs, and overall engagement. No independent variable existed for the one-sample *t* test procedure I employed to test hypotheses (Rovai et al., 2014).

With the primary research question for this study, I sought to clarify the extent to which HCC students are engaged as compared to CCSSE national norms. I used secondary research questions to measure five benchmarks of student engagement: active and collaborative learning, student effort, academic challenge, student-faculty interactions, and support for learning (CCSSE, 2017b). I used tertiary research questions

to compare 38 individual indicators of student engagement associated with the five benchmarks. Wording for questions is presented exactly as asked by CCSSE survey items.

Setting and Sample

In the following three subsections, I present a description of HCC, HCC programs, and its DE population and programs. The sample of HCC DE students is then presented, along with the national sample used to compare HCC DE students.

Description of HCC

HCC is an open-admissions, non-selective institution that offers students opportunities to earn certificates, diplomas and/or degrees. HCC is one of 16 colleges in the state's technical college system that traces its origin to a historical institution for daughters of former slaves founded in 1868. Several of its original buildings are currently in use. The College was renamed in 1988 to its current name to reflect the four rural county service area population as well as two counties in the neighboring state where students are afforded reciprocity. HCC's main campus, located in the county seat and situated on 49 acres of waterfront property, is comprised of 17 major buildings housing state-of-the-art technologies. HCC has three campuses in addition to housing staff at two military installations as well as partnering with a local early college high school where eligible students may be dually enrolled and take college classes at their high school and HCC.

HCC depends on federal funding, which has an impact on the institution and enrolled students. The yearly cost, including tuition and related expenses per full-time

student, to attend HCC the 2014-2015 school year was approximately $5,061, which is a significant investment, particularly for students who are not successful. Similarly, colleges are not immune from facing the consequences such as financial losses from student attrition. The cost to attend HCC is 40% less than the average in-state in-district tuition of $6,837 for 2-year colleges. HCC's tuition ranked 13th amongst 2-year colleges for affordability, and was the 8th most expensive of the twenty 2-year technical colleges in the state in 2016.

HCC Programs

HCC offers programs in some of the state's and country's fastest growing careers. The mixture of programs, the latest technology, and small class sizes give students a competitive advantage in obtaining the job they desire. Representatives from businesses in the four-county service area serve on HCC's advisory committees to ensure that HCC programs equip students with the skills that employers are seeking. HCC's comprehensive financial assistance program (national, state, and local levels) positions college within reach of any student who desires an education. Students using federal aid funds to pay for courses must take courses only in their program curriculum.

Degree, diploma, and certificate programs are offered at HCC. The college's catalog provides information for all curriculum requirements for each program and as well as of descriptions required and elective courses. Course information for HCC programs is updated annually or when changes, additions, or deletions are warranted. The most current information is available in the Academic Affairs Division and the Admissions Office. Students admitted to the college, and those who sustain continuous

enrollment in a selected program of study, may expect to complete programs as stated in the college catalog at the time of their admission, as long as the program is offered.

HCC's Developmental Education Program

HCC's DE program consists of DE courses in English, mathematics, and reading for students who are deemed underprepared based on their placement scores. Each course has an accompanying workshop. The DE credit is earned for advancement; however, DE credits do not apply toward graduation.

Institutions such as HCC use placement exams. According to the Director of Testing, HCC uses ACCUPLACER as its entrance exam for placement. Students who are obligated to take the ACCUPLACER (math) scoring 100 or above are placed in college credit-bearing math courses. Students scoring below 100 are placed into intermediate (remedial) algebra, developmental math, or Fresh Start (non-college level placement) depending on their score. For scores below 81 in Language/Writing, a student may be placed in intermediate English (61-81 range), Developmental English (30-60 range) or Fresh Start (less than 30). Exemption from reading requires a score of 71 or above. Otherwise, students are placed in intermediate reading (46-70), developmental reading (33-45) or Fresh Start (score less than 32). Students may retake the Placement exam twice within one calendar year.

HCC's DE Student Population

HCC offers DE courses in English, reading, and mathematics. Rising enrollment in DE courses reflects an increasingly standard transition from high school to college. High school graduates who are supposed to be prepared for post-secondary coursework

often arrive at colleges underprepared. Two out of five students in community colleges are required to take DE (Snyder, de Brey, & Dillow, 2016). According to the Dean of Arts and Sciences, 2 of 10 (20%) HCC students take DE courses. Community colleges and other open access institutions generally require all students to take placement exams unless otherwise exempted. Exempted students are students who have taken and met minimum ACT (18 in English, 22 in math, and 21 in reading) or SAT (540 writing and reading, 480 in math) scores. Exempted students are also students who have passed a subject-based Advanced Placement exam.

2016 Cohort Random Sample

I conducted an a priori power analysis in GPower (version 3.1.9.2) to calculate the number of randomly selected participants needed to meet statistical criteria (Faul, Erdfelder, Buchner, & Lang, 2009). I input the following parameters into GPower: *t* test test family, means-difference from constant (one sample test) statistical test, two-tailed, effect size of $\pm$.50, an error probability of .001, and power of .999. A sample size of 169 was calculated based on these input parameters and was used as the number of HCC students who I randomly selected from the 230 students who completed the 2016 HCC CCSSE.

The 2016 HCC CCSSE cohort population includes 230 students who had "taken or plan to take Developmental coursework" in English, math, or reading courses. The most recent CCSSE national norms for all DE students were calculated in 2016.Therefore, I used the 2016 HCC cohort. Between 164,568 and 211,168 (depending on the item) DE students completed items on the CCSSE nationally in 2016. As its

introductory materials note, “CCSSE is administered to students in randomly selected classes (credit courses only) at each participating college. The required number of course sections to be surveyed is determined by the total sample size needed to reduce sampling error and to ensure valid results. Sample sizes range from approximately 600 to approximately 1,200 students, depending on institutional size” (CCSSE, 2018b).

Instrumentation and Materials

I used the CCSSE for this goal-based evaluation. CCSSE is a service and product of the CCCSE (2015a). CCSSE is a well-established application that can help institutions concentrate on proper educational procedure and determine locations where they can improve their services and programs for students (CCSSE, 2017a). CCSSE benchmarks are collections of conceptually associated items that address critical aspects of student engagement. CCSSE's five benchmarks represent areas that academic research has identified as essential in quality scholastic practice. The benchmarks are active and collaborative learning, student-faculty interaction, academic challenge, student effort, and support for learners (CCSSE, 2017b).

Active and collaborative learning, the first benchmark, includes indicators relating to class participation—both in and out of the classroom. The outcomes for active and collaborative learning suggest that this benchmark measures procedures that are important for all of the results measured in the validation analyses (McClenney, Marti, & Adkins., 2012b). Active and collaborative learning was conceivably the most reliable predictor of student success across measures and across studies, inferring that the effect of active and collaborative learning is prevalent in the college experience. Active and

collaborative learning is linked with course completion measures and higher levels as well as long-term persistence and degree completion (McClenney et al., 2012b).

The second benchmark, student effort, measures preparation, time on task, and use of student services, placing emphasis on persistence and accomplishment. Examining outcomes across all benchmarks showed that the student effort benchmark is moderately predictive of academic measures and predictably related to retention measures (McClenney et al., 2012b). Because several of the tasks measured in this benchmark necessitate extra effort such as using tutoring services and rewriting papers, and utilizing laboratories, it may be that the extra effort is essentially compensatory, meaning that the additional effort serves to bring students up to the level of their peers and thus enables them to persist to the next level (McClenney et al., 2012b).

Academic challenge, the third benchmark, accentuates cognitive skills. This benchmark measures the extent to which students engage in challenging mental activities such as synthesis and evaluation, as well as the rigor and extent of their academic course load. Academic challenge was most consistently linked with academic outcomes (McClenney et al., 2012b).

The fourth, student-faculty interaction, assesses communication between the student and faculty member. Student-faculty interaction is similar to active and collaborative learning in that they both measure the degree to which students are actively processing the learning experience of others, particularly with other students (McClenney et al., 2012b).

Support for learners, the fifth and final benchmark, focuses on academic and nonacademic resources. Even though support for learners unfailingly correlated with the measures of persistence, it exhibited little evidence of association with academic measures (McClenney et al., 2012b). The lack of a relationship with academic measures may reveal that, to a large degree, students who conveyed increased levels of support for learners were academically underprepared. The findings may reflect that using academic support services and having a supportive campus environment helped to elevate the performance of these academically underprepared students to the level of academically-prepared students (McClenney et al., 2012b).

Several other series of indicators, relating to student goals, personal and educational growth, and student involvement, are encompassed on the instrument (Angell, 2009). The dependent variable (student engagement) was measured with five CCSSE benchmarks and related indicators. This goal-based evaluation will employ archival data available from the 2016 administration of the CCSSE at HCC and national norm values available from the Center for Community College Student Engagement.

Reliability and Validity of CCSSE

CCSSE was launched in 2001 with the purpose of generating new information about community and technical college performance and quality that would provide value to institutions in their endeavor to enhance student learning and retention, while simultaneously offering policymakers and the public with better methods to assess the quality of undergraduate education (CCSSE, 2018a). CCSSE has celebrated 17 years of helping community colleges to serve their students better. With its unrelenting emphasis

on using data to enhance students' educational experiences, CCSSE has established itself as a prominent voice in community college advancement endeavors. More importantly, CCSSE continues to help an expanding number of college leaders adjust the way they consider their work (Community College Survey of Student Engagement, 2008).

The CCSSE is a reliable and valid instrument to measure student engagement. Marti (2004) studied the latent benchmark constructs of the CCSSE using Cronbach's alpha. He determined that indicators comprising each construct reliably assessed constructs. Marti (2008) asserts: "Beyond campus-wide assessments, the instrument can be used to identify the needs and special circumstances of targeted groups of students" (p. 18). Latent constructs were measured with Cronbach's alpha to determine reliability. While Cronbach's alpha is popular to evaluate psychometric qualities of a battery of products, it may not be equally applicable for each of the CCSSE benchmarks (Marti, 2004).

CCSSE at HCC

HCC has an integrated, data-driven and institution-wide planning and assessment process that is outcome based. All HCC stakeholders play a role in the College's planning and assessment process – students, faculty, staff, community members and the governing board of the College. Objectives for each goal are set by HCC's strategic team. The College units are monitored for progress and desired outcomes. Action items are determined by outcomes. One or more strategic goal objectives are tied to each action item in the college's strategic plan. HCC has the CCSSE Key Findings (2018) on its website for public access on the college's website. HCC 2015 Key Findings report

provides college specific details within an easy-to-share format like benchmark comparisons between the institution, the CCSSE cohort, and top-performing colleges. Additionally, it highlights areas of lowest and highest student engagement at HCC, and also outcomes from five CCSSE benchmarks (CCSSE, 2015). Participation in CCSSE is essential for HCC as the college seeks integrated, data-driven and institution-wide planning and assessment processes. HCC has been a member of the CCSSE community since 2007 (CCSSE, 2018a). The HCC 2016 cohort data used in this study is housed in the Office of Instutitonal Advancement & External Relations and was made available upon request.

National CCSSE

Colleges that have participated in CCSSE represent about half of the nation's public community colleges and 56% of the national community colleges' credit student population. In its first five years, CCCSE created the CCSSE survey and the CCSSE benchmarks, which continue to give participating colleges objective and relevant data about their students' experiences. With the data, the colleges can better understand how effectively they are engaging their students and identify areas for improvement. CCSSE has provided colleges with training and online tools that help them use their data (CCSSE, 2017).

Validity and Reliability of CCSSE

Heale & Twycross (2015) defined validity as the degree to which a concept is correctly assessed in a quantitative analysis. They determined that a way of measuring quality in a quantitative analysis is consistency or the precision of an instrument.

CCSSE's validation research shows that the CCSSE survey instrument provides a valuable proxy for student success in community colleges." (Committing to Student Engagement: Reflections on CCSSE'S First Five Years, 2008, p. 9-14).

In 2006, CCSSE the Center conducted a significant validation research study on the publications of the CCSSE instrument which was administered from 2005 to 2016 (CCSSE, 2018c). This particular study examined the connection between student engagement and community college student outcomes. Whereas the connection between student engagement and student success has been accentuated in numerous studies and accounts on the undergraduate experience, the existing literature has concentrated almost exclusively on students in four-year colleges and universities - until the present. This report on a three-pronged assortment of research validates the associations between student engagement and an assortment of student outcomes at the community college level that included academic performance, perseverance, and attainment (CCSSE, 2018c).

CCSSE is constructed on the premise that student engagement —integration, quality of effort, and involvement in academic and social collegiate experiences — is significantly related to student learning, persistence, and academic attainment (McClenney et al., 2012b). The connection between student success and student engagement is validated in decades of research. Consequently, it makes sense that measures of student engagement may serve as a valuable proxy for desired outcomes of students' educational experience. The CCSSE validation research corroborates this premise by demonstrating a positive relationship between improved outcomes for

community college students and students' self-reported engagement behaviors (the data collected by CCSSE). It demonstrates that CCSSE is measuring institutional practices and student behaviors that matter — and therefore, that the CCSSE survey instrument undeniably provides a valuable representation for student success. A concentration on engagement, nonetheless, provides colleges systematic evidence that key personnel can use to improve or enhance students' educational experiences and thereby improve student outcomes (McClenney et al., 2012b). This research links outcomes to the CCSSE survey in comparison with HCC student-level data sets for DE that was established for the purpose of this study.

Data Collection and Analysis

Data Collection

Archival data, defined as any data collected before the beginning of the research study. The data encompasses information that can be connected to stakeholders (though not necessarily to the stakeholder's identity), or else it is not deemed human subjects research and does not meet the qualifications for IRB review. The archival data was also the principal source as opposed to a secondary source where the data was evaluated for alternative publication (Submissions, 2012). Wording for questions is presented exactly as asked by CCSSE survey items (2016).

HCC data collection HCC'S Strategic Goals and Objectives are reviewed annually in the spring of each year from the Office of Institutional Effectiveness. The HCC 2016 cohort data used in this study is housed in the Office of Institutional Advancement & External Relations and was made available upon request after required

approval was granted to collect data. The randomly selected data was transferred from the Vice President for Institutional Advancement & External Relations to researcher in person. The data was presented clean and was not manipulated in any manner. Only the outcomes for DE students enrolled for the 2016 cohort year were provided and organized according to CCSSE guidelines.

National data collection "Administered during the spring to mostly returning students, CCSSE asks about institutional practices and student behaviors that are highly correlated with student learning and retention" (Community College Survey of Student Engagement, 2018b). The national data collection was obtained from the Community College Survey of Student Engagement main survey report for 2016 (Community College Survey of Student Engagement, 2016).

Data Analysis

Data were analyzed using a one-sample *t* test to make inferential statistical decisions about 38 hypotheses associated with five secondary research questions which correspond to benchmark constructs. "The one-sample *t* test is a parametric procedure that compares a calculated sample mean to a known population mean or a previously reported value to determine if the difference is statistically significant" (Rovai, et al., 2014, p. 244). Sample means were calculated for the 2016 HCC DE cohort. The population means was the mean for DE students in the 2016 national cohort. National means were calculated using methods described by CCCSE (2015a), and were reported by CCSSE through its Online Reporting System (CCSSE, 2014).

Statistical assumptions. Four assumptions were made when using the one-sample *t* test: (a) the dependent variable is measured at a continuous interval or ratio level; (b) the distribution of the dependent variable is approximately normal. (c) no relationship exists between observations, that is, observations are independent; (d) no outlying data are present, that is, no outliers are among observations.

The first assumption was violated for the one-sample *t* test. CCSSE indicators are measured at the ordinal level, on a low to high scale from 1 to 5. CCSSE only calculates means for national-level data for test values and used by this study as the test variable. CCSSE does not calculate more appropriate medians. I was compelled to use a test to compare means, a *t* test, and not medians (Wilcoxon test) because the test value available from the data source was a mean. Hence, I assumed the violation of normality distributed data and did not test for normality using the Kolmogorov-Smirnov test as would be appropriate for samples larger than 50 (Rovai, et al., 2014). The *t*test is noted for being robust to violations of normality, and so I was comfortable results would be valid even if I violated the assumption of normality (Laerd Statistics, 2018).

The third and fourth assumptions about independent observations and outlying data were met. Observations were independent among the dependent variable because of the study design. Outlying data were not possible because participants were forced to choose among only four possible categories during survey administration. Additionally, CCSSE reviews data prior to releasing it to the institution for any data inconsistencies. To ensure no outliers unexpectedly existed, I requested and scanned minimum and maximum values for each variable, and reported any outliers that existed.

Hypotheses testing. Hypotheses included 38 individual indicators of engagement. Indicators are individual survey items associated with five benchmarks (active and collaborative learning, academic challenge, student effort, student-faculty interaction and support for learners). Wording for questions are presented exactly as asked by CCSSE survey items (2016). Testing and analyses of these 38 hypotheses enabled me to address secondary research questions: Is there a difference in the means of student engagement benchmarks and the associated indicators between HCC students and CCSSE national norms? Differences are presented by benchmark. Interpretation will follow.

Interpretation. When interpreting mean variations across comparison groups, the CCCSE recommends utilizing a mix of two measures: (a) a *t* test with a very conservative alpha (significance) level of .001 or less to determine if the difference between the two means is statistically significant, and (b) an effect size of $\pm$.50 or higher utilizing Cohen's *d* (1988) to show magnitude of difference between the two means. If the null hypothesis were rejected at an alpha level of .001, variables were statistically significant and denoted in the presentation of results with an asterisk (*) (CCSSE, 2018b). If the effect size, as calculated by Cohen's *d*, was $\pm$.50 or greater, then the indicator was deemed worthy of noting in terms of magnitude of difference.

Effect size. The effect size allows an individual to observe and compare two assessment results to understand how substantially different they are from each other. For example, the effect size of the difference between a pre- and post-test indicates how

students' knowledge of a subject area tested transformed over time as a consequence of instruction (Madsen, Sayre, & McKagan, 2016).

Because the standard deviation comprises how many students there are, utilizing the effect size permits researchers to evaluate teaching effectiveness between courses of different populations more impartially. Effect size is a widely used measure among statisticians and education researchers for this reason. By using effect size to discuss a sequence, the ability to articulate across disciplines and with colleagues and administrators can be enhanced (Madsen et al., 2016).

Assumptions

Three assumptions were made in the conduct of this study. The first assumption is that there could be some differences in student engagement indicators and benchmarks between HCC and national norms. The second assumption is that student engagement can be measured numerically through a survey. The third assumption is that students were honest in their responses to the CCSSE survey.

Limitations

Two limitations are present in this goal-based evaluation including the quantitative nature of the evaluation. The first limitation is the exclusively quantitative nature of the study. Quantitative comparisons are limited to statistical calculations which only use numeric indicators. No qualitative data was collected to contextualize the college environment which may be influencing DE student engagement in ways not measured by the CCSSE. The second limitation is the inclusion of HCC students in the summary national mean indicator test value. There is no way to exclude HCC students

from the national mean calculation. With only 230 students in the HCC dataset, this limitation is assumed to not influence the national mean calculation in a way which would change the interpretation of the statistical hypotheses differences tests.

Scope and Delimitations

This evaluation is delimited in scope to one community college. The evaluation is limited to a single institution of interest for a local project study of interest to the researcher and institution. The institution (HCC), from which the sample was obtained (as with any institution of higher education) has certain cultural characteristics associated with its size, available programs of study, and geographical location.

Protection of Participants' Rights

Taking measures to ensure protection of human subjects was of vital importance throughout the research. The researcher ensured the college presidents' names, names of employees and students, states, the name of the institution, any identifying information relating to the institution, and accreditation regions were completely protected and were not identified in the study. Only archived data was used in this study in an effort to maintain anonymity. I accessed the anonymous and confidential (student identifiers were not collected) data files for the 2016 administration of the CCSSE to HCC students through the Office of Institutional Effectiveness of the College (HCC, 2018). National summary information for the 2016 CCSSE administration is publicly available on the CCSSE website and was used for comparison values with HCC data. The data for HCC is archived at the local institution who is serving in the capacity of the data provider and accessible by the Vice President for Institutional Advancement.

An agreement was established that provided me as the data recipient with access to a Limited Data Set ("LDS") for use in research in accordance with the Health Insurance Portability and Accountability Act (HIPAA) and Family Educational Rights and Privacy Act (FERPA). The data was made available upon written request, and the identity of all participants was not disclosed. The IRB approval number for this study is 12-11-18-0453700.

Data Analysis Results

The purpose of this study was to compare if HCC DE student engagement is equivalent to the CCSSE national norms. The primary research question for this study sought to clarify the extent to which HCC students are engaged as compared to CCSSE national norms. There was one overarching research question for this study: Is there a difference between HCC student engagement and CCSSE national norms?

The primary research question was evaluated by five secondary questions associated with five CCSSE benchmarks: active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners. Secondary research questions were evaluated by testing 38 hypotheses comparing the institutional data archived from the 2016 CCSSE administered to HCC students (n = 169) and national data calculated by CCSSE (n = 211,168) was used for analysis. Results of five secondary questions indicated that there was not a difference between HCC and national norms for benchmarks indicating that HCC was equivalent to national norms except for one specific indicator, financial support. HCC was statistically

significantly above the national norm in terms of providing DE students the financial support they need so they could afford their education.

Research Question 1 Findings: Active and Collaborative Learning

Research question 1 measured if there was a difference between means of active and collaborative learning student engagement indicators between HCC students and CCSSE national norms. Seven indicators were tested for statistically significant differences using a one-sample *t* test to evaluate the null hypothesis. Results of this *t* tests are presented in Table 1. HCC showed no difference from the national norm for any of the seven indicators of active and collaborative learning ($p \leq .001$). The null hypothesis was retained for hypotheses all seven hypotheses for Active and Collaborative Learning.

Table 1

Active & Collaborative Learning Variable

	Nat. norm	Hillcrest Community College				*t* test for comparison of means					
		N	M	SD	SEM	t	df	Sig. (2-tailed)	MD	99% CL	
										LL	UL
4a CLQUEST: Asked questions in class or contributed to class discussion	2.92	167	3.01	.821	.064	1.447	166	.150	.092	-.07	.26
4b CLPRESEN: Made a class presentation	2.23	167	2.21	.981	.076	-.269	166	.788	-.20	-.22	.18
4f CLASSGRP: Worked with other students on projects during class	2.59	166	2.55	.982	.076	-.549	165	.584	-.042	-.24	.16
4g OCCGRP: Worked with classmates outside of class to prepare class assignments	2.00	167	1.85	.973	.075	-1.988	166	.048	-.150	-.35	.05
4h TUTOR: Tutored or taught other students (paid or voluntary)	1.40	169	1.40	.758	.058	.041	168	.968	.002	-.15	.15
4i COMMPROJ: Participated in a community-based project as a part of a regular course	1.41	169	1.35	.725	.056	-1.091	168	.277	-.061	-.21	.08
4r OOCIDEAS; Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	2.58	167	2.75	.917	.071	2.376	166	.019	.169	-.02	.35

Research Question 2 Findings: Student Effort

Research question 2 measured if there was a difference between means of student effort student engagement indicators between HCC students and CCSSE national norms. Eight indicators were tested for statistically significant differences using a one-sample *t* test to evaluate the null hypothesis. Results of *t* tests are presented in Table 2. HCC is different from the national norm for two of eight indicators of student-faculty interaction ($p \leq .001$), peer or other tutoring and skill labs (writing, math, etc.). The null hypothesis was rejected for hypothesis number 13.1h, use of computer lab. HCC students did not use the computer lab as much as community college students nationally. The one-sample *t* test showed that the sample mean ($M = 1.70$; $SD = 1.021$) was significantly lower than the national norm test value of 2.13, $t(169) = -5.33$, $p = .000$, $d = -.41$). Though there was sufficient evidence to reject the null hypothesis, the value of Cohen's *d* did not meet the a priori criterion established for magnitude of effect. Therefore, the indicator "use of computer lab" was not worthy of noting for evaluation recommendations.

Table 2

Student Effort Variable

	Nat. Norm	Hillcrest Community College				*t* test for comparison of means					
		N	M	SD.	SEM	t	df	Sig. (2-tailed)	MD	99% CL	
										LL	UL
4c REWROPAP: Prepared two or more drafts of a paper or assignment before turning it in	2.69	169	2.75	.924	.071	.865	168	.389	.061	-.12	.25
4d INTEGRAT: Worked on a paper or project that required integrating ideas or information from various sources	2.90	167	3.00	.871	.067	1.483	166	.140	.100	-.08	.28
4e CLUNPREP: Came to class without completing readings or assignments	1.82	167	1.80	.840	.065	-.363	166	.717	-.024	-.19	.15
6b READOWN: Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	2.06	169	2.18	1.082	.083	1.412	168	.160	.118	-.10	.33
10a ACADPR01: Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program	2.03	168	1.95	1.088	.084	-.925	167	.356	-.078	-.30	.14
13.1d USETUTOR: Peer or other tutoring	1.64	161	1.40	.995	.078	-3.091	160	.002	-.242	-.45	-.04
13.1e USELAB: Skill labs (writing, math, etc.)	1.91	153	1.73	.975	.079	-2.341	152	.021	-.185	-.39	.02
13.1h USECOMLB: Computer lab	2.13	160	1.70	1.021	.081	-5.33	159	.000*	-.430	-.64	-.22

* $p \leq .001$

Research Question 3 Findings: Academic Challenge

Research question 3 measured if there was a difference in means of academic challenge student engagement indicators between HCC students and CCSSE national norms. Ten indicators were tested for statistically significant differences using a one-sample *t* test to evaluate null hypotheses. Results of *t* tests are presented in Table 3. HCC is different from the national norm for one of ten indicators of academic challenge ($p \leq .001$), making judgments about the value or soundness of information, arguments, or methods. The null hypothesis was rejected for hypothesis number 5d, evaluate. The one-sample *t* test showed that the sample mean ($M = 2.89$; $SD = .901$) was significantly lower than the national norm test value of 2.66, $t(169) = 3.244$, $p = .001$, $d = .2495$). Though there was sufficient evidence to reject the null hypothesis for the variable evaluate, the value of Cohen's *d* did not meet the a priori criterion established for magnitude of effect. Therefore, the indicator was not worthy of noting for evaluation recommendations.

Table 3

Academic Challenge Variable

	Nat. Norm	Hillcrest Community College				*t* test for comparison of means					
		N	M	SD.	SEM	t	df	Sig. (2-tailed)	MD	99% CL	
										LL	UL
4p WORKHARD: Worked harder than you thought you could to meet an instructor's standards or expectations	2.73	169	2.88	.881	.068	2.151	168	.031	.146	-.03	.32
5b ANALYZE: Analyzing the basic elements of an idea, experience, or theory	2.94	169	3.08	.809	.062	2.200	168	.029	.137	-.03	.30
5c SYNTHESZ: Synthesizing and organizing ideas, information, or experiences in new ways	2.84	169	2.97	.841	.065	2.016	168	.045	.130	-.04	.30
5d EVALUATE: Making judgments about the value or soundness of information, arguments, or methods	2.66	167	2.89	.901	.070	3.244	166	.001*	.226	.04	.41
5e APPLYING: Applying theories or concepts to practical problems or in new situations	2.75	169	2.93	.853	.066	2.816	168	.005	.185	.01	.36
5f PERFORM: Using information you have read or heard to perform a new skill	2.91	168	3.03	.899	.069	1.727	167	.086	.120	-.06	.30

Table 3 (continued)

6a READASGN: Number of assigned textbooks, manuals, books, or book-length packs of course readings	2.96	168	3.07	1.164	.090	1.174	167	.242	.105	-.13	.34
6c WRITEANY: Number of written papers or reports of any length	2.96	169	2.82	1.004	.077	-2.116	168	.036	-.163	-.36	.04
7 EXAMS: Mark the response that best represents the extent to which your examinations during the current school year have challenged you to do your best work at this college	5.02	160	4.98	1.205	.95	-.407	159	.685	-.039	-.29	.21
9a ENVSCHOL: Encouraging you to spend significant amounts of time studying	3.15	168	3.16	.807	.062	.172	167	.864	.011	-.15	.17

* $p \leq .001$

Research Question 4 Findings: Student-Faculty Interaction

Research question 4 measured if there was a difference between means of student-faculty interaction student engagement indicators between HCC students and CCSSE national norms. Six indicators were tested for statistically significant differences using a one-sample *t* test to evaluate the null hypothesis. The results of the *t* tests are presented in Table 4. HCC is different from the national norm for one of seven indicators for student-

faculty interaction ($p \leq .001$), email. The null hypothesis was rejected for hypothesis number 4k, email, used email to communicate with instructor. The one-sample *t* test showed that the sample mean ($M = 3.20$; $SD = .821$) was significantly lower than the national norm test value of 2.99, $t(169) = 3.260$, $p = .001$, $d = .2508$).Though there was sufficient evidence to reject the null hypothesis, the value of Cohen's *d* did not meet the $\pm .50$ a priori criterion established for magnitude of effect. Therefore, the indicator email was not worthy of noting for evaluation recommendations.

Table 4

Student-Faculty Interaction Variable

	Nat. Norm	Hillcrest Community College				*t* test for Comparison of Means					
		N	M	SD	SEM	t	df	Sig. (2-tailed)	MD	99% CL	
										LL	UL
4k EMAIL: Used e-mail to communicate with an instructor	2.99	168	3.20	.821	.063	3.260	167	.001*	.206	.04	.37
4l FACGRADE: Discussed grades or assignments with an instructor	2.70	167	2.80	.948	.073	1.315	166	.190	.96	-.09	.29
4m FACPLANS: Talked about career plans with an instructor or advisor	2.27	166	2.52	1.013	.079	-3.203	165	.002	-.252	-.46	-.05
4n FACIDEAS: Discussed ideas from your readings or classes with instructors outside of class	1.88	168	1.99	.951	.073	1.555	167	.122	.114	-.08	.31
4o FACFEED: Received prompt feedback (written or oral) from instructors on your performance	2.77	166	2.95	.873	.068	2.685	165	.008	.182	.01	.36
4q FACOTH: Worked harder than you thought you could to meet an instructor's standards or expectations	1.54	167	1.66	.943	.073	1.627	166	.106	.119	-.07	.31

* $p \leq .001$

Research Question 5 Findings: **Support for Learners**

Research question 5 measured if there was a difference between means of support for learners student engagement indicators between HCC students and CCSSE national norms. Seven indicators were tested for statistically significant differences using a one-sample *t* test to evaluate null hypotheses. The results of the *t* tests are presented in Table 5. Two of seven indicators were statistically significant at the .001 level, hypothesis #9f, financial support, and hypothesis #13.1b, career counseling.

The null hypothesis was rejected for hypotheses number 9f, financial support. The one-sample *t* test showed that the HCC sample mean (M = 2.90; SD = 1.026) was significantly higher than the national norm test value of 2.69, $t(169) = 6.752$, $p = .000$, $d = .5194$) and met the effect criterion of $\pm$.50. Therefore, HCC was above the national norm in terms of providing financial support to development education students needed to afford their education.

The null hypothesis is rejected for hypothesis number 13.1b, career counseling. The one-sample *t* test showed that the sample mean (M = 1.31; SD = .880) was significantly lower than the national norm test value of 1.55 $t(169) = -3.492$, $p = .001$, $d = -.2686$). Though there was sufficient evidence to reject the null hypothesis for the career counseling indicator, the value of Cohen's *d* did not meet the $\pm$.50 a priori criterion established for magnitude of effect. Therefore, the indicator career counseling was not worthy of noting for evaluation recommendations.

Table 5

Support Variable

	Nat. Norm	Hillcrest Community College				*t* test for comparison of means					
		N	M	SD	SEM	t	df	Sig. (2-tailed)	MD	99% CL	
										LL	UL
9b ENVSUPRT: Providing the support you need to help you succeed at this college	3.12	167	3.10	.862	.067	-.273	166	.785	-.018	-.19	.16
9c ENVDIVRS: Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	2.72	168	2.68	1.090	.084	-.422	167	.674	-.035	-.25	.18
9d ENVNACAD: Helping you cope with your non-academic responsibilities (work, family, etc.)	2.15	168	2.25	1.104	.085	1.174	167	.242	.100	-.12	.32
9e ENVSOCAL: Providing the support you need to thrive socially	2.38	168	2.36	1.069	.082	-.205	167	.838	-.017	-.23	.20
9F FINSUPP: Providing the financial support you need to afford your education	2.69	167	2.92	1.026	.079	6.752	166	.000*	.536	.33	.74
13.1a USEACAD: Academic advising/planning	1.95	163	1.93	.832	.065	-.268	162	.789	-.017	-.19	.15
13.1b USECACOU: Career counseling	1.55	162	1.31	.880	.069	-3.492	161	.001*	-.241	-.42	-.06

* $p \leq .001$

Summary of Findings

The results of the data yielded important findings relating to the extent to which HCC students were engaged compared to CCSSE national norms. The findings from this evaluation showed that students who were enrolled in the HCC DE programs in the 2016 cohort were generally equivalently engaged in comparison with community college students across the U.S. Statistical differences were noted for 5 of 38 (13%) indicators. HCC was above the greatly above (d = .51) national norm for providing financial support for DE students, a support for learners indicator. HCC was below the national norm for use of computer labs by DE students, a student effort engagement indicator. HCC was also below the national norm for academic challenge in relation to making judgments about the value or soundness of information, arguments, or methods. Student-faculty interaction using email at HCC was statistically lower than national norms. HCC was below the national norm on career counseling, a support for learners indicator. None of the statistically significant indicators indicating a negative difference between HCC and national norms met the criterion for magnitude, though the effect size for use of computer labs was close to the $\pm$.50 criterion at -.41. By understanding how HCC DE students compared with a national sample of students on indicators and benchmarks of student engagement, HCC leaders, administrators, and faculty may create support strategies for DE students' engagement and success, a positive social change for HCC.

Section 3: The Project

Introduction

The research I conducted in this quantitative comparative goal-based evaluation provided a means of assessing HCC's student engagement for students who were enrolled in DE programs by comparing their CCSSE data with national norms.

Rationale

Numerous researchers have emphasized that DE serves a significant role in higher education (Wheeler & Bray, 2017). The concept of student engagement is predicated on the principle that learning improves when students are intrigued, attentive, or enthused, and that learning suffers when students are uninterested, detached, dissatisfied, or otherwise disengaged (The Great Schools Partnership, 2019). As I stated in Section 1, HCC has DE student program supports but has never completed a study of student engagement among DE students. Without a study, HCC does not know if students enrolled in its DE courses are engaged or engaged somehow differently than DE students at other community colleges. Therefore, I conducted a goals-based evaluation using a quantitative design and archival data to explore differences in the level of student engagement between HCC and CCSSE national norms.

I evaluated the primary research question using five secondary questions associated with five CCSSE benchmarks. I evaluated these five secondary research questions were evaluated by testing 38 hypotheses comparing the institutional data archived from the 2016 CCSSE administered to HCC students with the national data. While the null hypotheses were retained for 33 out of 38 instances, I determined that the

value of Cohen's *d* did not meet the a priori criterion established for the magnitude of effect for five of the indicators. The magnitude of differences between the two means (HCC and CCSSE) were detected but are not worthy of noting for evaluation recommendations. However, I included an evaluation report recommendation to maintain existing engagement programs for DE students at HCC and to continue monitoring engagement as future CCSSE data becomes available.

Review of the Literature

In this study, I used a goal-based evaluation to assess if HCC DE student engagement is equivalent to CCSSE national norms. In this second literature review, I focused on the genre of the study deliverable, an evaluation report. The review starts with a subsection that explains how the literature review was conducted, continues with subsections about evaluation, and ends with the project study evaluation report.

Literature Search Process

This evaluation study used resources pertaining to CCSSE and followed the approach suggested by CCSSE to evaluate HCC DE student engagement with CCSSE national norms for DE student engagement.

Evaluation

Program evaluation has emerged from a persistent need to evaluate the outcomes of educational programs that must be consistent with learning theories (Efeoglu, Ilerten, & Basal, 2018). Fournier (2005) defined evaluation as "an applied inquiry process for collecting and synthesizing evidence that culminates in conclusions about the state of affairs, value, merit, worth, significance, or quality of a program, product, person, policy,

proposal, or plan" (pp.139-140). According to Fitzpatrick, Sanders, and Worthen (2011) evaluation is a purposeful undertaking created to aid programs in discerning the most advantageous way to attain desired outcomes. Evaluation involves a perpetual quest for development, as evaluators look for instruments that will enable them to ensure the quality and validity of their recommendations and conclusions (Jacob & Affodegon, 2015). Pruitt and Silverman (2015) expressed assessment as an essential component of competency-based education. Researchers use data from assessments to inform and promote change and work toward the achievement of program or organization competencies. Before a program evaluation can transpire, there needs to be some prior knowledge about the program and the student learning goals and outcomes (Franklin & Blankenberger, 2016). When program evaluations are concluded, they can provide indicators of where improvement is needed in the program (Goldwasser, Martin, & Harris, 2017).

The purpose of the evaluation (i.e., development, knowledge, or accountability) informs the model or method an evaluator uses for evaluation (Cole, 2015). Grimes, Medway, Foos, and Goatman (2017) contended that student evaluations of institutions and courses are now routine, with outcomes feeding into various performance indicators, metrics, and rankings of institutional excellence. Schwandt (2015) noted widespread concern in the field that many who take on the task of directing or managing an evaluation lack conventional training or experience, resulting in evaluations that are poorly conceived, poorly performed, and poorly managed. However, Cronbach et al. (1980) wrote, "Society will obtain the assistance that evaluation can give only when there

is a strong evaluation profession, clear about its social role and the nature of its work" (p. 9).

Verburg (2018) summarized Alkin and Vo (2018), who presented guidelines about planning and conducting an evaluation. In the summary, Verburg claimed that critical components of the evaluative process must be adequately addressed and intertwined. Components include understanding context, nurturing stakeholder relationships, and focusing on the use of the evaluation (Verburg, 2018). In this evaluation, I presented the context in both the study proposal and in the evaluation report. I built relationships with stakeholders to provide data for the evaluation. The evaluation report is geared toward HCC stakeholders.

Patton (2015) described utilization-focused evaluation (UFE) as one that which holds that evaluations should be judged by their actual utility. Ramírez, Kora, and Brodhead (2017) noted that UFE is methodologically neutral in that methods for data collection are selected on the foundation of the evaluation questions and the description of the data or evidence that is required to answer to them. Therefore, evaluators should facilitate the evaluation procedure and design any evaluation with cautious deliberation of how everything that was done, from the beginning to the end, will affect use. The focus in UFE, highly personal and situational, is on the intended use by the intended user. As with a goal-based evaluation, it is essential that the evaluator of a UFE develop and maintain a working relationship with the designated or intended user to marshall assistance in determining the type of evaluation needed (Patton, 2015).

A process of evaluation involving a continuing discussion intended to assess and improve the quality of education practices is entailed in program assessment (Allen et al., 2015). The evaluation of an application comprises a process. Higher education decision-makers use program-level learning outcomes assessment to enhance student learning, improve programs, and meet external requirements (Stitt-Bergh, 2016).

Goal-Based Evaluation

As I was conducting a goal-based evaluation of the DE programs at HCC, student engagement was a major focus. A key portion of the program evaluation report is the judgments formed about the goal-based evaluation findings. According to Worthen, Sanders, and Fitzpatrick (1996), recommendations are customarily included in any well-written evaluation report and is the key responsibility of the evaluator. For this goal-based evaluation, I used quantitative methods in order to better understand the strengths and challenges of the program as well as student engagement.

A goal-based evaluation is a strategy researchers use to identify results of a project when used in comparison with objectives (Boulmetis & Dutwin, 2011). Such was the approach in this evaluation. HCC compared its DE student engagement with its objective of meeting national norms for indicators of student engagement so to inform HCC administration of any changes which may be warranted to improve DE student engagement. Performing a goals-based evaluation allows an organization to develop effective processes further and either reconfigure or discard unsuccessful ones (Root, 2019). Information contained in evaluation reports can also be utilized to aid in

establishing best practices for teaching and learning strategies (Rathbun, Leatherman, & Jensen, 2017).

Standards of an Evaluation Report

In this section, I present evaluation report standards. Standards from the Centers for Disease Control and Prevention are the sole source.

What is a final evaluation report? According to the Centers for Disease Control and Prevention (2013), a final evaluation report is a written document that defines how the program was examined and evaluated. The final evaluation report details the what, the how, and the why it matters for a program and incorporates evaluation results for decision making and program improvement (Centers for Disease Control and Prevention, 2013). While the final evaluation report will conclude the activities for this study, evaluation is intended to be an ongoing process.

The *what*. The what in the final evaluation report describes a program and how its purpose and activities are connected with the proposed outcomes (Centers for Disease Control and Prevention, 2013). For this evaluation, I compared student engagement in HCC DE programs with national norms.

The *how*. The how in the final evaluation report addresses the procedure taken to implement the evaluation. The how part of the report also explains whether and why changes were made during the implementation process (Centers for Disease Control and Prevention, 2013). For this evaluation, I used quantitative methods and statistical tests to implement it.

The *why it matters*. The why it matters (sometimes discussed to as the so what question) in the final evaluation report provides the rationale for the program and its impact. The college's administration capacity to demonstrate that the program has made a difference is essential to program sustainability (Centers for Disease Control and Prevention, 2013). Results of this evaluation revealed HCC's DE program as effective in engaging students.

Project Study Evaluation Report

The Program Evaluation Report (Appendix A) provides stakeholders with the findings of this goal-based evaluation comparing community college developmental student engagement with CCSSE national norms. The purpose of this outcome-based evaluation was to investigate if student engagement in the developmental programs at HCC were equivalent to the national norms. The program evaluation report has two objectives. First, it fills a current gap in practice, namely the assessment of student engagement in developmental programs. Secondly, the program evaluation report provides the stakeholders with recommendations for program improvement based on the findings of the goal-based evaluation.

Section 4: Reflections and Conclusion

Introduction

In the final section of this study, I reflect on the project's strengths and limitations; present recommendations for alternative approaches, scholarship, and project development; and reflect on leadership and change in respect to the study. I also reflect on the importance of the work, and provide implications, applications, and directions for future research.

I conducted the goal-based evaluation to inform administrators, faculty, and staff at HCC about how student engagement is a contributing factor in DE students not progressing from DE to college-credit-bearing courses required to matriculate toward earning a credential. Therefore, I performed a quantitative goal-based evaluation comparing HCC DE student engagement data with the CCSSE national norms to determine if engagement contributed to the problem. HCC's administration granted me permission to use the institutional archived data from the 2016 CCSSE administered to HCC DE students. Student engagement is linked to student success, but HCC had never completed a study of student engagement among its DE students. Therefore, the goal-based evaluation was essential in determining whether or not DE students are engaged by the college.

My rationale for completing a goal-based evaluation of student engagement among HCC DE students in comparison with DE students nationally was to address the strengths and weaknesses of the DE program as it related to student engagement. One primary research question was evaluated by 5 secondary research questions

corresponding with five CCSSE benchmark constructs: active and collaborative learning, student effort, academic challenge, student-faculty interactions, and support for learning. Secondary research questions were evaluated by testing 38 hypotheses for indicators associated with benchmarks. Null hypotheses were retained for 33 of 38 indicators using Cohen's *d* +.50 a priori criterion established for magnitude of effect size. Study results indicated that HCC DE students are mostly similar to DE students nationally in terms of engagement, except for their use of computer labs. Evaluation report recommendations included maintaining existing engagement programs for DE students at HCC with attention to increasing DE student use of computer labs, and continuing to monitor engagement as future CCSSE data becomes available. HCC can benefit from an awareness that its DE students are engaged and can seek other ways to improve DE student outcomes and related benefits to positive social change at HCC.

Project Strengths and Limitations

This project addressed the need to evaluate HCC DE programs for the purpose of determining if student engagement was a factor in student progression. Program evaluation encompasses the use of systematic techniques that address questions concerning program activities and outcomes (Newcomer, Hatry, & Wholey, 2015). Program evaluations serve many leaders; the audience for a specific evaluation will influence not only decisions regarding data collection and analyses but also the dissemination of the study (Jacobs, 2017). This goal-based evaluation study was designed to evaluate student engagement by comparing HCC DE student engagement

with the 2016 CCSSE national norms. The project used the CCSSE survey instrument, which added the reliability and validity of the findings.

Project strengths. I used a quantitative comparative research design to assess archived data which could not be manipulated. Therefore, bias was eliminated. Institutional data archived from the 2016 CCSSE administered to HCC students (n = 169) and national data calculated by CCSSE (N = 211,168) was used for analysis using a one-sample t test. The primary research question was evaluated by 5 secondary questions associated with the CCSSE benchmarks. Research questions were evaluated by testing 38 hypotheses for indicators associated with benchmarks. Null hypotheses were retained for 33 of 38 indicators using Cohen's d +.50 a priori criterion established for the magnitude of effect size. Study results indicated that HCC DE students are similar to DE students nationally in terms of engagement of support except for financial support for which HCC DE students are above the national norm.

Another strength of this evaluation process is that it allowed for a detailed examination of student engagement at HCC for the 2016 cohort year. I developed the project evaluation report as a result of the findings of the evaluation process. The evaluation provides college administrators, faculty, and staff with a description of the program and findings of the study based on quantitative data. The project evaluation report provides recommendations to maintain existing engagement programs for DE students at HCC and to continue monitoring engagement as future CCSSE data becomes available.

Limitations. This goal-based evaluation had two limitations. The exclusively quantitative nature of the study presented the first limitation. In this case, only numeric indicators were used because quantitative comparisons were limited to statistical calculations. No qualitative data were collected to contextualize the college environment that may be influencing DE student engagement in ways not measured by the CCSSE. The second limitation was the inclusion of HCC students in the summary national mean indicator test value. It was impossible to exclude HCC DE students from the national mean calculation. This limitation is assumed to not influence the national mean calculation in a way which would change the interpretation of the statistical hypotheses differences tests because only 230 students were in the HCC dataset.

Recommendations for Alternative Approaches

There are alternative approaches that I could have used for this study including utilization-focused evaluation, or objectives-based evaluation.

Utilization-focused evaluation. Utilization-focused evaluation begins with the idea that evaluations should be gauged by their actual utility; therefore, evaluators should oversee the evaluation process and design any evaluation with mindful consideration of the process, from the beginning to the end, will impact use (Patton, 2013). Supporting intended use for intended users is the focus in utilization-focused evaluation.

Objectives-based evaluation. Objectives-based evaluation describes a category of evaluation approaches that focus on the specification of goals and the measurement of outcomes (Mathison, 2005). Objectives-based evaluation provides a summative assessment using data to assess how much a student knows or has retained at the

completion of a learning sequence where the focus is on the outcomes of a program (American Educational Research Association, 2014). Often used in educational settings, the objectives-based evaluation establishes objectives at the beginning of the program or curriculum and gauge the extent to which the objective was attained (Hogan, 2007).

My situation was unique in that at any time I may have had direct or indirect contact with currently enrolled students; therefore, it was not feasible to jeopardize the outcome of the study by not using anything other than archived data. In either a utilization-focused evaluation or objectives-based evaluation, a researcher may use qualitative or mixed-method where all components of the DE programs would be featured, especially students who are actively enrolled.

Before the implementation of this study, HCC had never completed a study of student engagement among DE students. In this study, I measured the effects of student engagement and its impact on student progression by implementing a goal-based evaluation that provided a summative component. I collected and analyzed quantitative data from HCC and the CCSSE to provide an overall representation of the components of student engagement in the DE programs.

Scholarship, Project Development, and Leadership and Change

As a young child, I had an unquenchable thirst for learning. At the age of seven, I knew that I would become a teacher, and later decided to become a mathematics teacher due to my love of the subject. I also knew that one day I would pursue a doctorate. However, I had no idea about all that dream would entail. I had excelled in high school, earned an undergraduate degree in mathematics, and a graduate degree in education. The

coursework for the doctorate was not without its challenges, but I excelled academically, surviving the experience of the online environment. The process of the research and development of the doctoral study came with its own set of challenges, obstacles, and setbacks that has allowed me to gain a profound and meaningful understanding and appreciation of scholarly research and all that it encompasses.

Initially, I was not sure about the subject of my research until I met with my campus mentor who gave me direction by encouraging me to find a subject that was underserved or lacked representation, and one where I could demonstrate passion. I have been an advocate for at-risk students throughout my career as an educator; therefore, it made perfect sense to study the DE programs at my institution to create social change as well. It was also helpful that this study would be the first of its kind at HCC. The literature on the subjects of DE, CCSSE benchmarks, attrition, and Kuh's theory of student engagement all linked together to lead to the development of the project study. As the retention coordinator who was responsible for retention of the entire college's student population, it was crucial that I find a way to eliminate bias by selecting the appropriate evaluation design and method for which I would form my study. It is for this reason that I opted for a quantitative, goal-based evaluation where I utilized archived data. As a mathematician, I enjoyed this aspect of the study the most. Inputting the archived data to generate the comparisons of engagement between HCC students and CCSSE nation norms meant that the outcomes could not be manipulated. As a first-time user, the SPSS statistical software program was helpful and easy to navigate. After the data collection and analysis, the project came to life; I was elated at about the outcomes

for the HCC DE programs. The statistics revealed that HCC students are mostly similar to DE students nationally in terms of engagement, except for their use of computer labs, and are above the norm as it related to financial support.

As a result of this study, I am more confident and knowledgeable as a leader. The extensive research was the catalyst of change for me, as it equipped me to address the problem not from an emotional or personal standpoint, but from the standpoint of a practitioner. Conducting the research allowed me to perform at an academic level that I had never done before. Teamwork, collaboration and cultivating good work relationships were essential to my study because I had to rely on other individuals to assist with obtaining literature resources and with providing the data that was employed. I was fortunate to have established and cultivated excellent relationships with my colleagues throughout my tenure at the college, and all who assisted me throughout this journey are anxiously awaiting the outcome of the study. I will use all that I have learned during the research period and combine it with my gift of being a motivational speaker to be the difference that will make a difference in the lives of others. My first phase to becoming a change agent was to complete the required documents to become an adjunct mathematics instructor for HCC's DE programs.

The idea of social change entails a changeover in modern society from one state to the next, within a certain point in time. The degree of change, and whether this particular shift has a profound impact on culture, is dependent on an intricate interplay of actors, organization, and actions Zevallos, 2017). Change is needed in education and especially in the area of DE. Work is needed to change the with negative educational,

social, and psychological stereotypes often associated with individuals who often arrive underprepared for college; therefore, placed in non-college-credit-bearing courses. The significance of the social, psychological, and affective elements which are essential to academic and job success has compelled the improvement of practices and programs to endorse those skills (Savitz-Romer, Rowan-Kenyon, & Fancsali, 2015). While this study addressed only student engagement in the DE programs, the study's outcomes have the potential to impact programs across the curriculum. The goal-based evaluation is intended to create social change for the college's administrators who are charged with implementation and decision making for programs. The evaluation will also create social change for faculty, staff, and students who impacted by the DE programs. This study is unique because it's the first of its kind evaluated, included data demonstrated to be valid and reliable, and contributed awareness in at least one area of the DE programs.

According to Zizka, McGunagle, & Clark (2019), higher education has played a substantial role in the molding of upcoming leaders and has progressed from traditional overbearing courses of abstract ideas to student-centered learning, from preparing to earn a degree to produce lifelong learners. For many students at HCC, their journey toward earning a degree commences with enrollment in one or more DE courses. The findings from this evaluation showed that students who were enrolled in the HCC DE programs in the 2016 cohort were generally equivalently engaged in comparison with community college students across the United States. While the outcomes revealed that student engagement is not the cause of a lack of progression beyond the DE programs, HCC can promote social change by enhancing the DE programs as an opportunity for academic

enrichment and seeking solutions where the programs may be a barrier to college progression and ultimately, college completion for its students.

Reflection on the Importance of the Work

The entire process has honed and molded me as a scholar, researcher, and practitioner for social change. This experience developed and expanded my overall research skills, introduced me to APA for the first time, and allowed me to learn to write from a scholarly perspective to the point of becoming proficient. I spent a great deal of time learning along the way form the coursework to the project study, but more so with the latter. My utmost triumphs derived from learning from my mistakes. I quickly learned that mistakes were blessings in disguise. Knowing and identifying the differences in research sources and the rules of APA are among those lessons that I learned as a result of mistakes made.

This study recognized the importance of a need for DE program evaluation where none existed at HCC. Long & Boatman (2013) stated that the overall purpose of DE courses is to afford academically underprepared students with the skills and support they need to succeed in college and the workforce. Advocates of remediation at the postsecondary level emphasize that helping students to accumulate skills they either forgot or did not obtain in high school should permit them to persist through to graduation when they might not otherwise have done so (Long & Boatman, 2013). Utilizing the CCSSE survey to obtain archived data added validity and reliability to this study in addition to the design of a credible collection instrument in which to make the comparisons between the local and national norms. As a result of this research process, I

am better equipped to be a change agent for DE and the students who are enrolled while building upon the scholarly research foundation established through this course of this journey.

Implications

The findings from this study are important because it provides evidence that student engagement is not an issue with persistence at HCC. However, the findings have the potential to impact social change beyond the DE program level. By comparing HCC indicators of DE student engagement with national means, HCC will be informed about its effectiveness engaging DE students was the intent of this study. Indicating areas in which HCC is below, equivalent, or above the national average regarding student engagement will enable HCC to make improvements to DE programming, both in academic and student support programming. This study suggested that student engagement was a factor in the HCC DE programs, which would contribute to an increased level of persistence toward credit-bearing level courses and graduation. The potential for social change will positively impact HCC's administrators, faculty, staff, students, and stakeholders as a result of this study.

Applications

Benchmarks permit an institution to determine whether it has reached its target or goal, to evaluate itself with peer institutions on the same standard, or establish a baseline from which improvement is desired or needed (Bers, 2012). The findings revealed that HCC met the targets or thresholds for student engagement indicating that students are intuned with learning and are motivated at the same level or above student nationally.

Directions for Future Research

Future research is warranted as this study is the first of its kind at HCC. Future research will potentially enhance awareness of the impact of student engagement as well as establish a need to review the DE programs in its entirety. Additional strategies and techniques can be incorporated to include a qualitative or mix-method approach where current faculty and students could be participants in the study allowing for personal experiences with the program to be a focal point. This study utilized only one cohort year; therefore, future research could include expanding the participants. It is also imperative that the administration, faculty, and staff are active participants in future research as it is essential in promoting positive social change.

Conclusion

My entire career as an educator has been spent teaching and being an advocate for at-risk and underprepared students. This study is in-depth study of student engagement in the DE programs at HCC. The purpose of this quantitative goal-based evaluation was to compare HCC DE student engagement with the Community College Survey of Student Engagement (CCSSE) national norms to determine if engagement contributed to the problem.

Intrigued by what the outcome would reveal, I began the quest of utilizing Kuh's theory of student engagement as the theoretical basis of the study, and the overarching research question sought to clarify the extent to which HCC students were engaged. The study is quantitative in nature where institutional data archived from the 2016 CCSSE administered to HCC students (N = 169) and national data calculated by CCSSE (N =

211,168) were used for analysis using a one-sample *t* test. The primary research question was evaluated by 5 secondary questions associated with the CCSSE benchmarks. Secondary research questions were evaluated by testing 38 hypotheses for indicators associated with benchmarks. Null hypotheses were retained for 33 of 38 indicators using Cohen's d +.50 a priori criterion established for magnitude of effect size. Study results indicated that HCC DE students are mostly similar to DE students nationally in terms of engagement except for their use of computer labs. However, HCC was above DE students nationally in terms of student engagement in the area of financial support.

By understanding how HCC DE students compared with a national sample of students on indicators and benchmarks of student engagement, HCC leaders, administrators, and faculty may create support strategies for DE students' engagement and success, a positive social change for HCC.

Recommendations in the program evaluation report are to maintain existing engagement programs for DE students at HCC and to continue monitoring engagement as future CCSSE data becomes available.

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Appendix A: Program Evaluation Report

A Goal-Based Evaluation Comparing HCC Developmental Student Engagement with National Norms

Program Evaluation Report

Presented by Janice T. Lyle

To HCC Administrators, Faculty, and Staff

Walden University

March 2019

EXECUTIVE SUMMARY

A Goal-Based Evaluation Comparing HCC Developmental Student Engagement with National Norms

At Hillcrest Community College (HCC) most developmental education (DE) students do not progress in their studies from DE to college-credit-bearing courses required to matriculate toward earning a credential. Student engagement is important for student success but HCC had never completed a study of student engagement among its DE students. The purpose of this quantitative goal-based evaluation was to compare HCC DE student engagement with the Community College Survey of Student Engagement (CCSSE) national norms to determine if engagement contributed to the problem. Kuh's theory of student engagement was the theoretical basis of the study, and the overarching research question sought to clarify the extent to which HCC students were engaged. Institutional data archived from the 2016 CCSSE administered to HCC students (n = 169) and national data calculated by CCSSE (n = 211,168) were used for analysis using a one-sample t test. The primary research question was evaluated by 5 secondary questions associated with 5 CCSSE benchmarks. Secondary research questions were evaluated by testing 38 hypotheses for indicators associated with benchmarks. Null hypotheses were retained for 33 of 38 indicators using Cohen's d +.50 a priori criterion established for magnitude of effect size. Study results indicated that HCC DE students are mostly similar to DE students nationally in terms of engagement except for their use of computer labs. Evaluation report recommendations included to maintain existing engagement programs for DE students at HCC with attention to increasing DE student use of computer labs, and

to continue monitoring engagement as future CCSSE data becomes available. HCC can benefit from an awareness that its DE students are engaged and can seek other ways to improve DE student outcomes and related benefits to positive social change at HCC.

INTRODUCTION

This evaluation report presents results from a study which compared HCC developmental student engagement with national norms of student engagement. The framework of the evaluation, the methodological approach taken to evaluate HCC developmental student engagement, findings from the evaluation, and conclusions and recommendations from findings are presented in the report. The report is written for administrators, faculty, staff, and other interested HCC stakeholders.

The following report summarizes the findings and makes necessary recommendations from *A Goal-Based Evaluation Comparing HCC Developmental Student Engagement with National Norms,* a research study conducted by Janice T. Lyle, a doctoral student at Walden University. The purpose of this quantitative goal-based evaluation study was to compare HCC DE student engagement with the Community College Survey of Student Engagement (CCSSE) national norms to determine if engagement contributed to the problem. Student engagement is especially important among DE students, yet HCC had never completed a study of student engagement among developmental education students. Without a study, HCC does not know if students enrolled in its developmental education courses are engaged or engaged somehow differently than DE students at other community colleges.

EVALUATION FRAMEWORK

Kuh's theory of student engagement was the theoretical basis of the study, and the overarching research question sought to clarify the extent to which HCC students were engaged.

EVALUATION METHODOLOGY

A goals-based evaluation using a quantitative comparative research design and archived data to explore the level of student engagement between HCC and CCSSE national norms. Institutional data archived from the 2016 CCSSE administered to HCC students (n = 169) and national data calculated by CCSSE (n = 211,168) was used for analysis using a one-sample *t* test. The primary research question was evaluated by 5 secondary questions associated with 5 CCSSE benchmarks; active and collaborative learning, academic challenge, student effort, student-faculty interaction, and support for learners. Research questions were evaluated by testing 38 hypotheses for indicators associated with benchmarks. Null hypotheses were retained for 33 of 38 indicators using Cohen's d +.50 a priori criterion established for magnitude of effect size.

EVALUATION FINDINGS

The results of the data yielded important findings relating to the extent to which HCC students were engaged compared to CCSSE national norms. The findings from this evaluation showed that students who were enrolled in the HCC DE programs in the 2016 cohort were generally equivalently engaged in comparison with community college students across the U.S. Statistical differences were noted for 5 of 38 (13%) indicators. HCC was above the greatly above (d = .51) national norm for providing financial support for DE students, a support for learners indicator. HCC was below the national norm for use of computer labs by DE students, a student effort engagement indicator. HCC was also below the national norm for academic challenge in relation to making judgments about the value or soundness of information, arguments, or methods. Student-faculty

interaction using email at HCC was statistically lower than national norms. HCC was below the national norm on career counseling, a support for learners indicator. None of the statistically significant indicators indicating a negative difference between HCC and national norms met the criterion for magnitude, though the effect size for use of computer labs was close to the +.50 criterion at -.41.

CONCLUSIONS AND RECOMMENDATIONS

By understanding how HCC developmental education students compared with a national sample of students on indicators and benchmarks of student engagement, HCC leaders, administrators, and faculty may create support strategies for developmental education students' engagement and success, a positive social change for HCC.

The Program Evaluation Report recommendations are to maintain existing engagement programs for DE students at HCC and to continue monitoring engagement as future CCSSE data becomes available.

Appendix B: The CCSSE Survey Instrument

The Community College Student Report

Instructions: It is essential that you use a No. 2 pencil to complete this survey. Mark your answers as shown in the following example: ● Correct Mark ✓ ✗ ● ⊙ Incorrect Marks

1. Did you begin college at this college or elsewhere? ○ Started here ○ Started elsewhere

2. Thinking about this current academic term, how would you characterize your enrollment at this college? ○ Full-time ○ Less than full-time

3. Have you taken this survey in another class this term? ○ Yes ○ No

4. In your experiences at this college during the current school year, about how often have you done each of the following?

	Very often	Often	Some-times	Never
a. Asked questions in class or contributed to class discussions	○	○	○	○
b. Made a class presentation	○	○	○	○
c. Prepared two or more drafts of a paper or assignment before turning it in	○	○	○	○
d. Worked on a paper or project that required integrating ideas or information from various sources	○	○	○	○
e. Come to class without completing readings or assignments	○	○	○	○
f. Worked with other students on projects during class	○	○	○	○
g. Worked with classmates outside of class to prepare class assignments	○	○	○	○
h. Tutored or taught other students (paid or voluntary)	○	○	○	○
i. Participated in a community-based project as a part of a regular course	○	○	○	○
j. Used the Internet or instant messaging to work on an assignment	○	○	○	○
k. Used e-mail to communicate with an instructor	○	○	○	○
l. Discussed grades or assignments with an instructor	○	○	○	○
m. Talked about career plans with an instructor or advisor	○	○	○	○
n. Discussed ideas from your readings or classes with instructors outside of class	○	○	○	○
o. Received prompt feedback (written or oral) from instructors on your performance	○	○	○	○
p. Worked harder than you thought you could to meet an instructor's standards or expectations	○	○	○	○
q. Worked with instructors on activities other than coursework	○	○	○	○
r. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	○	○	○	○
s. Had serious conversations with students of a different race or ethnicity other than your own	○	○	○	○
t. Had serious conversations with students who differ from you in terms of their religious beliefs, political opinions, or personal values	○	○	○	○
u. Skipped class	○	○	○	○

5. During the current school year, how much has your coursework at this college emphasized the following mental activities?

	Very much	Quite a bit	Some	Very little
a. Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	○	○	○	○
b. Analyzing the basic elements of an idea, experience, or theory	○	○	○	○
c. Synthesizing and organizing ideas, information, or experiences in new ways	○	○	○	○
d. Making judgments about the value or soundness of information, arguments, or methods	○	○	○	○
e. Applying theories or concepts to practical problems or in new situations	○	○	○	○
f. Using information you have read or heard to perform a new skill	○	○	○	○

PLEASE DO NOT MARK IN THIS AREA

SERIAL #

6.

During the current school year, about how much reading and writing have you done ~~at this college~~?	None	1 to 4	5 to 10	11 to 20	More than 20
a. Number of assigned textbooks, manuals, books, or book-length packs of course readings	○	○	○	○	○
b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	○	○	○	○	○
c. Number of written papers or reports of any length	○	○	○	○	○

7. Mark the response that best represents the extent to which your examinations during the current school year have challenged you to do your best work at this college.

Extremely challenging ⑦ ⑥ ⑤ ④ ③ ② ① Extremely easy

8.

Which of the following have you done, are you doing, or do you plan to do while attending this college?	I have done	I plan to do	I have not done nor plan to do
a. Internship, field experience, co-op experience, or clinical assignment	○	○	○
b. English as a second language course	○	○	○
c. Developmental/remedial reading course	○	○	○
d. Developmental/remedial writing course	○	○	○
e. Developmental/remedial math course	○	○	○
f. Study skills course	○	○	○
g. Honors course	○	○	○
h. College orientation program or course	○	○	○
i. Organized learning communities (linked courses/study groups led by faculty or counselors)	○	○	○

9. How much does this college emphasize each of the following?

	Very much	Quite a bit	Some	Very little
a. Encouraging you to spend significant amounts of time studying	○	○	○	○
b. Providing the support you need to help you succeed at this college	○	○	○	○
c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	○	○	○	○
d. Helping you cope with your non-academic responsibilities (work, family, etc.)	○	○	○	○
e. Providing the support you need to thrive socially	○	○	○	○
f. Providing the financial support you need to afford your education	○	○	○	○
g. Using computers in academic work	○	○	○	○

10.

About how many hours do you spend in a typical 7-day week doing each of the following?	None	1 – 5	6 - 10	11 - 20	21 - 30	More than 30
a. Preparing for class (studying, reading, writing, rehearsing, doing homework, or other activities related to your program)	○	○	○	○	○	○
b. Working for pay	○	○	○	○	○	○
c. Participating in college-sponsored activities (organizations, campus publications, student government, intercollegiate or intramural sports, etc.)	○	○	○	○	○	○
d. Providing care for dependents living with you (parents, children, spouse, etc.)	○	○	○	○	○	○
e. Commuting to and from classes	○	○	○	○	○	○

11. Mark the number that best represents the quality of your relationships with people at this college.

Your relationship with:

a. Other Students

Friendly, supportive, sense of belonging ⑦ ⑥ ⑤ ④ ③ ② ① Unfriendly, unsupportive, sense of alienation

b. Instructors

Available, helpful, sympathetic ⑦ ⑥ ⑤ ④ ③ ② ① Unavailable, unhelpful, unsympathetic

c. Administrative Personnel & Offices

Helpful, considerate, flexible ⑦ ⑥ ⑤ ④ ③ ② ① Unhelpful, inconsiderate, rigid

12. How much has YOUR EXPERIENCE AT THIS COLLEGE contributed to your knowledge, skills, and personal development in the following areas?

	Very much	Quite a bit	Some	Very little
a. Acquiring a broad general education	○	○	○	○
b. Acquiring job or work-related knowledge and skills	○	○	○	○
c. Writing clearly and effectively	○	○	○	○
d. Speaking clearly and effectively	○	○	○	○
e. Thinking critically and analytically	○	○	○	○
f. Solving numerical problems	○	○	○	○
g. Using computing and information technology	○	○	○	○
h. Working effectively with others	○	○	○	○
i. Learning effectively on your own	○	○	○	○
j. Understanding yourself	○	○	○	○
k. Understanding people of other racial and ethnic backgrounds	○	○	○	○
l. Developing a personal code of values and ethics	○	○	○	○
m. Contributing to the welfare of your community	○	○	○	○
n. Developing clearer career goals	○	○	○	○
o. Gaining information about career opportunities	○	○	○	○

SERIAL # PLEASE DO NOT MARK IN THIS AREA

13. This section has three parts. Please answer all three sections, indicating (1) HOW OFTEN you use the following services, (2) HOW SATISFIED you are with the services, and (3) HOW IMPORTANT the services are to you AT THIS COLLEGE.

	(1) Frequency of Use				(2) Satisfaction				(3) Importance		
	Often	Some-times	Rarely/ Never	Don't know/ N.A.	Very	Some-what	Not at all	N.A.	Very	Some-what	Not at all
a. Academic advising/planning	○	○	○	○	○	○	○	○	○	○	○
b. Career counseling	○	○	○	○	○	○	○	○	○	○	○
c. Job placement assistance	○	○	○	○	○	○	○	○	○	○	○
d. Peer or other tutoring	○	○	○	○	○	○	○	○	○	○	○
e. Skill labs (writing, math, etc.)	○	○	○	○	○	○	○	○	○	○	○
f. Child care	○	○	○	○	○	○	○	○	○	○	○
g. Financial aid advising	○	○	○	○	○	○	○	○	○	○	○
h. Computer lab	○	○	○	○	○	○	○	○	○	○	○
i. Student organizations	○	○	○	○	○	○	○	○	○	○	○
j. Transfer credit assistance	○	○	○	○	○	○	○	○	○	○	○
k. Services to students with disabilities	○	○	○	○	○	○	○	○	○	○	○

14. How likely is it that the following issues would cause you to withdraw from class or from this college? *(Please respond to each item)*

	Very likely	Likely	Some-what likely	Not likely
a. Working full-time	○	○	○	○
b. Caring for dependents	○	○	○	○
c. Academically unprepared	○	○	○	○
d. Lack of finances	○	○	○	○
e. Transfer to a 4-year college or university	○	○	○	○

15. How supportive are your friends of your attending this college? ○ Extremely ○ Quite a bit ○ Somewhat ○ Not very

16. How supportive is your immediate family of your attending this college? ○ Extremely ○ Quite a bit ○ Somewhat ○ Not very

17. Indicate which of the following are your reasons/goals for attending this college. *(Please respond to each item)*

	Primary goal	Secondary goal	Not a goal
a. Complete a certificate program	○	○	○
b. Obtain an associate degree	○	○	○
c. Transfer to a 4-year college or university	○	○	○
d. Obtain or update job-related skills	○	○	○
e. Self-improvement/personal enjoyment	○	○	○
f. Change careers	○	○	○

SERIAL # PLEASE DO NOT MARK IN THIS AREA

18. Indicate which of the following are sources you use to pay your tuition at this college? *(Please respond to each item)*

	Major source	Minor source	Not a source
a. My own income/savings	○	○	○
b. Parent or spouse/significant other's income/savings	○	○	○
c. Employer contributions	○	○	○
d. Grants and scholarships	○	○	○
e. Student loans (bank, etc.)	○	○	○
f. Public assistance	○	○	○

19. Since high school, which of the following types of schools have you attended other than the one you are now attending? *(Please mark all that apply)*

- ○ Proprietary (private) school or training program
- ○ Public vocational-technical school
- ○ Another community or technical college
- ○ 4-year college or university
- ○ None

20. When do you plan to take classes at this college again?

- ○ I will accomplish my goal(s) during this term and will not be returning
- ○ I have no current plan to return
- ○ Within the next 12 months
- ○ Uncertain

21. At this college, in what range is your overall college grade average?

- ○ A
- ○ A- to B+
- ○ B
- ○ B- to C+
- ○ C
- ○ C- or lower
- ○ Do not have a GPA at this school
- ○ Pass/fail classes only

22. When do you most frequently take classes at this college? *(Mark one only)*

- ○ Day classes (morning or afternoon)
- ○ Evening classes
- ○ Weekend classes

23. How many TOTAL credit hours have you earned at this college, not counting the courses you are currently taking this term?

- ○ None
- ○ 1-14 credits
- ○ 15-29 credits
- ○ 30-44 credits
- ○ 45-60 credits
- ○ Over 60 credits

24. **At what other types of institutions are you taking classes this term?** *(Please mark all that apply)*

- ○ None
- ○ High school
- ○ Vocational/technical school
- ○ Another community or technical college
- ○ 4-year college/university
- ○ Other

25. **How many classes are you *presently* taking at OTHER institutions?**

- ○ None
- ○ 1 class
- ○ 2 classes
- ○ 3 classes
- ○ 4 classes or more

26. **Would you recommend this college to a friend or family member?**

○ Yes ○ No

27. **How would you evaluate your entire educational experience at this college?**

- ○ Excellent
- ○ Good
- ○ Fair
- ○ Poor

28. **Do you have children who live with you?**

○ Yes ○ No

29. **Mark your age group.**

- ○ Under 18
- ○ 18 to 19
- ○ 20 to 21
- ○ 22 to 24
- ○ 25 to 29
- ○ 30 to 39
- ○ 40 to 49
- ○ 50 to 64
- ○ 65+

30. **Your sex:**

○ Male ○ Female

31. **Are you married?**

○ Yes ○ No

32. **Is English your native (first) language?**

○ Yes ○ No

33. **Are you an international student or foreign national?**

○ Yes ○ No

34. **What is your racial identification?** *(Mark **only one**)*

- ○ American Indian or other Native American
- ○ Asian, Asian American or Pacific Islander
- ○ Native Hawaiian
- ○ Black or African American, Non-Hispanic
- ○ White, Non-Hispanic
- ○ Hispanic, Latino, Spanish
- ○ Other

35. **What is the highest academic credential you have earned?**

- ○ None
- ○ High school diploma or GED
- ○ Vocational/technical certificate
- ○ Associate degree
- ○ Bachelor's degree
- ○ Master's/doctoral/professional degree

36. **What is the highest level of education obtained by your:**

	Father	Mother
a. Not a high school graduate	○	○
b. High school diploma or GED	○	○
c. Some college, did not complete degree	○	○
d. Associate degree	○	○
e. Bachelor's degree	○	○
f. Master's degree/1st professional	○	○
g. Doctorate degree	○	○
h. Unknown	○	○

37. **Using the list provided, please fill in the bubbles that correspond to the code indicating your program or major. Using the first column, indicate the first number in the program code, using the second column, indicate the second number in the program code.**

38. Please provide your student identification number by filling in the corresponding bubbles. For example, in the first column, indicate the first number or letter in your student ID number, and so forth. (OPTIONAL)

(Please begin here)

Additional Items (Please respond to these items if requested)

1. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
2. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
3. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
4. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
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19. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ
20. Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Your responses will remain confidential and individual responses will not be reported.

Thank you for sharing your views.

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PLEASE DO NOT MARK IN THIS AREA

SERIAL #