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Karla Ann Fisher

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**STUDENT ENGAGEMENT IN  
COMMUNITY COLLEGE ONLINE EDUCATION PROGRAMS:  
AN EXPLORATION OF SIX CONSTRUCTS  
WITH IMPLICATIONS FOR PRACTICE**

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by

**Karla Ann Fisher, B.A.; M.A.**

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## **DEDICATION**

This work is dedicated to the many wonderful  
instructors, faculty members, coaches, and mentors  
who have challenged me, cheered me, and helped me learn.

Most especially  
my first and best teacher, my mother  
**Donna Bethea Hardin**  
and  
my greatest supporter and best friend, my husband  
**Frederick Henry Webster.**

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Improving student outcomes in community college online education requires understanding how institutional practices and student characteristics affect levels of student engagement in online courses. This study investigated community college online student engagement using an ex post facto quantitative methodology. This study reports the results of an online survey administered to students enrolled in online courses at four community colleges and one statewide community college online consortium in the fall 2009 academic term. This study measured online engagement levels based on five constructs from the Community College Survey of Student Engagement (Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners) and a sixth construct from the literature (Presence). The study measured the engagement levels of 906 survey respondents taking classes exclusively online compared with 1,179 survey respondents taking classes both online and on-campus. Differences in engagement levels also were explored in terms of student

characteristics including gender, race/ethnicity, age (traditional/nontraditional), enrollment status; experience in online classes, and veteran status. The results of this study revealed the following:

- Community college online students are less engaged than students taking courses both online and on campus.
- Enrollment status is a strong predictor of online student engagement; online students enrolled part-time are substantially less engaged than online students enrolled full-time.
- Experience with online learning is another strong predictor of engagement; as students gain experience in online courses, they become more engaged online learners.
- Student demographics appear to play less of a role in student engagement online than on campus.
- Although measurably less engaged, online students scored high on Student Effort, suggesting respondents found that courses taught exclusively online required substantial individual effort.
- Online students are isolated relative to other students and faculty, and are unlikely to reach out to make connections within the college community without assistance.
- Based on their distinctive experiences and characteristics, online students should be tracked as a unique cohort within community college student populations.

This study was concluded with recommendations for further research and strategies that community colleges could implement to increase online student engagement, retention, and ultimately success.

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## CHAPTER I: INTRODUCTION TO THE STUDY

### **Background & Context**

For more than 35 years, higher education institutions in the United States have experienced increasing pressure to demonstrate the value of their services and the efficacy of their methods. In the decades prior to the 1970s, community colleges demonstrated accountability by complying with government regulations and data requests (Roueche, Baker, & Brownell, 1971). By the late 1970s, colleges were increasingly being asked to describe more specifically the value they bring to students, communities, and employers (Roueche, Boswell, & Roueche, 1997). By the 1980s, the National Commission on Excellence in Education's landmark report *A Nation at Risk* (1983) depicted public educational quality as a "rising tide of mediocrity." Several subsequent reports, including the Association of American Colleges' *Integrity in the College Curriculum* (1985) and the National Governors' Association Task Force on College Quality's *Time for Results* (1986), intensified the demand for greater scrutiny of and accountability within American higher education.

Collectively, these and similar publications created a sense of urgency in higher education for renewed emphasis on "excellence" (Nichols, 1991). "Policymakers, who want to tie public college allocations to their outcomes, and families, who are investing sizeable amounts in increased community college tuition, want assurances that colleges will provide returns that justify their cost" (Bailey, Jenkins et al., 2005, p. 1). In response, greater attention was paid to student outcome measures such as persistence and retention rates, graduation rates, degrees awarded, and job placement, among others (Dougherty &

Hong, 2006). Reducing student attrition became critical to the financial welfare of community colleges (Summers, 2003). Student engagement and persistence models began to emerge to help educators understand the many factors associated with student success.

Over time, it emerged from research that the best predictor of student learning and personal development is the time and energy students devote to educationally purposeful activities (Pace, 1980; Pascarella & Terenzini, 1991; Astin, 1993). Pace (1984) posited that quality of student effort is a function of the opportunities that an institution offers and the extent to which students take advantage of those opportunities within the context of academic and intellectual experiences, as well as personal and interpersonal experiences. Tinto's Model (1975)—one of the most frequently referenced models of student retention, based on an extensive literature review and theoretically grounded in contemporary psychology, particularly Durkheim's 1951 model related to suicide—focused on integration (the degree to which a student is academically and socially integrated) as a predictor of persistence. Chickering and Gamson's (1987) set of engagement indicators, the “Seven Principles for Good Practice in Undergraduate Education”—student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning—provided an underlying framework for creating engaging classroom environments to influence student persistence.

Previous studies underpin these theories and models with empirical examples of practices institutions can use to increase student engagement including: active learning

activities, such as class discussions (Braxton, Milem, & Sullivan, 2000); out-of-class experiences (Terenzini, Springer, Pascarella, & Nora, 1995); use of student support services, such as advising and peer counseling (Chaney, Muraskin, Cahalan, & Goodwin, 1998); and student satisfaction with academic development (Thomas, 2000).

While the literature demonstrated a relationship between student engagement and positive student outcomes, and also provided examples of effective educational practices, the majority of such research was conducted within four-year institutions. For instance, Pascarella (1997) acknowledges that of the approximately 2,600 studies reviewed for the seminal text *How College Affects Students*, no more than 5% of the studies focused on community college students. An examination of approximately 2,300 articles published in five major higher education journals between 1990 and 2003 found that only 8% mentioned community colleges (Townsend, Donaldson, & Wilson, 2004). Since substantial differences exist between two-year and four-year institutions' missions, populations, and environmental characteristics, additional investigation was needed to better understand whether and how research conducted at four-year institutions can be applied to community colleges.

By focusing on community and technical colleges over the past eight years, the Center for Community College Student Engagement has made great strides in addressing this research gap, primarily through the Community College Survey of Student Engagement (CCSSE). CCSSE elicits information about student engagement—the time and energy that students devote, inside and outside the classroom, to activities that matter to their education (NSSE, 2004, ¶ 2)—through questions that assess institutional

activities and student behaviors that are significantly correlated with student learning and retention. Student engagement is a key indicator of learning and, therefore, is a proxy for quality in evaluating educational practice. However, since CCSSE's inception, another research gap has developed as community colleges across the country create new online education options for students.

### **Statement of the Problem**

A decade ago, higher education was just beginning to tap into the power of the Internet for educating students. The Web-Based Education Commission (2000) called the Internet “perhaps the most transformative technology in history, reshaping business, media, entertainment, and society in astonishing ways” (p. 1) but noted that by 2000 it was just beginning to transform education. Today, nearly a decade later, community colleges are on the forefront of an online education boom. Online enrollments continue to grow at rates far faster than classroom enrollments, and two-year associate degree institutions have the highest growth rates, accounting for over one-half of all online enrollments for the last five years (Allen & Seaman, 2007, p. 1). Currently more than 1.9 million community college students take classes online (Allen & Seaman, 2008). Additionally, “associate’s institutions [two-year community colleges] have consistently been overrepresented among the online student population compared to their share of higher education student enrollments” (Allen & Seaman, 2008, p. 6). Yet even as their online enrollments continue to grow, community colleges struggle to find reliable ways to evaluate quality in online education. Community colleges need an institutional quality

assessment measurement similar to CCSSE but appropriate to the unique nature of online education.

In developing CCSSE, the Center for Community College Student Engagement developed and validated five constructs to measure student engagement, communicated to the field as “CCSSE benchmarks.” These constructs are Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners. In considering online learning, a sixth construct appears in the literature: Presence (Gunawardena, 1995; Picciano, 2002; Garrison & Anderson, 2003). Presence allows students and instructors to participate in a bounded community, though the boundaries are virtual, as fully-rounded individuals engaging in real dialogue with real people. Lombard and Ditton (1997) refer to this feeling as the perceptual “illusion of nonmediation.” Presence also accounts for the intellectual environment of the online course reflected in discourse, reflection, and critical thinking, as well as the instructor’s role in ensuring the continued functionality of the online learning environment and the interactions that take place within it (Garrison, Anderson, & Archer, 2000).

Because CCSSE is a paper survey administered in classrooms, Presence is assumed; however, it cannot be assumed in the online environment. Additionally, the CCSSE survey instrument and sampling frame do not address the unique aspects of the online education environment. Therefore, the construct of Presence was added to the five CCSSE constructs to develop a new survey instrument with a sampling frame appropriate to the unique aspects of the online education environment. With continued development,

such an instrument should provide community colleges with the tool they need evaluate quality in their online education programs.

### **Purpose of the Study**

Improving student outcomes in community college online education requires understanding how levels of student engagement in online courses are affected by institutional practices and student characteristics and behaviors. The purpose of this study was threefold. First, this study sought to support, through factor analysis, a new construct from the literature (Presence) for use in measuring institutional levels of community college online student engagement. Second, this study measured and compared the engagement levels of groups of community college online students. Finally, the findings of the study suggested institutional practices that could improve engagement for online students in community colleges.

### **Research Questions**

1. How engaged are community college online students on six factors: Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, Support for Learners, and Presence?
2. Are there significant differences in the level of engagement among and between online students based on demographic characteristics, enrollment status, and student experiences including the following:
  - a) gender (male, female);
  - b) race/ethnicity (White, non-Hispanic; Black or African American, non-Hispanic; Hispanic, Latino, or Spanish; Other);

- c) age (traditional, nontraditional);
  - d) enrollment status (full-time, part-time);
  - e) experience in online classes (demonstrated by number of online college credits); and
  - f) veteran status (veteran, non-veteran).
3. What institutional practices are suggested by the data to be supportive of online student engagement in community colleges?

### **Methodology**

This *ex post facto* quantitative study involves the development of a survey instrument to determine community college online student engagement based on five previously validated constructs (Gunawardena, 1995; Marti 2004) and one new construct. Survey items were pre-tested with a group of community college students using cognitive interviews, an approach to survey questionnaire design widely recognized in the body of methodological research (Jabine, Straf, Tanur, & Tourangeau, 1984; Sirken, Herrmann, Schechter, Schwarz, Tanur & Tourangeau, 1999; Lessler & Sirken, 1985; Campanelli, Martin, & Rothgeb, 1991; Jobe & Mingay, 1991). Results from the cognitive interviews informed survey item revision prior to administration. After administration, exploratory factor analysis (EFA) was planned to validate the new construct, Presence.

A quantitative method design was employed to determine online student engagement levels. Frequency distributions, cross tabulation tables, t-tests, and chi-square tests were run to identify differences among and between types of students. In addition, an effect size was calculated. The student variables used in the study—gender,

race/ethnicity, traditional/nontraditional, full-time/part-time status, level of online education experience, and veteran status—were chosen due to their use in previous studies, appropriateness at the research sites where the study was conducted, and utility to the field.

### **Definition of Terms**

For the purpose of this study, several terms are operationally defined as follows:

- *Academic term.* A division of the year during which a college holds classes, typically 16 weeks; three terms (fall, spring, and summer) comprise one academic year.
- *Community college.* A public, open-access, accredited two-year institution typically offering associate degrees, certificate programs, workforce development, and noncredit learning activities.
- *Community College Survey of Student Engagement (CCSSE).* Established in 2001 as a research and service initiative of the Community College Leadership Program at The University of Texas at Austin, CCSSE is a tool for assessing quality in community college education, grounded in research about what works in strengthening student learning and persistence. CCSSE results help colleges focus on good educational practice and identify areas in which to improve programs and services for students. (CCSSE, 2009).
- *Effective educational practice.* Institutional and instructional processes, activities, interventions, and policies that promote high levels of student engagement, learning, and retention.

- *Engagement or student engagement.* The time and energy that students devote—inside and outside the classroom—to activities that matter to their education (NSSE, 2004, ¶ 2).
- *Full-time student.* Based on the definition used by the Integrated Postsecondary Education Data System (IPEDS), a full-time student is registered for 12 academic hours or more during an academic term (excluding summer term).
- *Nontraditional student.* A college student 25 years of age or older with delayed college enrollment (did not enter postsecondary education within one calendar year of finishing high school or left college and returned after a period away) who often attends school part-time, usually is financially independent of parents and employed for pay, and often has dependents or other family obligations.
- *Online course or online class.* Based on the distance education classifications first proposed by the Sloan Consortium in 2002 and widely adopted by researchers in the field, an online course is one in which at least 80% of the content is delivered via the Internet; typically, online courses have no face-to-face meetings (Sloan-C, 2008).
- *Online education.* Educational programs consisting of online courses. It should be noted that online education is a subset of distance education (any place, any time, and largely text-based learning). Compared to other types of distance education, online education has two critical differentiating factors: (a) Internet-based delivery, and (b) fundamentally group, rather than one-on-one, communication (Harasim, 2000).

- *Online experience level.* An indication of the number of online college classes completed by a student; an experienced online student has taken at least 15 college credit hours of online instruction.
- *Online student.* A student enrolled in an online class. Online students are subgrouped by enrollment type: those taking classes exclusively online and those taking classes both online and on-campus. When differentiated in the text, these groups are referred to as “online only” students and “blended” students respectively.
- *Part-time student.* Based on the definition used by the Integrated Postsecondary Education Data System (IPEDS), a part-time student is registered for fewer than 12 academic hours during an academic term (excluding summer term).
- *Presence.* Based on Garrison, Anderson, and Archer’s (2000) constructs attuned to the study model, a construct comprising the following three components:
  1. Social presence: the perceptual immersion in a community, or sense of belonging, achieved when students are able to project themselves socially and emotionally as “real” people and to participate in meaningful, reciprocal, purposeful interactions with other students and instructors in their online class environment; also described as the perceptual “illusion of nonmediation,” the sense of “being there” that occurs when users of a technology or media overlook its role in their experience (Lombard & Ditton, 1997; ISPR, 2009).
  2. Cognitive presence: the intellectual environment of the online course reflected in discourse, reflection, and critical thinking.

3. Teaching presence: the continued functionality of the online learning environment and the interactions that take place within it that are created and ensured by the efforts of the instructor.
- *Traditional student.* A college student 18 to 24 years of age, typically a recent high school graduate, often financially dependent upon parents, often attends school full-time, may work part-time, and typically has no dependents or family obligations.
  - *Veteran status.* An indicator of whether or not a student previously served in the military.

### **Delimitations**

The study was conducted at five research sites: four community colleges and one state-wide community college online consortium. While site selection ensured the research sites were diverse in nature, and analysis determined that respondents were reasonably representative of online students within their institutions, respondents' engagement levels cannot account for the breadth of experience and behaviors of all community college online students in all colleges. Additionally, this study examined online student engagement at an aggregate population level, providing engagement scores for student populations disaggregated into constituent groups; it does not provide individual student or course level engagement scores. Additionally, only survey data collected during the fall 2009 semester were used in the analysis, providing a "snapshot" rather than a longitudinal examination of the institution's student engagement levels. Finally, a select number of available measures were used to operationalize the constructs.

## **Limitations**

The quantitative method approach used to answer the research questions can provide useful insights. However, quantitative methods cannot explicate individual experiences to the level of detail offered by qualitative methods. Quantitative analysis can describe the most and least engaged online students, but cannot explain why they are or are not engaged. The instrument may prove to be another limitation. Although the instrument was pre-tested through cognitive interviews and items appeared reliable in this survey administration, additional research may demonstrate that survey items need refinement.

## **Assumptions**

As with any study, a variety of underlying assumptions shaped this inquiry and should be addressed before proceeding. One assumption is that retention (the overall rate at which students complete courses at an institution), persistence (the successful completion of a course by an individual student), and persistence to degree (the progress of an individual student toward degree completion) are related, but are separate concepts (Berger & Lyons, 2005). Another assumption is that a greater understanding of online student engagement factors and outcomes at the institutional level can inform practice and help improve individual online student experiences and outcomes. Finally, it is believed that the constructs used to develop the framework for this research, which originated in on-campus (face-to-face) courses, can be translated to the online environment—that is, effective educational practice is effective educational practice regardless of medium or platform.

## **Significance of the Study**

Research into community college online students' engagement is critical to improving educational practice and outcomes for the 1.9 million online students in America's two-year institutions. Given community colleges' unique student characteristics, institutional mission, and pedagogical approaches, these institutions need evaluation mechanisms developed specifically to meet their needs. It is hoped this study will provide the foundation for the development of an assessment tool community colleges can use to evaluate the quality of their Internet-based distance education programs. As community college online education continues to grow, such an assessment would provide the means for administrators, policymakers, students, and others to obtain information upon which to base reasonable and informed judgments with regard to quality of online education in two-year institutions.

## **Summary**

This chapter provided an overview of the research project including the purpose of the study, the statement of the problem, research questions, the limitations and delimitations of the study, the researcher's assumptions, and a brief explanation of the methodology, which will be explained in greater detail in chapter three. Chapter two will provide the background of the problem and the rationale for this study through a review of pertinent research literature. Chapter three will provide a detailed review of the methodology, as well as the research design, conceptual framework, and details about the sample.

## CHAPTER II: REVIEW OF THE LITERATURE

### **Introduction**

Community colleges began in the early 1900s as a uniquely American invention—not a high school, not a university, but something “in-between” the two (Brint & Karabel, 1989; Hutcheson, 1999). Over the past century, community colleges have reinvented themselves multiple times to meet the challenges and innovations of their times. From junior institutions determined to establish their identity and credibility within higher education (Brint & Karabel, 1989; Hutcheson, 1999), community colleges have grown into an eclectic, flexible, accessible, and innovative, integral part of the American higher education landscape (Roueche & Baker, 1987; O’Banion, 1997). From a handful of junior colleges serving less than two percent of all college freshmen students in the early 1900s (Brint & Karabel, 1989), the community college movement has burgeoned to include 1,177 institutions (988 public, 158 independent, and 31 tribal) serving 44% of all U.S. undergraduates, 11.5 million credit and noncredit students nationwide (AACC, 2009)—including 1.9 million students in online education programs (Allen & Seaman, 2008), another “reinvention” of community college in response to the opportunities and challenges of the 21<sup>st</sup> century.

For many students, community college open admissions policies and relatively low-cost tuition lower barriers to pursuing higher education. The majority (96%) of public two-year community colleges practice open admissions policies, meaning no competitive application process or specific level of academic proficiency is required to enroll (NCESb, 2008, p. 467, Table 326). Furthermore, tuition and fees at community

colleges are significantly lower than those of four-year institutions, allowing students from more diverse socio-economic backgrounds to attend. The average national community college tuition and fees for a full-time, in-state student (\$2,402) are less than half the average annual tuition and fees at public four-year institutions (\$6,585) (AACC, 2009). Today, 97% of community colleges provide additional access to higher education through distance education courses (NCES, 2008a, Table 1), including 3,590 degree and certificate programs designed to be completed entirely at a distance (NCES, 2008a, Table 7).

Getting students across the threshold of the “open door” is only the first step to fulfilling the community college mission. Students must be retained in college in order to meet their educational goals. Attrition rates are high—nationally, nearly 50% of students entering public two-year institutions fail to return the second year (Barefoot, 2004)—and the dropout rate has only increased over time. Fifteen years ago, Dougherty (1994) noted that 42% of high school graduates leave two-year colleges without ever obtaining a degree. Moreover, research suggests that students taking online courses drop out of those courses at substantially higher rates than their on-campus peers. Xenos (2004) noted that online learning has been plagued by high dropout rates, with the average online college course dropout rate hovering at 50%, four to five times higher than the dropout rate for on-campus courses.

This chapter describes the current state of student engagement and provides a brief history of online education in community colleges. Four distinct groups of students—part-time students, nontraditional students, Millennials, and military

veterans—are introduced. The challenges these and all students face in an online education environment are discussed. Finally, the key theories of student engagement that provide the basis for this study are explored.

### **Understanding Community College Students**

Any study of student engagement in community colleges must begin with an understanding of the unique characteristics of community college students, whose learning and persistence necessarily are influenced by their life experiences and circumstances. These students bring a variety of goals, aspirations, and needs to the educational setting. As Tinto (2006-2007) points out, “no one size fits all” type of engagement or retention strategy exists for community college students.

Community college students comprise 44% of all U.S. undergraduates and are diverse by virtually any measure (AACC, 2009):

- 58% are female, 42% are male;
- 47% are young (under 22 years of age), while 53% are older, including 40% in the 22-39 age range and 13% age 40 or older;
- More than one-third (36%) are students of color; and
- 39% are the first in their family to attend college.

In addition, community college students attend college to pursue diverse goals—including improving job skills, personal enrichment, and even fulfilling a lifelong desire for education—not necessarily to complete a degree (Cohen & Brawer, 1996; Paulson & Boeke, 2006). Despite high aspirations, 61% of students enter community colleges underprepared for college-level courses (Adelman, 2004). The National Postsecondary

Student Aid Study of 2003-04 (NPSAS:04) reports that 43% of first- and second-year community college students took at least one developmental education course during that year (Horn & Nevill, 2006). McGlynn (2005) explains the conundrum this presents for educators:

When we talk about typical college students, we run into trouble. The so-called new student may be a 17-year-old Gen M student who uses instant messaging, a 26-year-old Gen X student who has “customer service expectations” about education, or a 40-year-old mother who is juggling family, work, and coursework, whether that coursework is in-classroom work or via electronic distance learning. (p. 19)

Community colleges’ large and diverse student population can be segmented in a wide variety of groups. When data are reported only at the aggregate level, special characteristics and needs of subgroups of students can be obscured. Researchers and practitioners frequently disaggregate data to examine findings for specific subgroups. This study will examine the online education experiences of four prevalent subgroups of community college online students: part-time students, nontraditional students, Millennials, and veterans. It is important to note that community college students frequently fit into multiple categories, which only compounds their challenges to academic success.

### ***Part-time Students***

One of the distinctive characteristics of community colleges enrollment is the high number of part-time students. Part-time students typically are enrolled in fewer than

12 academic hours during an academic term (excluding summer term). Since the early 1970s, part-time students have constituted over half the student enrollment at community colleges (NCES, 2008b). Approximately 60% of community college students enrolled part-time (AACC, 2009) compared to the 27% of part-time students at public four-year colleges (NCES, 2008b). Among part-time community college students, fully half (50%) are employed full-time and one-third (33%) are employed part-time, compared to the 27% of full-time students who work full-time and 50% of full-time students who work part-time.

Part-time students face a number of academic and social challenges. Annual survey research conducted by the Center for Community College Student Engagement since 2001 demonstrates that part-time students are consistently less engaged in activities and services outside the classroom than their full-time peers, due in part to the limited time part-timers spend on campus (CCSSE, 2008). A 2007 National Center for Education Statistics (NCES) report found that after controlling for factors including gender, family income, and educational expectations, part-time undergraduate students were less likely than full-time students both to persist and to attain degrees. Only one-third of students who enter a community college earn a certificate or associate degree after five years (Bailey, Calcagno, Jenkins, Leinbach, & Kienzl, 2005). While retention rates for first- to second-year community college students are estimated at 52% (ACT, 2006), the incompleteness rate for part-time students swells to over 70% (NCES, 2008b). In striking contrast, when measured at the six year mark, nearly three-quarters (73%) of part-time students leave college without earning a degree, almost the same percentage (72%) of

full-time students persist, either earning a degree or continuing enrollment in college (NCES, 2007).

### *Nontraditional Students*

Historically, non-traditional students have been identified by age and part-time status. Choy (2002) argues that additional characteristics should be considered, as well, including:

- Delayed enrollment, entering college more than one year after finishing high school;
- Financially independent of parents (as determined by financial aid eligibility criteria);
- Employed 35 hours or more per week while enrolled;
- Responsible for dependents other than a spouse (usually children, but may be others);
- Single parent, either unmarried or separated with dependents); and/or
- No high school diploma, instead completing high school with a GED or other high school equivalency certificate.

Choy (2002) estimated that “almost three-quarters of [all] undergraduates are in some way ‘nontraditional’” (p. 3). According to the American Association of Community Colleges, 50% of community college students have delayed enrollment, 41% work full-time, and 62% are financially independent (Phillippe & Sullivan, 2005).

With so many competing priorities, non-traditional students face more challenges academically and socially than traditional students. Older students are more likely than

their younger counterparts to be working and caring for children—responsibilities that can affect the time and energy they can devote to learning (Lynch & Chickering, 1984; Horn & Carroll, 1996). Older nontraditional students also enter college with different skills than younger students. According to Calcagno, Costa, Bailey, and Jenkins (2007), traditional-age college students, on average, score “87 points higher than older students on mathematics placement tests...but 29 points lower on tests of verbal skills” (p. 781). The authors attribute these differences to older students continuing to developing their verbal skills in the workplace, while their math skills languish, rarely used. As Adelman (2005) summed up the nontraditional student experience: “one demographic variable makes an enormous difference in the distribution of virtually any postsecondary outcome or process—age at the time of first entry to postsecondary education” (pp. 119).

On a more positive note, Knowles (1984) argued that adult students are intrinsically motivated to succeed in college. Adults can operate as self-directed learners, immediately applying new information and skills by using their experiences as a reservoir of knowledge (Knowles, 1984). In a mixed methods study of gender differences in online learners, McSparran and Young (2001) found that older students were more successful in the online environment, demonstrating greater motivation, better time management skills, and more effective online communication practices while younger students, by contrast, seemed to need the discipline of scheduled classroom sessions. The idea that Internet-facilitated learning may be better suited to older students may seem counter-intuitive given the technology-rich environments of traditional-age students, the “Millennials.”

## *Millennials*

Millennial students were born between 1982 and today. This group of students represents “70 or 80 million people, depending on the source which one happens to use, or nearly 30% of the American population” (McGlynn, 2005), and are expected to be one of the largest generations to attend institutions of higher education in the near future (Howe & Strauss, 2000). By 2012, higher education enrollment is expected to peak at an estimated 15.8 million, a 12% increase over current numbers, and Millennials will account for 75% of all higher education enrollments (Moore, 2007). As educators, researchers, and social commentators have struggled to understand this generation, they have given it a series of descriptive names: Generation 2000, Digital Gen, Net Gen, Echo Boom, Boomer Babies, Generation.com, Generation Next, Generation XX, Generation Y, and Generation Why—but eventually, one name dominated research and literature: “Millennials” (Howe & Strauss, 2000). In a move typifying the generation, thousands of Millennials helped name their generation in an ABC News online poll conducted by Peter Jennings (Raines, 2003).

The children of the late Baby Boomers (individuals born between 1943 and 1960) and GenXers (individuals born between 1961 and 1981), Millennials share a variety of specific characteristics (Howe & Strauss, 2000; McGlynn, 2005). They are the most racially and ethnically diverse generation in our nation’s history (DeBard, 2004). Typically raised by parents who participated in their education, Millennials grew up participating in a whirlwind of children’s activities that shaped and influenced their perceptions (Calhoun, 2005). However, despite intensive parental involvement, theirs

was the first generation “not expected” to be raised in a traditional nuclear family; in fact, two thirds were raised in nontraditional families (Calhoun, 2005).

Perhaps the most defining feature of the Millennial generation is its use of and comfort with technology—from computers to cell phones and PDAs (personal digital assistants)—which they use to facilitate simultaneous completion of tasks (Coleman, Little, & Lester, 2006). In a large-sample (7,705) study of college students, Junco and Mastrodicasa (2007) found that Millennials used technology at higher rates than people from other generations: 97% of students owned a computer, 94% owned a cell phone, and 56% owned an iPod or other MP3 player. Three-quarters (76%) used instant messaging (IM) to communicate, and 92% of those reported multitasking while “IMing” (Junco & Mastrodicasa, 2007). These technologies have facilitated constant and immediate communication, so Millennials stay connected 24/7 to their family members and friends (Certiport, 2005). Junco and Mastrodicasa (2007) found that students spoke with their parents an average of 1.5 times a day.

Millennial students arrive at community colleges having been consumers of technology their entire lives, able to use technology in ways previous generations scarcely understand. To meet these students’ needs, Frand (2000) insisted that a new vision of higher education teaching and learning be developed to make information technology an integral part of the teaching and learning process: “we need to transform the educational experience so that it is meaningful to the information-age learner” (p. 24).

## *Veterans*

When U.S. President Franklin D. Roosevelt proposed educational assistance for returning veterans, he emphasized the necessity of educating the country's 2.2 million veterans. The Servicemen's Readjustment Act of 1944 or "G.I. Bill" has been widely hailed as the most "democratizing" policy related to American higher education. As Larabee (1997) explains, "After the Second World War, higher education became the object of the demand for equal access, leading to an extraordinary expansion of enrollments—to the point where attendance at a postsecondary institution became the norm rather than the exception" (p. 46). Today, more than 1.5 million service members have been deployed in military operations in Iraq and Afghanistan since 2001. These and other veterans attend college under the reformed Montgomery GI Bill (MGIB) which became effective in July 1985 (Montgomery, 1994). The MGIB was most recently revised in August 2009 to include a substantial monthly housing allowance (USDVA, 2009), making full-time study even more accessible for millions of veterans. "Under the new GI Bill expanded by Congress last year, the number of military veterans either starting or continuing their studies this fall is expected to top 460,000, up from 354,000 last autumn" (Hall, 2009), a 24% increase.

Military students' aspirations take them to community colleges. In 2007-2008, "nearly three out of five students who used GI Bill benefits at the top 500 institutions that serve such students enrolled in a community college or a for-profit [associate degree] institution" (Field, 2008). According to a survey of 12,301 students involved in Army-sponsored online education, "51% were completing coursework toward an associate's

degree or in addition to an associate's degree. An additional 36% were working in an effort to earn a bachelor's degree. Six percent of participants were attempting to earn a master's degree" (McMurray, 2007). Moreover, in October 2008, the Initiators Conference on the Community Reintegration of Service Members and Veterans convened the first in a series of cross-sector summits sponsored by Survivor Corps and Veterans' Coalition. Summit attendees identified "return to school and work" as one of six key issues for veterans. (Belanger et al., 2009). With this in mind, some colleges have taken steps to serve the military market. "About ten percent of all institutions with online have offerings that have specifically been designed to serve the U.S. military student" (Allen & Seaman, 2008).

Today's veterans are a large and diverse group, including both Millennials and nontraditional students. According to the 2000 U.S. Census, veterans constitute at least 10% of the civilian population in every state. Veteran students are often better prepared for college than their non-military peers. In addition to providing educational funding to veterans, provisions in the MCIB increased the proportion of high school graduates among those joining the military. By 1994, nearly every active duty recruit had a high school diploma, up from 54% in 1980 (Montgomery, 1994). Although academically prepared, veterans face a number of unique challenges in college including "campus bureaucracy, crowds that can trigger alarm instincts honed by war, and fellow students who don't understand their battlefield experiences" (Hall, 2009). Additionally, "online education opportunities may present unique challenges for our military and veteran

students, not because these education programs are unworthy or ineffective, but because of their potential isolating effect” (Pollard, 2009).

## **Understanding Online Education**

### ***A Brief History***

Technology-facilitated education is a relatively new phenomenon. Although distance education offerings were available as early as the 1700s in the form of correspondence courses, technology-facilitated education first appeared when audiovisual equipment was introduced into classrooms in the early 1900s. The first catalog of instructional films was published in 1910 (Reiser, 2001). Thomas Edison proclaimed in 1903 that, due to the invention of film, “It is possible to teach every branch of human knowledge with the motion picture. Our school system will be completely changed in the next ten years” (Saettler, 1968, p. 68). So goes the history of distance education: new technologies are introduced (including motion pictures in the 1900s, radio in the 1930s, and television in the 1940s), higher education adopts the technology, and grand predictions are made—few of which come to fruition.

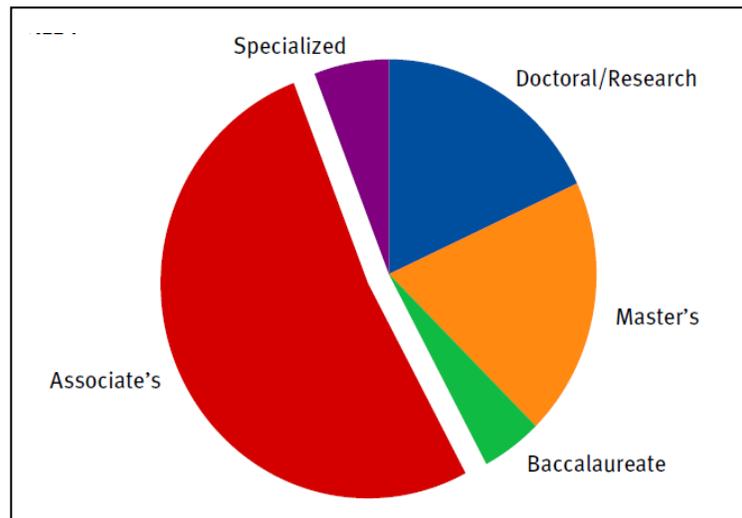
The case of online education may prove different. As Johnson and Aragon (2002) assert, while each successive media innovation “had some impact on educational programs, they did little to change the fundamental nature of education. The Internet and computer technology, as the next generation of technological innovation to impact distance education, appears to have the power to significantly alter the education landscape” (p. 1022). Harrison and Stephen (1996) observe, “We have witnessed a revolution in scholarly communication, which, it is now widely acknowledged, will be

comparable only to the invention of the printing press in its impact upon research and education” (p. 12).

Although experiments with computer-based education began almost as soon as computers were developed, online education began in earnest in the 1990s. The invention of the World Wide Web in 1992 made distance education accessible to students anywhere Internet access could be established (Harasim, 2000). Allen and Seaman (2008) describe the birth of online higher education: “The earliest pioneers began their efforts just over a decade ago; 15% of institutions with current online offerings introduced their first online courses prior to 1999” (p. 7). In 2000, the Web-Based Education Commission (2000) stated, “The Internet is perhaps the most transformative technology in history, reshaping business, media, entertainment, and society in astonishing ways...But for all its power, it is just now being tapped to transform education” (p. 1).

Today, nearly a decade later, community colleges are on the forefront of an online education boom. “Since 2001, there has been a major shift in instructional modes and the number of students taking distance education courses...Undoubtedly, the majority of these classes are offered on line [sic]” (Gueverra, 2007, p. 140). Based on the distance education classifications first proposed by the Sloan Consortium in 2002 and widely adopted by researchers in the field, an online course is one in which at least 80% of the course content is delivered online; typically, online courses have no face-to-face meetings (Sloan-C, 2008). As shown in Figure 1, more than half (52%) of online college students are enrolled in associate degree programs.

**Figure 1: Fall 2007 Online Enrollments by Type of Higher Education Institution**



(Allen & Seaman, 2008)

The number of institutions offering online courses continues to increase exponentially: “fully one in five institutions with online courses introduced their first offerings this past year” (Allen & Seaman, 2008, p. 7). Correspondingly, online enrollments continue to grow at rates far faster than classroom enrollments, and two-year associate degree institutions have the highest growth rates, accounting for over one-half of all online enrollments for the last five years (Allen & Seaman, 2007, p. 1). Additionally, “associate’s institutions have consistently been overrepresented among the online student population compared to their share of higher education student enrollments” (Allen & Seaman, 2008, p. 6). More than 1.9 million community college students currently take classes online (Allen & Seaman, 2008).

A number of environmental and individual factors have coincided to drive increases in online education. As the educational requirements for tomorrow’s jobs

continue to increase (BLS, 2008b), the benefits for individuals who obtain higher education and the consequences for those who do not correspondingly grow, encouraging more students to pursue higher education. With increasing unemployment rates (BLS, 2008a), more students flock to community colleges in search of new job skills. In 2009, in fact, “community colleges are reporting increases in just about every major type of program they offer—with notable increases online” (Jaschik, ¶2).

Additionally, community colleges facing shrinking budgets and scarce resources may see online education as an alternate way to fulfill their mission of open access. Trow (1999) and Harasim (2000) explicated the variety of ways online education breaks down barriers to higher education, allowing teaching and learning to occur anytime, anywhere, for virtually anyone. Geographic obstacles, time constraints, even physical disabilities can be transcended by technology. Around-the-clock access allows “everyone to have a voice, overcoming challenges, and traditional discrimination factors, such as ageism, sexism, and racism” (Harasim, 2000, p 53). A 2007 survey of 2,500 colleges and universities found that student access headed the reasons why institutions offer online education. Among the study’s findings were these:

Those institutions with online offerings...were asked to rate the importance of various factors in their decision to provide online offerings. Increasing student access was by far the most frequently cited reason for offering online courses, with 63% of institutions saying this was *Very Important* and an additional 30% rating it as *Important*. Another access-related issue, attracting students from outside the institution’s traditional

service area, was the second most cited reason. More than one-half (53%) of all institutions said this was *Very Important* to their decision and 28% said it was *Important* (Allen & Seaman, 2007, p. 17).

While students may enjoy the access, flexibility, and convenience afforded by Internet-facilitated education, the online environment also offers some challenges for learners. To successfully navigate online courses, students must have an Internet connection, computer literacy skills, and the ability to self-motivate.

### ***Challenges for Learners***

Internet access is perhaps the most fundamental need of online students. Fortunately, almost three-quarters (74%) of Americans use the Internet; however, student demographics factor into the likelihood of connectivity. According to the December 2008 Pew Internet & American Life Project (PIALP) tracking survey, Internet users include:

- 63% of those living in rural areas (compared to 71% in urban and 74% in suburban areas); and
- 61% of those with annual household incomes less than \$30,000 (compared to an average of 80% of those with annual household incomes of over \$33,000 per year—a percentage that rises to 94% for those with annual household incomes of \$75,000 or more).

More than half (58%) of Hispanics, 64% of African Americans, and 77% of whites are online (PIALP, 2008).

In addition to being connected to the Internet, online students also must possess the technology knowledge and skills needed to navigate course management systems

(CMSs). This competency is called “computer literacy,” a term Computer Literacy USA (2009) defines as:

An understanding of the concepts, terminology and operations that relate to general computer use. It is the essential knowledge needed to function independently with a computer. This functionality includes the ability to solve and avoid problems, adapt to new situations, keep information organized and communicate effectively with other computer literate people.

Alongside computer literacy, online students must be motivated and disciplined about their learning. In many online learning courses, students must assume primary responsibility for initiating learning experiences. Some students are simply unprepared for the level of self-motivation and self-discipline required to initiate the work (Dutton, Dutton, & Perry, 2002), while others—especially first-time students—may lack the necessary independence and time management skills needed for persistence in online courses (Shale, 1990).

Previous research demonstrates that as students gain experience in online courses, they become more successful in the online education environment. For instance, Wojciechowski (2005) found a positive and statistically significant relationship between previous online courses and the grade in the course. Moore and Kearsley (1996) and Ehrman (1990) also found that the number of online education courses previously completed were related to future success in online education, suggesting both that students can develop the computer literacy and learner skills demanded by online courses and that less successful students may choose to return to on-campus classes or drop out.

“The online educational experience can be more stimulating and encourage more critical thinking, but only if the students have a clear understanding of this new learning venue” (Wojciechowski, 2005).

In an effort to improve online education outcomes, researchers and practitioners have focused on three key areas of inquiry: the effects of technology on learning, the efficacy of specific pedagogical approaches, and the level of student and faculty satisfaction with e-learning.

### ***Focus on Technology***

One approach to evaluating online education has focused on determining whether technology usage makes online education as good as or better than classroom education (Arbaugh, 2000; Hiltz & Wellman, 1997)—generally an unproductive and frustrating approach. The empirical evidence demonstrating that technology improves student outcomes is inconsistent. Researchers and practitioners have focused primarily on the use of educational software in teaching and learning situations in an attempt to document its impact on student achievement. However, isolating the medium (technology) from the message (teaching and learning content) has met with mixed results. This lack of definitive evidence affects all levels of education, but particularly higher education (Krentler & Willis-Flurry, 2005).

However, even as researchers struggle to quantify the impact of technology media on learning, the messages (teaching and learning content) clearly are getting through: “We now have good and ample evidence that students generally learn as much online as they do in traditional classroom environments” (Swan, 2003, p. 1). In multitudes of

media comparison studies (MCS), researchers have compared student outcomes for two courses delivered through two different methods in an attempt to identify a superior media for teaching and learning. While isolated studies have found that students enrolled in online courses score lower on academic assessments and drop out at higher rates than students enrolled in on-campus courses (Diaz, 2000; Conklin, 2007), the vast majority of research suggests that students learn just as well online as they do on campus. For example, the *No Significant Difference* website ([www.nosignificantdifference.org](http://www.nosignificantdifference.org)) provides hundreds of MCS from 1928 to the present. Originally based on Russell's (2001) meta-analysis of 355 different research studies and grounded in Clark's (1983) theory of educational delivery, the website collection indicates that there is no significant difference in learning effectiveness between online and on-campus education when the independent variable was the method of course delivery. In a 2009 meta-analysis of online learning studies, Means, Toyama, Murphy, Bakia, and Jones, found that students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction.

### ***Focus on Pedagogy***

A second approach to evaluating online education offerings focuses on pedagogy. Based on the large body of “no significant difference” findings, some researchers have attempted to demonstrate the effectiveness of specific pedagogical approaches. As Johnson and Aragon (2002) argue: “The primary factor in any instructional initiative, irregardless [sic] of format or venue, is the quality of the instructional design that is ultimately implemented” (p. 1022). Much of this work is based upon Chickering and

Gamson's *Seven Principles for Good Practice in Undergraduate Education*, updated for online learning and propagated by The TLT Group (Chickering & Ehrmann, 1996). The seven principles state that good educational practice:

- Encourages contacts between students and faculty
- Develops reciprocity and cooperation among students
- Uses active learning techniques
- Gives prompt feedback
- Emphasizes time on task
- Communicates high expectations
- Respects diverse talents and ways of learning

Empirical studies underpin these approaches with examples of on-campus classroom practices institutions have used to increase student engagement and persistence including: active learning activities such as class discussions (Braxton, Milem, & Sullivan, 2000); out-of-class experiences (Terenzini, Springer, Pascarella, & Nora, 1995); use of student support services, such as advising and peer counseling (Chaney, Muraskin, Cahalan, & Goodwin, 1998); and student satisfaction with academic development (Thomas, 2000). Similar research has demonstrated the efficacy of these and related practices in online courses, including: class discussions (Arbaugh, 2000; Dennen & Wieland, 2007; Flowers & Cotton, 2007); collaborative work and group projects (Roberts, 2003; Stahl, 2006); incorporation of audio feedback (Ice, Curtis, Phillips, & Wells, 2007); and student services for distance education (Dalziel & Payne, 2001; Floyd & Casey-Powell, 2004).

Groups such as the American Distance Education Consortium ([www.adec.edu](http://www.adec.edu)) have published guidelines for web-based teaching and learning using the pedagogical approaches and principles employed in effective on-campus instruction. Others, such as Quality Matters ([www.qualitymatters.org](http://www.qualitymatters.org)), have focused on developing methodologies and processes to certify the quality of specific online courses and online pedagogical components. With these efforts, Gueverra (2007) asserts, “General skepticism associated with e-learning is dissolving. Both administrators and faculty now report that online classes are as good as or even superior to traditional classes.”

### ***Focus on Satisfaction***

A third approach to evaluating online education focuses on student satisfaction. Many empirical studies over time have demonstrated that online students are as satisfied or more satisfied with their educational experiences than their on-campus peers (Alavi, Wheeler, & Valacich, 1995; Seaberry, 2008).

For example, in a study of 231 students in a college health education course, Diaz (2000) used an 11-question satisfaction survey to compare levels of student satisfaction between online students and on-campus students. While online students dropped the course more frequently (13.5% drop rate for online students versus a 7.2% drop rate for on-campus students), those who persisted were more satisfied with multiple aspects of their course than were their on-campus peers. Ridley and Sammour (1996) conducted a similar study using an Instruction Evaluation Survey (IES) to examine student satisfaction and performance in online courses. Convenience sampling was used in the distribution of the survey because students typically self-select into such classes.

Performance data for online and traditional courses were obtained from the instructors. While they also noted high dropout rates (25 to 30%) in the online classes studied, the online students who persisted expressed greater satisfaction with their educational experience and were more likely to enroll in subsequent online courses.

### ***Changing the Focus to Online Education***

Exploring the effects of technology on learning, evaluating the efficacy of specific pedagogical approaches, seeking to create successful individual online classes, and determining student and faculty satisfaction are useful activities in the pursuit of effective online instruction. However, these approaches alone cannot fully assess the quality of a community college's online education program. A college may implement any number of discrete approaches within individual online classes or even offer a variety of "quality certified" courses, yet still fail institutionally to ensure all of their online students are provided with the educational environment and support they need to succeed. To assess overall quality, community colleges need a research-based institutional measure similar to the Community College Survey of Student Engagement (CCSSE) but appropriate to the unique nature of online education.

### **Understanding Student Engagement**

Since the early 1980s, academic success in college, particularly persistence in courses and degree programs, has been positively associated with *student engagement*, the time and energy that students devote—inside and outside the classroom—to activities that matter to their education (NSSE, 2004, ¶ 2). Astin's (1984) involvement theory described five categories of involvement and sought to explain how involvement

impacted student outcomes. Tinto's (1993) interactionist theory highlighted experiences in which students and teachers achieve intellectual synergy. While the majority of Astin and Tinto's research focused on four-year institutions and traditional-aged residential students, these theories have informed research into student engagement at the community college level. The five CCSSE benchmarks operationalize these theories and provide a measurement tool community colleges can use to evaluate the level of student engagement in their face-to-face classes.

### ***Astin's (1984) Involvement Theory***

Astin (1984) defined involvement as “the amount of physical and psychological energy that the student devotes to the academic experience” (p. 134). Astin posited that “student learning and development is proportional to the quantity and the quality of student involvement” (Chaves, 2006, p. 142). Astin (1984) researched five categories of involvement: academic involvement, faculty involvement, involvement with peers, involvement with work, and involvement elsewhere (time watching T.V., commuting, attending religious services). He found that the most important category was faculty involvement since teachers had the greatest influence over what students actually accomplished. Astin (1984) then suggested that involvement has two elements: (a) one qualitative, based on level of commitment; and (b) one quantitative, based on time devoted. Therefore, student learning and development are driven by the quantity and quality of student involvement, and “the effectiveness of any educational policy or program is correlated to that program's ability to increase the level of student involvement” (Chaves, 2006, p. 143). Astin (1984) posited that minimal faculty-student

interaction in community colleges might be an explanation for low levels of student persistence and retention at those institutions. Extending this line of reasoning, low faculty-student interaction online likely is a factor in online student attrition, as well.

### ***Tinto's (1975/1987) Interactionalist Theory***

Tinto's (1993) interactionalist theory of students assumes that students come to college with a wide variety of differing backgrounds, socioeconomic statuses, and levels of preparedness. In addition, he asserted that students also bring unique skills and abilities to their studies, as well as a personal level of commitment to their educational goals. According to Tinto (1975), a student's level of commitment—and therefore, potential for academic success—can be raised or lowered by the extent to which a student becomes academically and socially integrated into the social and educational communities at the college. For Tinto, student persistence “hinges on the construction of educational communities in college, program, and classroom levels which integrate students into the ongoing social and intellectual life of the institution” (1987, p. 188).

Although much is known about student engagement in on-campus courses, less is known about student engagement in online courses. A few key models are helping explain the components and function of engagement in the online education environment.

### **Understanding Online Student Engagement**

Interpersonal interactions—between student and teacher and among students—are a common element of learning in a classroom environment (Stubbs, 1976) and a key component to on-campus student engagement (CCSSE, 2010). Chickering and Gamson (1987), Fulford and Zhang (1993), Kearsley (1995), Picciano (2002) and others have

demonstrated the importance of student interactions in online courses, as well. However, interactions that may occur spontaneously in face-to-face environments must be intentionally facilitated in an online environment. The amount and quality of student interaction may be even more critical to student success in an online class than in an on-campus classroom.

In studies of student interaction, the concept of “presence” has emerged (Gunawardena, 1995; Picciano, 2002; Garrison & Anderson, 2003). Presence is the perceptual “illusion of nonmediation,” the sense of “being there” that occurs when users of a technology or media overlook its role in their experience (Lombard & Ditton, 1997; ISPR, 2009). Students’ interactions and their sense of presence are distinct features of the online environment (Garrison & Cleveland-Innes, 2005). As Picciano (2002) explains:

As the definition of presence has expanded and evolved, a distinction is being made between interaction and presence, emphasizing that they are not the same. Interaction may indicate presence but it is also possible for a student to interact by posting a message on an electronic bulletin board while not necessarily feeling that she or he is a part of a group or a class. If they are different, then it is also possible that interaction and presence can affect student performance independently. (p. 22)

Among the emerging models of presence in online education (Alavi & Leidner, 2001; Benbunan-Fich, Hiltz, & Harasim, 2005), one has attracted the most attention: Garrison and Anderson’s (2003) Community of Inquiry (CoI) model. A Google Scholar

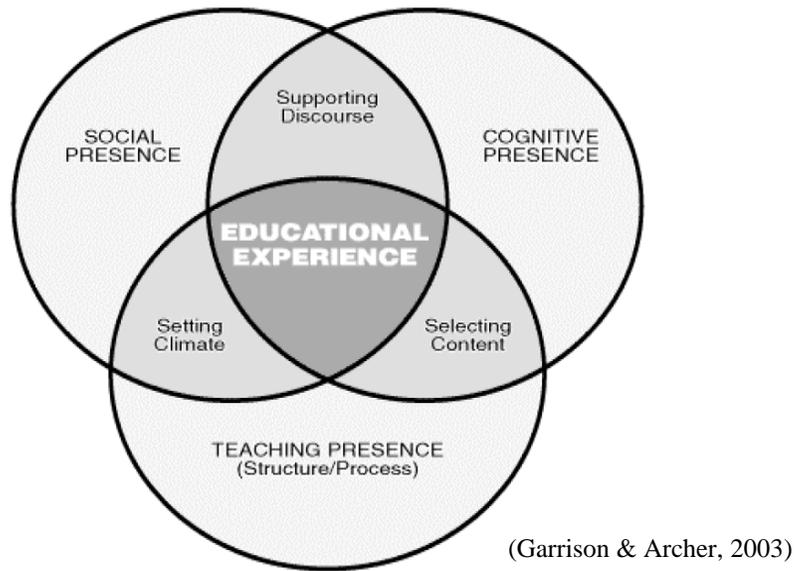
search shows their 2003 book cited 556 times, eclipsed only by their previous seminal article on the same topic (Garrison, Anderson, & Archer, 2000).

### ***Garrison and Anderson's (2003) Community of Inquiry Model***

Instructional technology is designed to facilitate student-student and student-teacher interaction through synchronous and asynchronous communication tools. The potential of these tools to foster interactivity, as well as the growing use of computer conferencing in higher education, prompted the development of a new model that synthesizes traditional classroom teaching and learning with the unique characteristics of technology-facilitated teaching and learning to create a framework for effective practice in online education—the Community of Inquiry (CoI) model (Garrison, Anderson, & Archer, 2000). While investigators of online learning are most familiar with Garrison, Anderson, and Archer's use of the term “community of inquiry,” Lipman (2003) explains that the term can be attributed originally to the 19th century philosopher Charles Sanders Peirce, who used it to refer to a community of scientists. John Dewey (1902) broadened the term and applied it to other educational contexts. Still, due to intensive research into online learning communities, the term is most often used today in reference to distance education.

Garrison and Anderson's (2003) Community of Inquiry model includes three interdependent elements—teaching presence, cognitive presence, and social presence—as shown in Figure 2. Teaching presence is reflected in the efforts of the instructor to create and ensure the continued functionality of the online learning environment and the interactions that take place within it. Cognitive presence refers to the intellectual

**Figure 2: Community of Inquiry Model**



environment of the online course and is associated with critical thinking, reflection, and discourse. Social presence describes the sense of belonging individuals achieve when they are able to project themselves socially and emotionally as “real” people and to engage in meaningful, reciprocal, personal interactions with other individuals within a technology-mediated environment. As Cutler (1995) explains, “social presence in cyberspace takes on more of a complexion of reciprocal awareness by others of an individual and the individual’s awareness of others. . . to create a mutual sense of interaction that is essential to the feeling that others are there” (p. 18). Garrison (2007) went on to further refine the concept of social presence, shifting from the original focus on personal relationships and socio-emotional support to a focus on educationally purposeful relationships and group cohesion.

In developing a measurement tool for online education in community colleges, the CoI model provides an important component not found within CCSSE: Presence. The five CCSSE constructs—Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners—include some of the behavioral elements that contribute to cognitive, teaching, and social presence in the CoI model. However, since CCSSE was developed for on-campus courses, it was hypothesized in this study that the addition of Presence as an independent construct would round out the CCSSE constructs and create a complete model appropriate for use in community college online courses.

### **Summary**

This chapter described the rise of online education in community colleges. Four distinct groups of students—part-time students, nontraditional students, Millennials, and military veterans—were introduced, and the overlapping challenges faced by these students in the online environment were discussed. Finally, the key theories of student engagement that provide the basis for this study were explored.

Empirical research demonstrates that student engagement figures strongly in student success (Tinto, 1993; Chavez, 2006; McClenney & Marti, 2006; CCSSE, 2010). Through the creation of an online survey of student engagement and examination of student engagement amongst the four distinct groups of students described, this study will contribute both to research on student engagement and to practice in the growing field of online education. Chapter three will provide a review of the methodology,

research questions, research design, and conceptual framework for this study. Details about the study sample also will be discussed.

## CHAPTER III: METHODOLOGY

### **Introduction**

Improving student outcomes in community college online education programs requires understanding how institutional practices, student behaviors, and student characteristics affect levels of online student engagement. This chapter describes the research design used in this study to examine online student engagement in community colleges. The purpose of the study, research questions, methodology, instrument, sample, data collection procedures, and data analysis are discussed, followed by a summary of the chapter.

### **Purpose of the Study**

The purpose of this study was threefold. First, this study sought to explore the validity of the new construct Presence, developed from the literature for use in measuring community college online student engagement. Second, this study measured and compared the engagement levels of groups of community college online students on the five previously-validated constructs—Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners. Finally, this study identified institutional practices that could improve engagement for online students in community colleges.

### **Research Questions**

1. How engaged are community college online students on the following factors: Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, Support for Learners, and Presence?

2. Are there significant differences in the level of engagement among and between online students based on demographic characteristics, enrollment status, and student experiences including the following:
  - a. gender (male, female);
  - b. race/ethnicity (White, non-Hispanic; Black or African American, non-Hispanic; Hispanic, Latino, or Spanish; Other);
  - c. age (traditional, nontraditional);
  - d. enrollment status (full-time, part-time);
  - e. experience in online classes (demonstrated by number of online college credits); and
  - f. veteran status (veteran, non-veteran).
3. What institutional practices are suggested by the data to be supportive of online student engagement in community colleges?

### **Research Methodology & Design**

An *ex post facto* quantitative methodology was used to determine online student engagement levels. Quantitative methodology was selected because this approach allows for the collection and analysis of large data sets. *Ex post facto* (literally “after the fact” in Latin) uses observations or reports gathered after the occurrence of a phenomena. *Ex post facto* research is particularly suited to educational contexts where the independent variable or variables are outside the investigator’s control (Cohen, Manion, & Morrison, 2007). “The method [*ex post facto* quantitative] yields useful information concerning the

nature of phenomena—what goes with what and under what conditions. In this way, *ex post facto* is a valuable exploratory tool” (Cohen, Manion, & Morrison, 2007, p. 268).

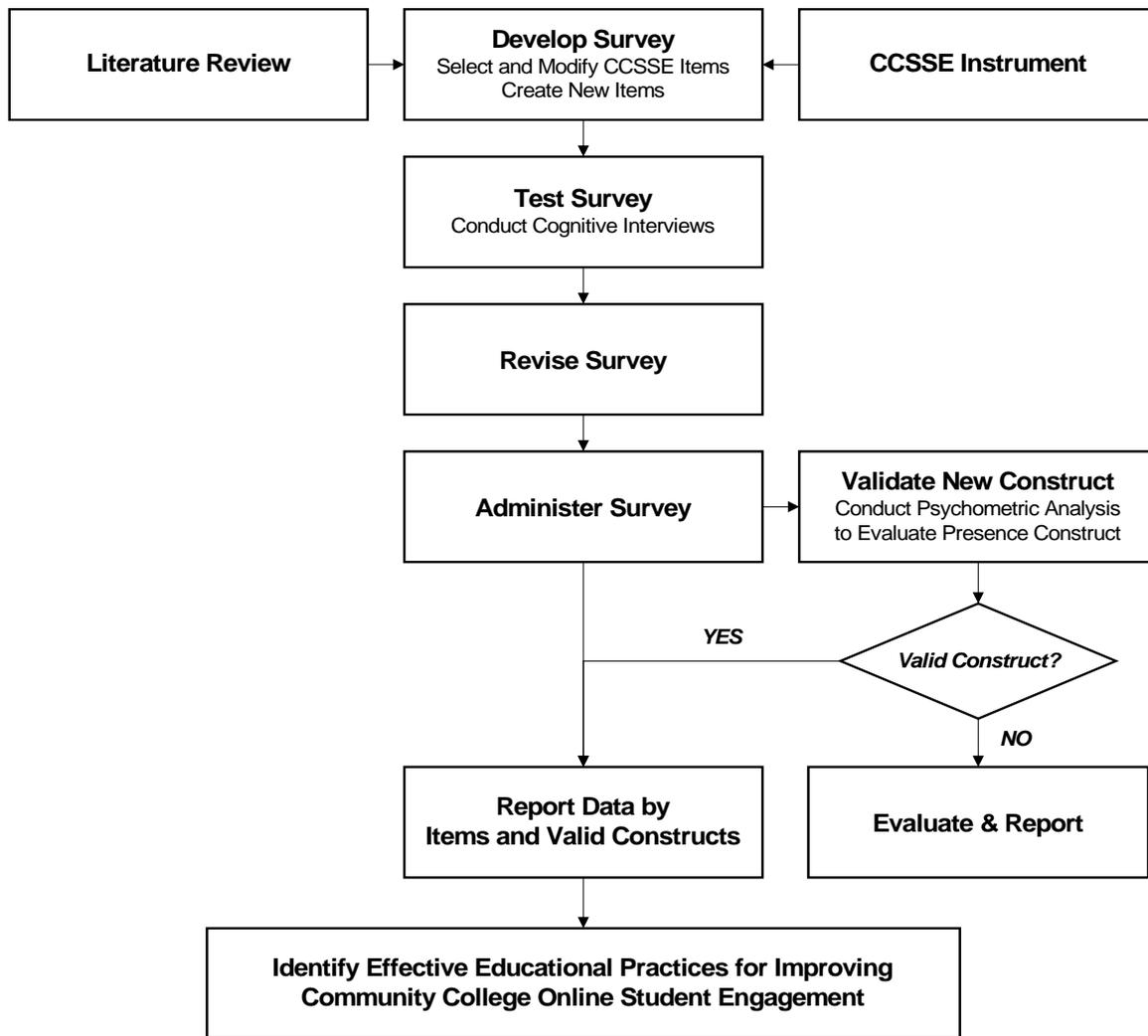
Research design is the strategy used to integrate the various components of a research project in order to address a defined set of questions (Trochim & Land, 1982). As Trochim and Donnelly (2006) explain: “It is the ‘glue’ that holds all of the elements in a research project together” (Design, ¶ 1). The conceptual framework for the research design of this study is provided in Figure 3. While this study is grounded in student engagement theory, it is essentially exploratory, and therefore inductive, in nature. As Trochim and Donnelly (2006) explain, “most social research involves both inductive and deductive reasoning processes at some time in the project” moving from theories to observations to patterns and back to theories (Deduction & Induction, ¶ 3).

### **Instrument Development**

There are many ways to collect data, and surveys are not appropriate in all circumstances. As Czaja and Blair (2005) explain, a survey is an appropriate data collection tool if the target population is clearly defined “so that its members can be unequivocally identified” and the goals of the analysis are statistical in nature (p 3). This study meets those criteria, making a survey an appropriate way to collect the data required to answer the research questions.

The survey developed for this study was aimed at determining community college online student engagement based on six constructs (Gunawardena, 1995; Marti 2004). A total of 215 items, grouped into 59 survey questions, were included in the Survey of

**Figure 3: Conceptual Framework for Study Research Design**



Online Student Engagement (SOSE) instrument. With permission from the Center for Community College Student Engagement, 36 engagement questions were adopted from the Community College Survey of Student Engagement (CCSSE) instrument, then slightly modified as needed to ensure suitability for the online education environment. With minor terminology changes, these items illuminate five constructs: Active and

Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners. These items are listed in Table 1. Forty (40) new items were developed from the literature to illuminate elements of Presence. These items are shown in Table 2. Additionally, descriptive and demographic items were included to allow for data cleaning and data analyses by student groups. All items included in SOSE are listed in the codebook in Appendix 2.

### ***Instrument Validity***

As noted, the SOSE instrument included a number of survey items previously validated for on-campus settings through CCSSE research (McClenney & Marti, 2006), and by the National Survey of Student Engagement (NSSE), which is administered to four-year colleges and universities in the United States (Kuh, Kinzie, Schuh, Whitt, & Associates, 2005). The new items were developed based on an extensive literature review. All survey items were pre-tested with eight community college students using cognitive interviews, an approach to survey questionnaire design widely recognized in the body of methodological research (Sirken et al., 1999; Lessler & Sirken, 1985; Campanelli, Martin, & Rothgeb, 1991; Jobe & Mingay, 1991). Cognitive interview participants included a cross-section of students, including individuals from each of the student groups of particular interest to this study. Table 3 describes the cognitive interview participants' demographic characteristics and experiences. As noted previously, community college students frequently fit into multiple categories; this was the case with the cognitive interview students.

**Table 1: SOSE Items / CCSSE Constructs**

**Active and Collaborative Learning**

- Asked questions in class or contributed to class discussions
- Made a class presentation
- Worked with other students on projects during class
- Tutored or taught other students (paid or voluntary)
- Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)

**Student Effort**

- Prepared two or more drafts of a paper or assignment before turning it in
- Worked on a paper or project that required integrating ideas or information from various sources
- Participated in an online discussion without completing readings or assignments
- Number of books read on your own (not assigned) for personal enjoyment or academic enrichment
- Preparing for ONLINE class (studying, reading, writing, rehearsing, doing homework, viewing recorded lectures, or other activities related to your program)
- How often have you used this service? [peer or other tutoring]
- How often have you used this service? [skills lab (writing, math, etc.)]
- How often have you used this service? [creation or hosting of an e-portfolio, blog, or personalized web page]

**Academic Challenge**

- Worked harder than you thought you could to meet an instructor's standards or expectations
- Analyzing the basic elements of an idea, experience, or theory
- Synthesizing and organizing ideas, information, or experiences in new ways
- Making judgments about the value or soundness of information, arguments, or methods
- Applying theories or concepts to practical problems or in new situations
- Using information you have read or heard to perform a new skill.
- Number of assigned textbooks, manuals, books, or book-length packs of course readings (including e-books and online texts)
- Number of written papers or reports of any length
- To what extent have your examinations in your ONLINE classes during the current school year have challenged you to do your best work at this college?
- Encouraging you to spend significant amounts of time studying

**Student-Faculty Interaction**

- Discussed grades or assignments one-on-one with an instructor
- Talked about career plans with an instructor or advisor
- Discussed ideas from your readings or classes one-on-one with instructors
- Received prompt feedback (written or oral) from instructors on your performance
- Worked with instructors on activities other than coursework
- Interacting WITH ONLINE INSTRUCTORS (chats, e-mails, discussion forums, phone calls, text messages, etc.)

**Support for Learners**

- Providing the support you need to help you succeed at this college
- Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
- Helping you cope with your non-academic responsibilities (work, family, etc.)
- Providing the support you need to thrive socially
- Providing the financial support you need to afford your education
- How often have you used this service? [academic advising]
- How often have you used this service? [career counseling]

**Table 2: SOSE Items / Presence**

- Moderated a class discussion
- Skipped class activities
- Missed deadlines for class assignments
- Encountered technical problems that disrupted your work for online classes
- Brainstormed or discussed solutions with another student about an issue not directly related to coursework
- Sought tutoring or advice on academic matters from another student
- Shared articles, links, or course materials with another student
- Mark the number that best represents how well it [course website] helps your learning.
- Mark the number that best represents how easy it [course website] is to use.
- Providing “virtual” spaces for casual or informal socializing among online students
- Using online social networking tools to connect to people at this college
- Organizing off-campus programs designed for online students like yourself (for example, travel-study trips, field trips, internships, externships, or service-learning programs)
- Inviting you to attend on-campus events (for example, sporting events, guest lectures, cultural presentations, and graduation ceremonies)
- Interacting WITH OTHER ONLINE STUDENTS (chats, e-mails, discussion forums, phone calls, text messages, etc.)
- How would you rate your proficiency in using a computer for ONLINE LEARNING?
- Which kind of interaction helps you LEARN BEST when participating in ONLINE conversations (discussion boards, live chats, etc.)?
- Received clear descriptions of course goals
- Received a clear introduction to course topics
- Received information about the starting times for activities, due dates, grading criteria, and other class policies
- Received information from instructors about the college in general (for example, add/drop deadlines, how to contact advisors, financial aid, etc.)
- Received direction from instructors that keeps you engaged and heading in the right direction
- Received guidance on ground rules for discussion and online participation
- Received explanations that corrected or confirmed your understanding of the material
- Received feedback on a regular basis that helped you keep track of your progress in a class
- Received recognition from instructors for your contributions
- Received recognition from classmates for your contributions
- Hesitated to express your ideas for fear of negative comments or criticism
- Participated in activities for students to get to know one another
- Worked with classmates or in groups to explore new terms, concepts, and ideas
- I perceive the personalities of others in my class as if we were together in person
- I am able to reveal my personality to my classmates and instructor (at least as much as I want to reveal)
- In online discussions, my classmates’ responses are random or isolated, making it hard to have a meaningful conversation
- When I interact with my instructors, it is a genuine conversation
- My instructors do a good job of making people feel like a part of the class
- Online assignments and activities make me curious or interested in the topics
- I feel free to express ideas and opinions in my class
- Did you take part in an orientation that showed you how ONLINE classes work at this college prior to the beginning of classes?

**Table 3: Cognitive Interview Participants by Demographics and Experiences**

Student	Age	Gender	Race	Married / Children	Enrollment Status	Online Enrollment	Online Courses	Veteran Status
1	23	Male	White	No / No	Full-time	Blended	>15 hrs	None
2	28	Male	White	Yes / No	Full-time	Blended	>15 hrs	None
3	31	Female	Black	No / Yes	Part-time	Blended	<15 hrs	Veteran
4	21	Female	Hispanic	No / No	Full-time	Blended	<15 hrs	None
5	25	Male	Black	Yes / No	Part-time	Online only	>15 hrs	None
6	31	Male	Black	No / Yes	Full-time	Blended	>15 hrs	None
7	32	Male	Hispanic	No / No	Part-time	Online only	>15 hrs	Active
8	33	Male	White	Yes / No	Full-time	Online only	>15 hrs	Veteran

The cognitive interviews were aimed at reducing item nonresponse due to word choice or ambiguity of questions, as well as reducing survey nonresponse due to unanticipated concerns. Results from the cognitive interviews informed survey item revision prior to administration. However, the most important observation from the interviews was the difficulty blended students had in differentiating between the online, blended, and on-campus classes they had taken. When asked about experiences in online courses only, blended students consistently answered the question based on their entire college experience. When asked, each interviewee understood the “online classes” item prompt; however, the blended students were observed to adhere to the prompt on fewer than one-fifth (~20%) of the items to which it applied.

## **Description of Sample**

The survey was administered to students enrolled in online college-level classes (credit courses only) at five participating research sites including four community colleges and one statewide community college online consortium. A census sample methodology was determined to be the most appropriate for study.

### ***Site Selection***

The five survey research sites were recruited for participation in the study. An email invitation was sent to 39 current CCSSE member colleges and four non-member colleges who had expressed interest in volunteering to participate in such research. Criteria for selection included: (a) size of online education program with priority given to creating a mix of program sizes; (b) institutional ability to post messages within all selected courses; (c) institutional culture of and faculty support for course-level research; and (d) CEO's willingness to sign the SOSE participation agreement and assign an employee to coordinate on-site activities. The survey research sites varied in location, online enrollment size, and the percentage of total student population in online classes, as shown in Table 4. Per the SOSE participation agreement, the research sites are identified by name with enrollment information here, but detailed information about the sites and survey results are presented anonymously or in aggregate for the remainder of this study.

### ***Census Sample***

Each college provided an online course master data file (OCMDF) listing all college-level online courses offered in the fall 2009 academic term. The following courses were excluded: non-credit classes; dual-enrollment courses offered entirely for

**Table 4: Survey Research Sites by Location and Enrollment**

Research Site	State	Unduplicated Online Headcount Fall 2009	Percentage Student Population at Site
Florida State College at Jacksonville <a href="http://www.fccj.edu">www.fccj.edu</a>	FL	6,569	26.3%
Iowa Community College Consortium <a href="http://www.iowacconline.org">www.iowacconline.org</a>	IA	7,410	27.5%
Rio Salado College <a href="http://www.riosalado.edu">www.riosalado.edu</a>	AZ	18,649	99.3%
Southwest Tennessee Community College <a href="http://www.southwest.tn.edu">www.southwest.tn.edu</a>	TN	1,624	15.3%
Vernon College <a href="http://www.vernoncollege.edu">www.vernoncollege.edu</a>	TX	1,426	50.8%

high school students; non-credit ESL classes; lab sections associated with another course; and individual instruction or independent study courses. All remaining credit courses, including developmental education courses, were included. The following information was provided for each online course (formats in parentheses):

- a. Department (string)
- b. Course name (string)
- c. Course number (string)
- d. Section number (string)
- e. Instructor first name (string)
- f. Instructor last name (string)
- g. Actual number enrolled (numeric)
- h. Start date (date)
- i. End date (date)

While the CCSSE sampling procedure creates a random sample of on-campus courses, this methodology proved unsuitable for online courses. An analysis of the

OCMDFs revealed that online course listing procedures varied widely among the sites, making it difficult to create a sampling protocol appropriate for all sites. Online class sections typically are not assigned a location/room nor a day/time, so these variables were not available to help distinguish individual sections. Additionally, some sites “cross list” sections by creating a master course containing two or more sections taught by the same instructor through the same course homepage. These multi-section courses had the potential to skew the sample among the participating research sites. For these reasons, a census sampling method was used.

The use of a census sample approach reduces sampling bias and sampling error as all members of the population are able to participate in the study; however, since participants self-select for participation in the survey, nonresponse bias may be increased. It should be noted that a low response rate does not necessarily indicate bias. When respondent characteristics are representative of the population, including nonrespondents, low rates of return are not biasing (Krosnick, 1999; Dillman, 2000). In addition, Arbaugh and Hiltz (2005) note, using a multi-institution approach can increase external validity and statistical power.

## **Procedures and Data Collection**

### ***Obtaining Informed Consent***

The CEO of each research site participating in the study signed the SOSE agreement form stating the parameters of the study, including public reporting of aggregate findings. In addition, when students opened the online survey, they were provided with a written description of the study and were required to actively agree to

participate by clicking an on-screen agreement button before launching the survey questionnaire, as shown in Appendix 1. In the description of the study, students were assured that (a) participation was completely voluntary, (b) no identifying personal information would be collected, and (c) all results would be reported in aggregate. The students participating in the cognitive interviews were provided with a printed version of the description of the study and also signed a similar consent form.

### ***Research Protocol***

From the colleges invited to participate, nine indicated they could meet the study requirements in the fall 2009 academic term. Five sites were selected as previously described. Each site submitted the SOSE agreement form signed by the CEO, and provided a consent letter the Institutional Review Board (IRB) overseeing this study. Each CEO identified an on-site survey coordinator to facilitate sampling and data collection. The on-site survey coordinators each submitted an OCMDF by October 1, 2009, and provided additional information upon request.

A website link (URL) to the survey and site-specific log-in credentials were provided to the on-site survey coordinator at each research site. At each research site, the URL and log-in credentials were posted prominently on all college-level online course homepages from Monday, October 12, 2009 through Friday, November 20, 2009. On-site survey coordinators also sent follow-up emails to students enrolled in the survey courses to promote participation in the research. Students accessed the survey via the web link to complete the survey online.

As shown in Appendix 1, the survey instrument was published via a proprietary web-based survey software application owned by the Center for Community College Student Engagement and hosted on a secure server at The University of Texas at Austin. The survey application required students to log in using the institutional credentials (username and password) provided in the survey invitation message. After entering the log-in credentials, all respondents included in the study actively agreed to the IRB-approved consent statement. Responses were stored in a SAS format in a secure electronic database at the Center for Community College Student Engagement.

### ***Preparing Data Set for Analysis***

Preparation of the data set for analysis was completed in three steps: cleaning the data set, defining variables in SPSS, and creating dummy variables for the independent variables.

Cleaning the data: The data set originally included 2,259 survey responses stored as SAS records. The records were exported to SPSS, and the variables were defined as shown in the SOSE codebook in Appendix 2. In SPSS, the records were sorted based on four criteria. Records in which the student indicated that he or she was under the age of 18 (item #58) or had taken the survey in another online class (item #3) were discarded. In addition, two qualifying questions ensured each record included the following pieces of information necessary for data analysis: item #1 enrollment type (online only/online and on-campus); and item #2: enrollment status (full-time/part-time). Records missing one or both of these of these pieces of information were excluded from the data set. The cleaned data set included 2,085 records.

Defining the variables: Variables were defined according to CCSSE codebook protocol. Like items on CCSSE and SOSE share similar variable names (e.g. the item variable ENRLMENT on CCSSE equates to the item variable SENRLMNT on SOSE). New SOSE variables were named using similar taxonomy. Levels of measurement were defined for all variables, as shown in the codebook in Appendix 2. Measurement scales differ in their level of measurement. Trochim and Donnelly (2006) define the four common levels of measurement as follows:

- **Nominal scales** are only labels.
- **Ordinal scales** are ordered but the interval between values is not interpretable. Equal intervals on an ordinal scale do not imply equal intervals on the underlying trait.
- **Interval scales** are ordered and the interval between values is interpretable. Equal intervals on an ordinal scale represent equal intervals on the underlying trait. However, interval scales do not have a true zero point.
- **Ratio scales** are interval scales that do have a true zero point.

### ***Variables***

Variables are either independent or dependent. In experimental research, the independent variables generally are associated with “cause” and can be influenced or manipulated by the researcher, while the dependent variables are associated with “effect” and are passively observed. In nonexperimental research such as this *ex post facto* quantitative study, independent variables cannot be manipulated, but can be statistically controlled during analysis. In observational research, the independent variable is often

called the predictor variable, while the dependent variables may be referred to as criterion variables (Kachigan, 1991). Often independent or predictor variables allow for grouping of respondents, for example: males vs. females; full-time vs. part-time; or traditional vs. nontraditional. The dependent or criterion variable, on the other hand, is affected by the independent variable and may describe an outcome.

For the purpose of this study, the independent variables were student characteristics listed as 14 subgroups in six categories: (1) gender: male and female (SSEX); (2) race/ethnicity: White, non-Hispanic; Hispanic; Black or African American, non-Hispanic; Other (DWHITE, DBLACK, DHISPANC, DOTHER); (3) age: traditional and nontraditional (DNONTRAD); (4) enrollment status: part-time and full-time (SENROLMNT); (5) experience in online classes: experienced and inexperienced (DEXPONLIN); and (6) veteran status: veteran and nonveteran (DVETSTAT).

Dependent variables included the 36 items used to create the five CCSSE constructs (shown in Table 1) and 40 items developed from literature to illuminate aspects of the Presence construct (shown in Table 2), as well as the demographic and descriptive variables shown in Appendix 2.

The variable SCLUNPRE (*Participated in an online discussion without completing readings or assignments*) was reverse-scored to create an accurate measurement to be included in the Student Effort construct. Reverse-scoring ensured that the positive behavior indicated by the response *never* had a higher positive impact on the construct score (mean) than the negative behavior indicated by the response *very often*. Similarly, the following four items also were reverse-scored to align the low score with

the negative experience or behavior indicated and to align the high score with the lack of that negative behavior or experience:

- SRANDOM (*In online discussions, my classmates' responses are random or isolated, making it hard to have a meaningful conversation*)
- SNOTRUST (*Hesitated to express your ideas for fear of negative comments or criticism*)
- SSKIPCLA (*Skipped class activities*)
- SMISSDLN (*Missed deadlines for class assignments*)

### **Data Analysis**

SAS and SPSS analytics software were used to analyze the survey data. “SAS provides a range of techniques and processes for the collection, classification, analysis and interpretation of data to reveal patterns, anomalies, key variables and relationships, leading ultimately to new insights” (SAS, 2009). SPSS provides a similarly wide range of techniques, and is among the most commonly used programs for statistical analysis in social sciences (SPSS, 2009). Exploratory factor analysis was attempted using MPlus software, a statistical modeling program that provides graphical displays of data and analysis results (Muthen & Muthen, 2009).

### ***Proposed Exploratory Factor Analysis***

The proposed study research design included exploratory factor analysis (EFA), a statistical technique extensively utilized in the social sciences (Gorsuch, 1983). The purpose of factor analysis is the “orderly simplification” of several interrelated measures using statistical procedures (Burt, 1940). In this study, the desired “simplification” would

support the existence of new construct Presence for use, along with the five CCSSE constructs, in assessing student engagement.

The sample size needed for exploratory factor analysis is at least 5 to 12 times the number of items (Mundfrom, Shaw, & Ke, 2005). Costello and Osborne (2005) point out that, “even at relatively large sample sizes EFA is an error-prone procedure.” Even at a 20:1 case-to-item ratio, they demonstrated error rates well above the standard  $\alpha = .05$  level (Costello & Osborne, 2005). After data cleaning, 75 complete cases were available for EFA. The EFA would have included 76 of the 215 survey items, resulting in a <1:1 case to item ratio.

A variety of methods are available for dealing with incomplete data. The simplest is list-wise deletion, the removal of cases with missing data. Since the number of complete cases was so low ( $N=75$ ), this approach would not work for this study. Another common method is mean substitution, which replaces missing data with the average of valid data for the variable in question. However, Wayman (2003) explains that because each missing case is replaced with the same value, mean substitution “artificially reduces the variance of the variable in question, in addition to diminishing relationships with other variables” (p. 3). Still another method for dealing with incomplete data is multiple imputation, a simulation-based approach in which statistically-based scores are created for missing data. However, while it has been demonstrated that multiple imputations introduce less estimation bias than list-wise deletion (Hair, Anderson, Tatham, & Black, 1998), this approach still would not have yielded a sufficient sample size for a sound factor analysis. Therefore EFA was not conducted, and the Presence construct was not

validated; therefore, no composite construct score or “benchmark score” could be created for the Presence construct. Instead, the 40 items originally developed to explore Presence were analyzed and reported individually by student groups.

### *Creating Composite Construct Scores*

Composite scores were created for the five CCSSE constructs. A three-step process was used to create these composite construct scores. First, the 36 CCSSE construct items were converted to a common scale (0-1), creating a dummy variable for each item. The following formula was used to accomplish this conversion:

$$\text{ConvertedScore} = (\text{OriginalScore} - 1) / (\text{MaxResponse} - 1)$$

Next, a raw composite score was created for subgroups of students. Using the rescaled dummy variables, an average was calculated of respondents’ scores on the CCSSE items related to each construct. For example, the following formula was used to create the raw composite score for the Active and Collaborative construct:

$$\text{ACTCOLL} = (12a + 12b + 12g + 12h + 12o) / 5$$

Finally, these raw scores were normalized to a mean of 50 with a standard deviation of 25 to create new composite construct scores. The following formulas were used in a two-step process to create the standardized scores:

$$z \text{ Score} = \frac{(\text{Mean} - \text{OriginalScores})}{\text{CalculatedStandardDeviation}}$$

$$\text{StandardizedScore} = (z \text{ Score} \times \text{PredeterminedStandardDeviation}) + \text{Predetermined Mean}$$

### ***Item Comparisons***

In addition to creating standardized scores for the five CCSSE constructs, several statistical procedures were used to compare item responses and measure engagement levels among groups of community college online students, as well as to identify implications for practice. Descriptive and inferential statistics including frequency distributions, cross tabulation tables, t-tests, and nonparametric tests were used to describe the basic features of the data and then to identify differences among and between subgroups of students. An effect size was calculated. The subgroups used in the study were chosen due to their use in previous studies, appropriateness at the institutions where the study was conducted, and utility to the field. Sydenstricker (2007) cautions that although statistical tests are “strong in internal validity and can parallel other non-equivalent designs in terms of validity threats, interpretation of results might be difficult” (¶ 17). Even so, the use of a quantitative *ex post facto* research allows a thorough analysis of engagement levels of online students in community colleges provided due care is taken in interpreting the results.

### ***Criteria Used to Determine Statistically Significant Difference***

According to CCSSE guidelines, to show a significant and practical difference between the two groups, the probability level for each variable must be at .001 or less, and the effect size (Cohen’s *d*) must be equal to or greater than 0.20. In this study, the probability level was taken from the statistical output (independent sample t-test (sig. 2 tail column)), and the effect size was calculated using the following formula:

$$\text{Effect Size} = \text{Difference in Means} / \text{Pooled Standard Deviation}$$

## Summary

This chapter described the research design used to examine online student engagement in community colleges. The purpose of the study, research questions, methodology, instrument, sample, data collection procedures, and data analysis were discussed. By evaluating the engagement levels of community college online students through an *ex post facto* quantitative methodology, the analysis of SOSE results provided the data necessary to answer the research questions and provide new information to both researchers and practitioners.

## CHAPTER IV: DATA ANALYSIS AND FINDINGS

### **Introduction**

The purpose of this study was to investigate online student engagement exploring the existence of a new construct (Presence) for use, along with the five CCSSE constructs (Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners) in measuring community college online student engagement, then to measure and compare the engagement levels of groups of community college online students. Ultimately, this information suggested institutional practices with the potential to improve engagement for online students in community colleges. The Survey of Online Student Engagement (SOSE) was administered over an eight week period in Fall 2009 to online community college students at five research sites across the nation. This chapter provides additional information about the statistical methods delineated in chapter three and the findings from the statistical analysis conducted to answer the research questions.

The analysis and findings are divided into four sections. The first section provides a profile of the online survey respondents using descriptive statistics. The second section determines the appropriate population for the remainder of the study by comparing the characteristics, experiences, and engagement levels of two types of online students: those taking classes exclusively online, referred to as “online only” students; and those taking classes both online and on campus, referred to as “blended” students. The final sections use inferential statistics to answer the second and third research questions, comparing the engagement levels of online students on the six constructs of engagement and exploring

differences in levels of engagement among disaggregated groups of online students. The findings from the statistical analysis in this chapter will frame the answer to the third research question—implications for practice—presented along with conclusions in chapter five.

## **Analysis**

### ***Profile of Respondents***

The survey resulted in a total of 2,259 survey respondents. The total unduplicated fall headcount of online student at the five research sites was 35,678, so the survey response rate was 6.3%. Response rates at the research sites ranged from 1% to 19%.

After the data were cleaned according to the criteria discussed in chapter three, a total of 2,085 records were available for analysis. Frequency distributions were run to determine characteristics of this group. While all five research sites had data systems in place to collect student demographics, the ability to disaggregate data by online status varied by site. Of the five research sites, four were able to provide some demographic information about their fall 2009 online students. Table 5 provides comparisons of survey respondent demographics to the research sites' online student demographics, as available. Since the online student population demographic data from the research sites were incomplete, examining respondent characteristics compared with the national community college student population (AACC, 2009) provided an additional perspective.

Table 6 compares survey respondents to the national population of community college students.

**Table 5: Survey Respondents Compared to Sample Population Demographics**

<i>Gender</i>	SOSE Respondents	Site A	Site B	Site C	Site D	Site E
Female	79%	67%	*	75%	65%	*
Male	21%	33%	*	25%	32%	*
Other/unknown	-	-	-	-	3%	*
<i>Race/Ethnicity</i>						
White	69%	76%	89%	33%	58%	*
Hispanic	6%	13%	5%	2%	13%	*
Black	18%	7%	3%	61%	10%	*
Other	7%	4%	3%	4%	19%	*
<i>Enrollment Status</i>						
Full-Time	47%	*	14%	*	10%	*
Part-Time	53%	*	86%	*	90%	*

\* Data unavailable.

**Table 6: Survey Respondents Compared to National Community College Student Population Demographics**

<i>Gender</i>	SOSE Respondents	Nat'l Community College Student Population*
Female	79%	58%
Male	21%	42%
Other/unknown	-	-
<i>Race/Ethnicity</i>		
White	69%	58%
Hispanic	6%	15%
Black	18%	13%
Other	7%	8%
<i>Enrollment Status</i>		
Full-Time	47%	41%
Part-Time	53%	59%
<i>Other characteristics</i>		
Average age	35	29
First generation to attend college	33%	39%
International student, non-U.S. citizen	2%	8%

\* AACC, 2009.

In addition to the demographic data provided in Table 5 and Table 6, half (50%) of survey respondents were married, and 58% had children living with them. Almost half (44%) worked more than 30 hours per week, and 52% spent more than 20 hours per week caring for dependents. While 70% considered themselves *proficient* or *expert* in using a computer for online learning, 23% say their online class website hinders their learning ( $\leq 4$  or less on item #16a).

Overall, the respondents appear to be reasonably representative of the online student populations at the research sites, as far as available data allow comparison. However, compared to the national community college student population more of the survey respondents were female (+21%), White, non-Hispanic (+11%), and attending college full-time (+6%). Whether gender, race/ethnicity, and enrollment status are factors in the level of online student engagement is addressed in the analysis and findings for the second research question.

### ***Study Population***

Of the 2,085 respondents in the cleaned data set, 906 (43%) reported taking classes exclusively online, while 1,179 (57%) reported taking classes both online and on-campus. As previously mentioned, these groups are defined as “online only” and “blended” respectively. Given the cognitive interview observations described in chapter three, further inquiry into the similarities and differences in characteristics and experiences between these two groups was needed to avoid potential confounding factors in the study. As Pearl (1998) explains:

If we undertake to estimate the effect of one variable (X) on another (Y) by examining the statistical association between the two...the presence of spurious association, due to the influence of extraneous variables, is called *confounding* as it tends to confound our reading and to bias our estimates of the effect studied. (p. 1)

This study examines the relationship of student characteristics to online education engagement levels, if significant differences existed between the online only and blended respondent groups, the supplementary experiences and engagement opportunities encountered by students participating in both online and on-campus classes could create spurious associations. Therefore, if significant differences appear between the two groups of online students, only respondents taking classes exclusively online should be included in additional analyses.

The analysis of online only and blended students was conducted in two steps. The first step involved examining the frequency of responses to survey items. A frequency table of all non-string variables by online only, blended, and all respondents is included in Appendix 3. Key similarities and differences between online only and blended students are summarized in Table 7.

Overall, online only student respondents tended to be older than their blended peers. Online only respondents also were more likely to be enrolled part-time and more likely to have previous successful college experiences (higher GPAs and degrees attained), but less likely to have certain plans to continue on their current educational

**Table 7: Descriptive Comparison of Survey Respondents: Online Only-Blended**

	Online Only Students	Blended Students	All Respondents
Female	79%	79%	79%
Non-traditional age (25 years or older)	81%	73%	76%
Married	55%	46%	50%
Children living with them	58%	58%	58%
Part-time enrollment status	70%	40%	53%
Military veteran	8%	10%	9%
Work more than 30 hours per week	59%	42%	49%
Spend more than 20 hours per week caring for dependents	52%	52%	52%
Overall grade point average: "C or better"	92%	93%	93%
Overall grade point average: "A"	31%	24%	27%
Hold an associate degree	20%	17%	18%
Hold a bachelor's degree or higher	12%	5%	8%
Consider themselves <i>proficient</i> or <i>expert</i> in using a computer for online learning	74%	66%	70%
Say online class website hinders their learning*	21%	25%	23%
Uncertain/No plans to return to college	19%	12%	16%

\*  $\leq 4$  on a scale of 1 to 7 in which 7= "It helps my learning" and 1="It hinders my learning.'

track. While equal percentages of online only and blended students have children living with them and spend considerable time (21+ hours per week) caring for dependents, online only students are more likely to have substantial work schedules (30+ hours per week). Additionally, while 43% of respondents attended classes exclusively online, the majority (93%) of these online only students reported going to campus at least once, most frequently for advising (43%) or to register for courses (37%). Online only students were least likely to go to campus to meet with an instructor (10%) or meet with other students (5%).

Moreover, blended students were somewhat more likely than their online only peers to choose online courses due to institutional course scheduling. The most common reasons online only students cited for choosing to attend class online were *fits work schedule* (43%) and *to stay home due to family commitments* (18%). While blended students also cited those two reasons, *fits work schedule* (41%) and *to stay home due to family commitments* (13%), 16% of blended students chose an online course because *the class or section I needed was only available online* compared to 3% of online only students who indicated this was their reason for choosing an online course.

After establishing that there were noteworthy differences in the characteristics and experiences of online only students as compared to blended students, it was important to determine if there were statistically significant differences in these two groups' responses to the engagement items. In the second step of the analysis to determine the appropriate population for the remainder of the study, independent-sample t-tests were run for the 36 engagement variables used to create the five CCSSE constructs, as well as the 40 Presence items, described in chapter three. Effect sizes were calculated to determine whether a significant and practical difference existed between the two groups.

As shown in Table 8, of the 36 items comprising the six CCSSE constructs, six showed a significant difference. These six were clustered in the Student Effort and Support for Learners constructs. In terms of Student Effort, online only students reported spending more time *preparing for ONLINE class*, demonstrating a mean difference of 0.25, while blended students were more likely to have used a *skills lab* (0.42) and to have used *peer or other tutoring* (0.29). Blended students had higher levels of engagement

**Table 8: Significant Differences in Item Responses: Online Only-Blended**

	Online Only Mean	Online Only Std Dev	Blended Mean	Blended Std Dev	Mean Diff	Sig (2 Tail)	Effect Size
20a. Preparing for ONLINE class (studying, reading, writing, rehearsing, doing homework, viewing recorded lectures, or other activities related to your program)	2.51	1.161	2.26	1.177	0.25	0.000	0.21
30b. How often have you <u>used</u> this service? [peer or other tutoring]	0.40	0.715	0.69	0.888	-0.29	0.000	-0.35
31b. How often have you <u>used</u> this service? [skills lab (writing, math, etc.)]	0.60	0.835	1.02	0.930	-0.42	0.000	-0.47
19c. Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	2.45	1.092	2.67	1.067	-0.22	0.000	-0.21
19e. Providing the support you need to thrive socially	1.98	1.02	2.22	1.042	-0.24	0.000	-0.23
19f. Providing the financial support you need to afford your education	2.44	1.125	2.74	1.078	-0.30	0.000	-0.28
21. How would you rate your proficiency in using a computer for online learning?	3.91	0.861	3.71	1.026	0.20	0.000	0.21
19h. Using social networking tools to connect to people at this college	2.15	1.047	2.43	1.048	-0.28	0.000	-0.27
19i. Organizing off-campus programs designed for online students like yourself	1.65	0.922	1.85	0.998	-0.20	0.000	-0.21
19j. Inviting you to attend on-campus events	2.02	1.039	2.35	1.111	-0.33	0.000	-0.31

NOTE: In all comparison charts, CCSSE items are listed by construct; Presence items are listed to illustrate conceptual relationships. Survey order is indicated by item number.

than online only students on all seven items in the Support for Learners construct, but only three were statistically significant: *encouraging contact among students from different economic, social, and racial or ethnic backgrounds*, with a mean difference of 0.22; *providing the support you need to thrive socially* (0.24); and *providing the financial support you need to afford your education* (0.30).

An analysis of the 40 Presence items, revealed four with a significant difference. Online only students rated their *proficiency in using a computer for online learning*

higher than their blended peers (0.20). However, blended students were more likely to report *using social networking tools to connect to people at this college* (0.28).

Additionally, blended students were significantly more likely to feel their colleges emphasized *organizing off-campus programs designed for online students like yourself* (0.20) and *inviting you to attend on-campus events* (0.33).

Data analysis revealed clear and significant differences between the online only and blended respondent groups' characteristics, behaviors, and experiences. Given these differences, combining the responses of the two groups could lead to inaccurate conclusions about the engagement of community college online students. Therefore, subsequent analyses focused on those respondents taking classes exclusively online.

### **Research Question 1**

*How engaged are community college online students on six factors: Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, Support for Learners, and Presence?*

The purpose of the first research question was to measure the engagement level of community college online students. Since the Presence construct could not be validated in this study, the analysis to answer this question focused on the five CCSSE constructs: Active and Collaborative Learning, Student Effort, Academic Challenge, Student-Faculty Interaction, and Support for Learners.

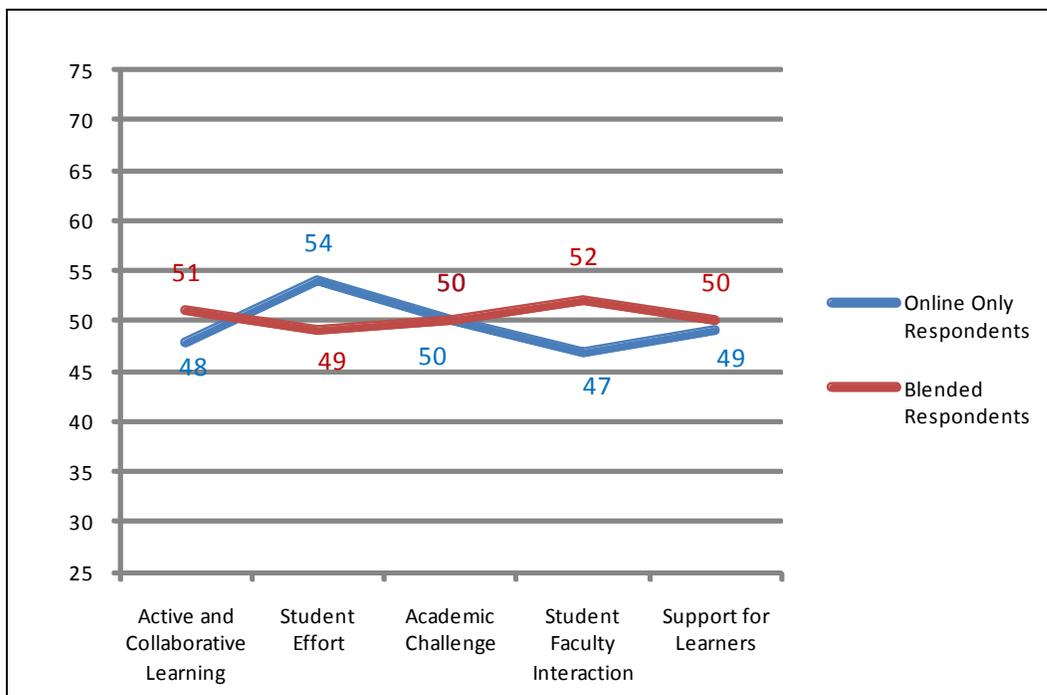
A three-step approach was used to answer this question. First, the 36 CCSSE construct items were converted to a common scale (0-1), and a dummy variable was created for each re-scored item. Then raw composite scores were created for subgroups of

students by using the rescaled dummy variables to calculate an average of respondents' scores on the CCSSE items related to each construct. Finally, to allow easy comparison across constructs, the raw composite scores were normalized to a mean of 50 with a standard deviation of 25 to create new standardized construct scores (or “benchmark scores”).

The standardized construct scores created in this study serve to demonstrate the relative engagement levels of subgroups of respondents. Similar analysis in future studies could allow comparisons among colleges or programs; however, due to agreements with the research sites, this study focused on the aggregate population of respondents.

Figure 4 illustrates the engagement levels of online students on the five CCSSE constructs. As previously demonstrated through item comparisons, notable differences

**Figure 4: Standardized Scores on CCSSE Constructs: Online Only-Blended**



exist between online only and blended students. These differences are apparent in the composite construct scores. Online only and blended students scored the same on Academic Challenge, indicating that both groups found their college experiences equally rigorous. Online only students scored higher than blended students on Student Effort, but lower on the remaining constructs, suggesting that respondents found courses taught exclusively online required more work on their part while offering less interaction with faculty, fewer opportunities for collaboration, and less support.

Benchmark scores create visual “snapshots” of the relative engagement levels of subgroups of students, rolling related items into a single construct or concept. Such composite scores offer a concise way to view large data sets while also simplifying sets of complex behavioral interactions into concrete, measurable concepts. However, the usefulness of composite scores diminishes as the size of the data set is reduced. The fewer cases available within each construct item, the greater the magnitude of the effect of each individual case on the composite score.

For example, veterans compose just 8% of online only respondents. Converting the raw composite Student Effort construct scores for veterans and nonveterans resulted in standardized scores of 34 and 66, respectively. However, an analysis of the eight items composing the Student Effort construct showed no significant difference between veterans and nonveterans. In this instance, the composite score would be misleading, indicating that veterans were exerting far less effort in online courses than their nonveteran peers which clearly is not the case based on item analysis.

This study focuses on 14 sub-groups within six categories of respondents, which are discussed in detail in the next section. The calculation of composite construct scores for these subgroups of students yielded three statistically useful comparisons. These are detailed within the Race/Ethnicity, Enrollment Status, and Experience in Online Classes subgroup discussions under research question two.

### **Research Question 2**

*Are there significant differences in the level of engagement among and between online students based on demographic characteristics, enrollment status, and student experiences?*

The purpose of the second research question was to further explore online student engagement by disaggregating the data into 14 subgroups in six categories:

1. gender (male, female);
2. race/ethnicity (White, non-Hispanic; Hispanic; Black or African American, non-Hispanic; other);
3. age (traditional, 18-24 years of age; nontraditional, 25+ years of age);
4. enrollment status (full-time/part-time);
5. experience in online classes (experienced,  $\geq 15$  college credit; inexperienced,  $<15$  online college credit hours);
6. veteran status (veteran, non-veteran).

To answer this question, a three step approach was used. First, dichotomous dummy variables were created in SPSS to define subgroups for race/ethnicity, age, experience in online classes, and veteran status, as detailed in chapter three. The

dichotomous variables for gender (SSEX) and enrollment status (SENRLMNT) existed in the original data set and were used for this study. Next, frequency distributions on demographic and descriptive survey items were run to determine similarities and differences between subgroups of respondents. Finally, to find differences in engagement levels, independent-sample t-tests were run for the 36 engagement variables used to create the five CCSSE constructs, as well as for the 40 Presence variables developed for SOSE. While the Presence construct could not be validated in this study, the items developed from the literature to illuminate the construct provided additional insight into the behaviors and experiences of the subgroups of online students. For each variable with a 2-tail significance of  $< 0.001$ , an effect size was calculated to determine whether significant and practical difference existed. The results are provided by category; demographic characteristics of each subgroup are discussed and significant differences on engagement variables are highlighted.

### ***Gender***

The majority (79%) of online only survey respondents were female, and just over one-fifth (21%) were male. As shown in Table 9, equal percentages of male and female respondents were enrolled part-time and full-time. Male respondents tended to be older, with 8% more men than women in the non-traditional age (25+ years old) group. The majority of both male and female respondents were married; however, more female respondents had children living with them than did their male counterparts. Almost one-fifth (19%) more women than men spent substantial time (21+ hours per week) caring for dependents, while 9% more men than women worked 30+ hours per week. Male

**Table 9: Descriptive Comparison of Survey Respondents: Gender**

	Male	Female
White, non-Hispanic	72%	77%
Black or African American, non-Hispanic	12%	12%
Hispanic	10%	4%
Other race/ethnicity	6%	7%
Non-traditional age (25 years or older)	87%	79%
Married	61%	54%
Children living with them	51%	60%
Part-time enrollment status	69%	69%
Work more than 30 hours per week	67%	58%
Spend more than 20 hours per week caring for dependents	38%	57%
Hold an associate degree	24%	19%
Hold a bachelor's degree or higher	15%	12%
Experienced online learners (completed 15 or more hours)	39%	40%
Consider themselves <i>proficient</i> or <i>expert</i> in using a computer for online learning	74%	76%
Uncertain/No plans to return to college	23%	18%

respondents were more likely than female respondents to hold associate degrees or higher. Still, a higher percentage of men compared than women *had no plans to return to college* or were *uncertain* about when they would take classes again.

An analysis of the 36 items comprising the five CCSSE constructs and the 40 additional Presence items revealed no significant difference between male and female respondents.

### ***Race/Ethnicity***

Four race/ethnicity subgroups were examined in this study: White, non-Hispanic; Black or African American, non-Hispanic; Hispanic, Latino, or Spanish; and Other. For

simplicity, these are referred to as “white,” “black,” “Hispanic,” and “other races” for the remainder of the text.

The majority (75%) of online only respondents were white, while 13% were black, 5% were Hispanic, and 7% were of other races. The four subgroups had many similarities and a few key differences, as shown in Table 10. The majority of respondents were enrolled part-time, though the subgroup percentages ranged from just over half (53%) to more than three-quarters (79%). All subgroups were predominantly nontraditional-age women; the largest percentage of traditional age respondents (24%) appears in the other race subgroup, while the largest percentage of males (43%) appeared in the Hispanic subgroup. More than half of each subgroup had children living with them and reported spending 21+ hours each week caring for dependents. The biggest differences appeared in online experience, with greater percentages of black and white

**Table 10: Descriptive Comparison of Survey Respondents: Race/Ethnicity**

	White	Black	Hispanic	Other
Female	80%	80%	57%	79%
Non-traditional age (25 years or older)	79%	93%	86%	76%
Married	57%	51%	55%	47%
Children living with them	57%	63%	54%	63%
Part-time enrollment status	69%	75%	79%	53%
Work more than 30 hours per week	60%	42%	71%	46%
Spend more than 20 hours per week caring for dependents	53%	52%	55%	50%
Hold an associate degree	19%	29%	17%	29%
Hold a bachelor's degree or higher	13%	6%	10%	5%
Experienced online learners (completed 15 or more hours)	40%	41%	33%	36%
Consider themselves <i>proficient</i> or <i>expert</i> in using a computer for online learning	78%	51%	20%	25%
Uncertain/No plans to return to college	19%	16%	22%	26%

students having completed at least 15 semester hours online. Hispanic respondents were the least experienced with online courses and therefore, not surprisingly, the least likely to consider themselves *proficient* or *expert* in using a computer for online learning. Even so, of the four subgroups, respondents of other races were the most likely to indicate they *had no plans to return to college* or were *uncertain* about when they would take classes.

Presence items were analyzed for each of the four race/ethnicity subgroups. As shown in Table 11, just one subgroup showed a significant difference on CCSSE items. White students were more likely (0.32) than their non-white peers to have *participated in an online discussion without completing readings or assignments*, a Student Effort item. However, white students were less likely (-0.34) than non-whites to feel their colleges were *providing the support you need to thrive socially*, a Support for Learners item.

Three subgroups showed a significant difference on six of the 40 Presence items. White respondents were less engaged (-0.33) with *using online social networking tools to connect with people at this college* and were less likely (-0.30) to report they *received direction from instructors that keeps you engaged and heading in the right direction*. While black respondents were significantly more positive (0.52) in reporting that their colleges emphasized *organizing off-campus programs designed for online students like yourself*, white respondents were significantly less positive (-0.52) on this item. Respondents of other races were less likely (-0.34) to have *missed deadlines for class assignments*, a reverse-scored item. The greatest difference among subgroups also had

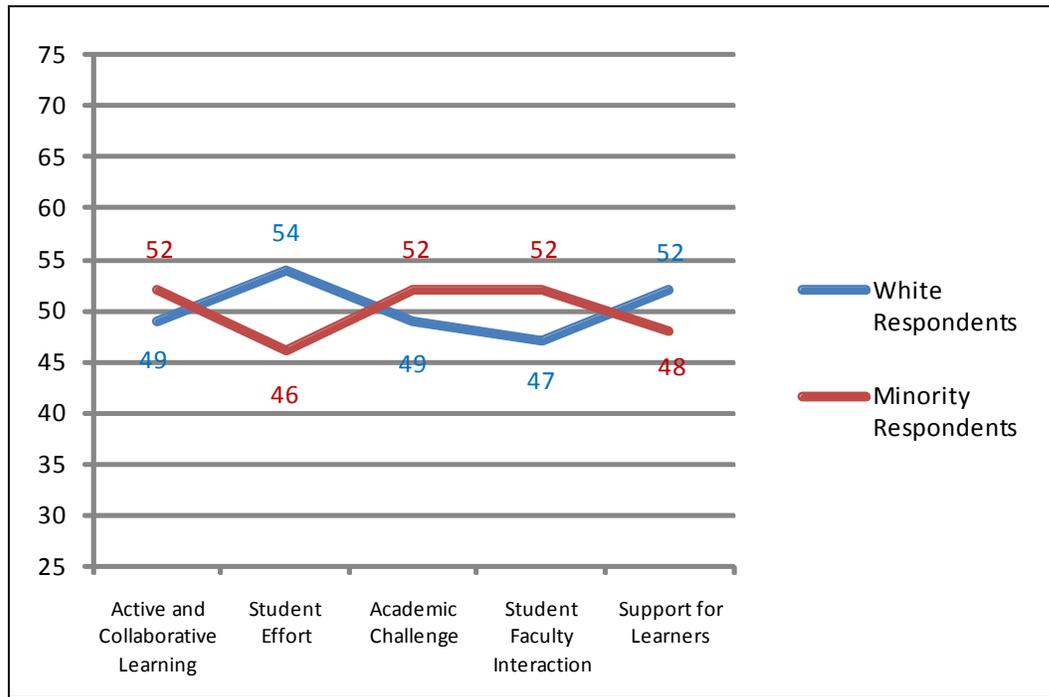
**Table 11: Significant Differences in Item Responses: Race/Ethnicity**

	White Mean	White Std Dev	Non- White Mean	Non- White Std Dev	Mean Diff	Sig (2 Tail)	Effect Size
<i>WHITE</i>							
12f. Participated in an online discussion without completing readings or assignments	3.37	0.924	3.05	1.076	0.32	0.001	0.33
19e. Providing the support you need to thrive socially	1.91	0.992	2.25	1.114	-0.34	0.001	-0.33
19h. Using online social networking tools to connect to people at this college	2.10	1.061	2.43	1.037	-0.33	0.001	-0.31
19i. Organizing off-campus programs designed for online students like yourself	1.54	0.842	2.06	1.050	-0.52	0.000	-0.58
25f. Received direction from instructors that keeps you engaged and heading in the right direction	2.87	0.928	3.17	0.854	-0.30	0.001	-0.33
<i>BLACK</i>							
19f. Organizing off-campus programs designed for online students like yourself	2.12	1.078	1.60	0.881	0.52	0.000	0.57
<i>RACE OTHER</i>							
12q. Missed deadlines for class assignments	3.28	0.897	3.62	0.561	-0.34	0.001	-0.58
25i. Hesitated to express your ideas for fear of negative comments or criticism	2.89	0.924	3.48	0.759	-0.59	0.000	-0.77

The greatest effect size: respondents of other races were less likely (-0.59) to report *having hesitated to express your ideas for fear of negative comments or criticism*, another reverse-scored item.

Figure 5 illustrates the engagement levels of white and minority (non-white) online students on the five CCSSE constructs. Further disaggregation into minority subgroups yielded too few cases for reliable composite scores. White students scored highest on Student Effort and Support for Learners, and lower on the other three constructs.

**Figure 5: Standardized Scores on CCSSE Constructs: Race/Ethnicity**



### *Age*

The majority (81%) of online only survey respondents were 25 years of age or older, making them nontraditional students, while just under one-fifth (19%) were traditional students 18 to 24 years old. Based on data shown in Table 12, both nontraditional respondents and their traditional-age counterparts were primarily white females, though the traditional age subgroup had higher rates of both characteristics. A larger percentage of younger respondents were enrolled full-time: 40% of traditional students compared to 29% of nontraditional students. While both traditional and nontraditional respondents had considerable commitments outside of college, higher percentages of older students were married (+35%), had children living with them (+37%), spent more than 30 hours per week working (+24%), and spent 21 or more hours

per week caring for dependents (+27%). Not surprisingly, having had more time to meet prior educational goals, nontraditional students were more likely to hold associate degrees or higher. Similarly, nontraditional students were more likely to be experienced online learners. While traditional students often are described as the “net generation,” nontraditional respondents were equally comfortable online, with three-quarters of both subgroups considering themselves *proficient* or *expert* in using a computer for online learning. About one-fifth of both traditional and nontraditional respondents had *no plans to return to college* or were *uncertain* about when they would take classes again.

**Table 12: Descriptive Comparison of Survey Respondents: Age**

	Traditional Age (18-24 years)	Nontraditional Age (25+ years)
Female	86%	78%
White, non-Hispanic	84%	74%
Black or African American, non-Hispanic	5%	14%
Hispanic	4%	5%
Other race/ethnicity	7%	7%
Married	27%	62%
Children living with them	28%	65%
Part-time enrollment status	60%	71%
Work more than 30 hours per week	40%	64%
Spend more than 20 hours per week caring for dependents	31%	58%
Hold an associate degree	11%	23%
Hold a bachelor’s degree or higher	4%	14%
Experienced online learners (completed 15 or more hours)	30%	42%
Consider themselves <i>proficient</i> or <i>expert</i> in using a computer for online learning	75%	76%
Uncertain/No plans to return to college	21%	19%

No significant difference was found between traditional age and nontraditional age respondents on the 36 items comprising the five CCSSE constructs. Of the 40 additional Presence items, only two revealed a significant difference, as shown in Table 13. Nontraditional age students were more likely (0.35) to have *participated in an online discussion without completing readings or assignments*, while traditional age students were more likely (0.46) to have *moderated a class discussion*—both differences perhaps reflecting older students’ comparatively greater numbers of commitments outside college.

**Table 13: Significant Differences in Item Responses: Age**

	Trad Age Mean	Trad Age Std Dev	Non-Trad Mean	Non-Trad Std Dev	Mean Diff	Sig (2 Tail)	Effect Size
12f. Participated in an online discussion without completing readings or assignments	3.01	1.137	3.36	0.918	-0.35	0.001	-0.36
12c. Moderated a class discussion	2.08	1.140	1.62	0.972	0.46	0.000	0.46

### ***Enrollment Status***

Almost one-third (30%) of online only survey respondents were enrolled in college full-time; the majority (70%) were enrolled in college part-time. As shown in Table 14, the majority of both part-time and full-time respondents were white females. While full-time respondents were more likely to be experienced online learners, about three-quarters of both part-time and full-time respondents considered themselves proficient or expert in using a computer for online learning. Since part-time enrollment status was associated to a higher degree with nontraditional-age students (see Table 12), it follows that higher percentages of part-time respondents also demonstrate greater commitments outside college than their full-time peers, including being married (+25%)

and spending more than 30 hours per week working (+15%). Interestingly, full-time respondents were more likely to have children living with them (+8%) and spend 21 or more hours per week caring for dependents (+12%). While higher percentages of part-time students hold associate degrees or higher, they were also almost twice as likely to indicate they *had no plans to return to college* or were *uncertain* about when they would take classes again.

**Table 14: Descriptive Comparison of Survey Respondents: Enrollment Status**

	Part-Time	Full-Time
Female	79%	79%
Non-traditional age (25 years or older)	71%	29%
White, non-Hispanic	76%	76%
Black or African American, non-Hispanic	13%	10%
Hispanic	6%	3%
Other race/ethnicity	5%	11%
Married	60%	45%
Children living with them	56%	64%
Work more than 30 hours per week	64%	49%
Spend more than 20 hours per week caring for dependents	48%	60%
Hold an associate degree	21%	19%
Hold a bachelor's degree or higher	15%	7%
Experienced online learners (completed 15 or more hours)	32%	44%
Consider themselves <i>proficient</i> or <i>expert</i> in using a computer for online learning	74%	76%
Uncertain/No plans to return to college	23%	12%

The 36 items comprising the five CCSSE constructs and the 40 additional Presence items were analyzed based on enrollment status. As the Center for Community College Student Engagement (2009) has noted: “The phenomenon of *part-timeness* stands as one of the greatest challenges community colleges face in creating strong

connections with students” (p. 18). This on-campus challenge is also readily apparent in the online environment. As shown in Table 15, of the 76 items, 24 showed a significant difference, including a total of 20 CCSSE items across all five constructs and four Presence items—the greatest number of significantly different items among the study subgroups. On all but one of these items, part-time online only students were less engaged than their full-time peers.

In the Active and Collaborative Learning construct, part-time respondents were significantly less likely to have made a class presentation (-0.39) and to have discussed ideas from your readings or classes with *others outside of class (students, family members, co-workers, etc.)* (-0.34). While the first arguably may be simply a function of opportunity, the second is a clear indicator of lower engagement.

In the Student Effort construct, full-time students were more likely (0.26) than part-time students to *have participated in an online discussion without completing readings or assignments*. However, part-time students were less engaged on four other items, including preparing multiple drafts of papers (-0.48), working on assignments that require integrating ideas or information from various sources (-0.50), reading on their own (-0.27), and spending time preparing for online class (-0.53). The amount of time spent preparing for class should reflect the number of classes taken during the academic term—the more courses, the more time spent preparing—so part-time student’s significantly different performance on this item is not a reliable indication of lower engagement overall. The other Student Effort items, however, are not affected by the number of courses taken and therefore indicate that part-time students are less engaged.

In the Academic Challenge construct, part-time respondents were less engaged on nine of the ten items that compose the construct; no significant difference was found on the tenth item. Part-time online students engaged less in higher-order thinking activities including; *analyzing the basic elements of an idea, experience, or theory* (-0.26); *synthesizing and organizing ideas, information, or experiences in new ways* (-0.32); *making judgments about the value or soundness of information, arguments, or methods* (-0.38); *applying theories or concepts to practical problems or in new situations* (-0.35); and *using information you have read or heard to perform a new skill* (-0.28). Part-time students were less likely to report their colleges emphasized the need to spend significant amounts of time studying (-0.25), and also less likely to report having *worked harder than you thought you could to meet an instructor's standards or expectations* (-0.35). Part-time students' significantly lower engagement with the two final items in the Academic Challenge construct—*number of assigned textbooks, manuals, books, or book-length packs of course readings (including e-books and online texts)* (-0.44) and *number of written papers or reports of any length* (-0.62)—likely are a reflection of the number of classes taken during the academic term, rather than the overall engagement of part-time students in online courses.

In the Student-Faculty Interaction construct, part-time students were less engaged on three items. Part-time students were less likely to have interacted with their online instructors (-0.24), having significantly less often *discussed grades or assignments one-on-one with an instructor* (-0.28) or *talked about career plans with an instructor or advisor* (-0.29).

Only one significant difference was revealed in the Support for Learners construct. Part-time respondents reported lower support in *providing the financial support you need to afford your education* (-0.38). This finding reflects the reality that only 28% of part-time students in 2-year institutions received federal financial aid, compared to 49% of full-time students (NCES, 2005).

In addition to the 20 CCSSE items described above, part-time respondents were less engaged than their full-time peers on four Presence items. Part-time online students were less likely to have *moderated a class discussion* (-0.28). Part-timers also reported lower levels of interaction with their classmates including *interacting with other online students (chats, e-mails, discussion forums, phone calls, text messages, etc.)* (-0.24) and sharing information (articles, links, or course materials) with other students (-0.30). In addition, part-time online students were less likely to report their colleges were *providing "virtual" spaces for casual or informal socializing among online students* (-0.28).

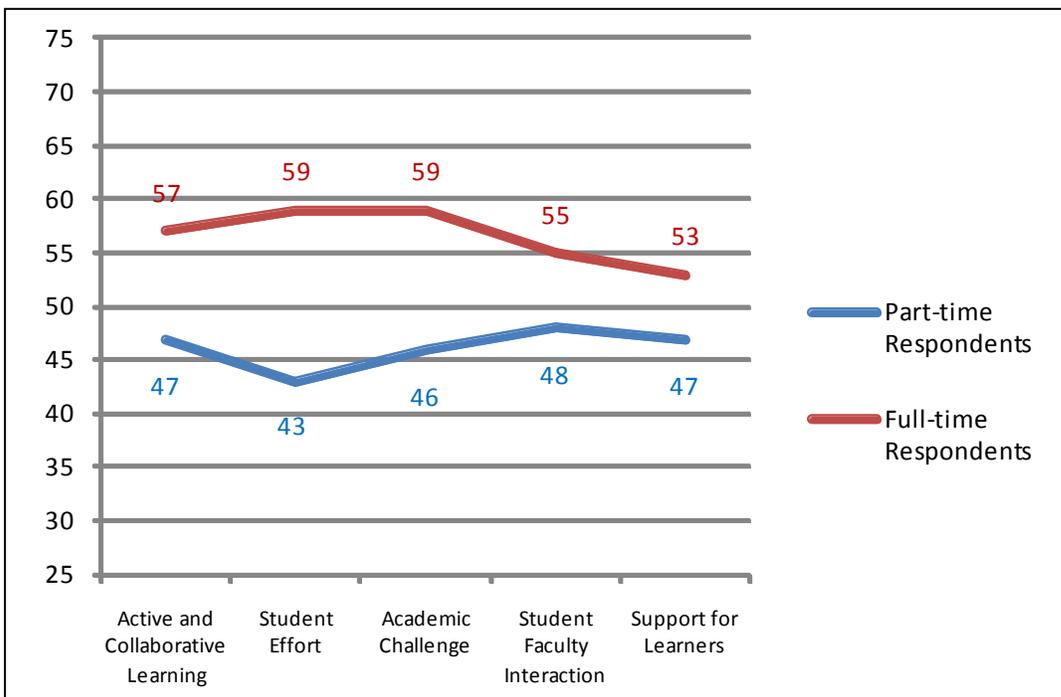
**Table 15: Significant Differences in Item Responses: Enrollment Status**

	Part-Time Mean	Part-Time Std Dev	Full-Time Mean	Full-Time Std Dev	Mean Diff	Sig (2 Tail)	Effect Size
12b. Made a class presentation	1.56	0.894	1.95	1.098	-0.39	0.000	-0.41
12o. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	2.39	0.996	2.73	1.094	-0.34	0.000	-0.33
12d. Prepared two or more drafts of a paper or assignment before turning it in	2.38	1.047	2.86	1.083	-0.48	0.000	-0.45
12e. Worked on a paper or project that required integrating ideas or information from various sources	2.62	1.081	3.12	0.936	-0.50	0.000	-0.48
12f. Participated in an online discussion without completing readings or assignments	3.36	0.919	3.10	1.096	0.26	0.000	0.27
14b. Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	2.02	0.985	2.29	1.120	-0.27	0.001	-0.26

20a. Preparing for ONLINE class (studying, reading, writing, rehearsing, doing homework, viewing recorded lectures, or other activities related to your program)	2.35	1.048	2.88	1.321	-0.53	0.000	-0.47
12m. Worked harder than you thought you could to meet an instructor's standards or expectations	2.54	0.972	2.89	0.985	-0.35	0.000	-0.36
13b. Analyzing the basic elements of an idea, experience, or theory	2.80	0.89	3.06	0.874	-0.26	0.000	-0.29
13c. Synthesizing and organizing ideas, information, or experiences in new ways	2.68	0.94	3.00	0.909	-0.32	0.000	-0.34
13d. Making judgments about the value or soundness of information, arguments, or methods	2.59	0.96	2.97	0.936	-0.38	0.000	-0.40
13e. Applying theories or concepts to practical problems or in new situations	2.69	0.973	3.04	0.936	-0.35	0.000	-0.36
13f. Using information you have read or heard to perform a new skill.	2.63	0.985	2.91	0.991	-0.28	0.000	-0.28
14a. Number of assigned textbooks, manuals, books, or book-length packs of course readings (including e-books and online texts)	2.44	0.896	2.88	1.011	-0.44	0.000	-0.47
14c. Number of written papers or reports of any length	2.61	1.134	3.23	1.191	-0.62	0.000	-0.54
19a. Encouraging you to spend significant amounts of time studying	3.04	0.832	3.29	0.728	-0.25	0.000	-0.31
12i. Discussed grades or assignments one-on-one with an instructor	1.82	0.789	2.10	0.939	-0.28	0.000	-0.34
12j. Talked about career plans with an instructor or advisor	1.49	0.695	1.78	0.878	-0.29	0.000	-0.39
20c. Interacting WITH ONLINE INSTRUCTORS (chats, e-mails, discussion forums, phone calls, text messages, etc.)	0.80	0.641	1.04	0.750	-0.24	0.000	-0.36
19f. Providing the financial support you need to afford your education	2.33	1.106	2.71	1.125	-0.38	0.000	-0.34
12c. Moderated a class discussion	1.60	0.953	1.88	1.077	-0.28	0.000	-0.72
12w. Shared articles, links, or course materials with another student	1.80	0.916	2.10	1.068	-0.30	0.000	-0.31
19g. Providing "virtual" spaces for casual or informal socializing among online students	2.33	1.002	2.61	1.029	-0.28	0.001	-0.28
20b. Interacting WITH OTHER ONLINE STUDENTS (chats, e-mails, discussion forums, phone calls, text messages, etc.)	0.86	0.812	1.10	0.928	-0.24	0.001	-0.28

Figure 6 compares the engagement levels of part-time and full-time online students on the five CCSSE constructs. Across the board, part-time online students are less engaged than their full-time classmates. This is consistent with findings for on-campus students from the annual Community College Survey of Student Engagement (CCSSE, 2010).

**Figure 6: Standardized Scores on CCSSE Constructs: Enrollment Status**



***Experience in Online Classes***

A little over one-third (35%) of online only respondents had taken at least 15 college credit hours in online courses, making them experienced online learners, while 65% were relatively new to online course having taken fewer than 15 college credit hours online. As with other breakouts, both subgroups were primarily non-traditional-age white females. While new online learners were more likely to be enrolled part-time (+11%),

half or more of both subgroups had substantial outside commitments including being married, working more than 30 hours per week, having children living with them, and/or spending 21+ hours caring for dependents. Perhaps predictably, experienced online learners were more likely to consider themselves *proficient* or *expert* in using a computer for online learning. Almost one quarter (23%) of new online learners indicated they *had no plans to return to college* or were *uncertain* about when they would take classes again, compared to less than one-fifth (14%) of experienced online learners.

**Table 16: Descriptive Comparison of Survey Respondents: Experience Online**

	Experienced in Online Courses (≥15 credit hrs)	Inexperienced in Online Courses (<15 credit hrs)
Female	80%	79%
Non-traditional age (25 years or older)	86%	78%
White, non-Hispanic	77%	75%
Black or African American, non-Hispanic	13%	13%
Hispanic	4%	5%
Other race/ethnicity	6%	7%
Married	59%	52%
Children living with them	61%	57%
Part-time enrollment status	63%	74%
Work more than 30 hours per week	65%	56%
Spend more than 20 hours per week caring for dependents	57%	49%
Hold an associate degree	26%	17%
Hold a bachelor's degree or higher	10%	13%
Consider themselves <i>proficient</i> or <i>expert</i> in using a computer for online learning	86%	67%
Uncertain/No plans to return to college	14%	23%

The 36 items comprising the five CCSSE constructs and the 40 additional Presence items were analyzed based on online experience level. Following enrollment

status, online experience level resulted in the second greatest number of significantly different items among the study subgroups, as shown in Table 17. Of the 76 items, 14 showed a significant difference: eight CCSSE items across all five constructs, as well as six Presence items.

In the Active and Collaborative Learning construct, experienced online students were significantly more likely than inexperienced online students to have *made a class presentation* (0.29) and to report working on projects with other students during class (0.24).

In the Student Effort construct, experienced online students reported higher engagement on two items: *prepared two or more drafts of a paper or assignment before turning it in* (0.26), and *worked on a paper or project that required integrating ideas or information from various sources* (0.34). Similarly, in the Academic Challenge construct, experienced online learners reported higher levels of *synthesizing and organizing ideas, information, or experiences in new ways* (0.24).

In the Student Effort and Support for Learners constructs, experienced online students demonstrated higher levels of connection with instructors and advisors. Experienced online students report that that they *received prompt feedback (written or oral) from instructors on your performance* (0.24), *discussed grades or assignments one-on-one with an instructor* (0.22), and used academic advising services (0.32) more often than their inexperienced classmates.

**Table 17: Significant Differences in Item Responses: Experience Online**

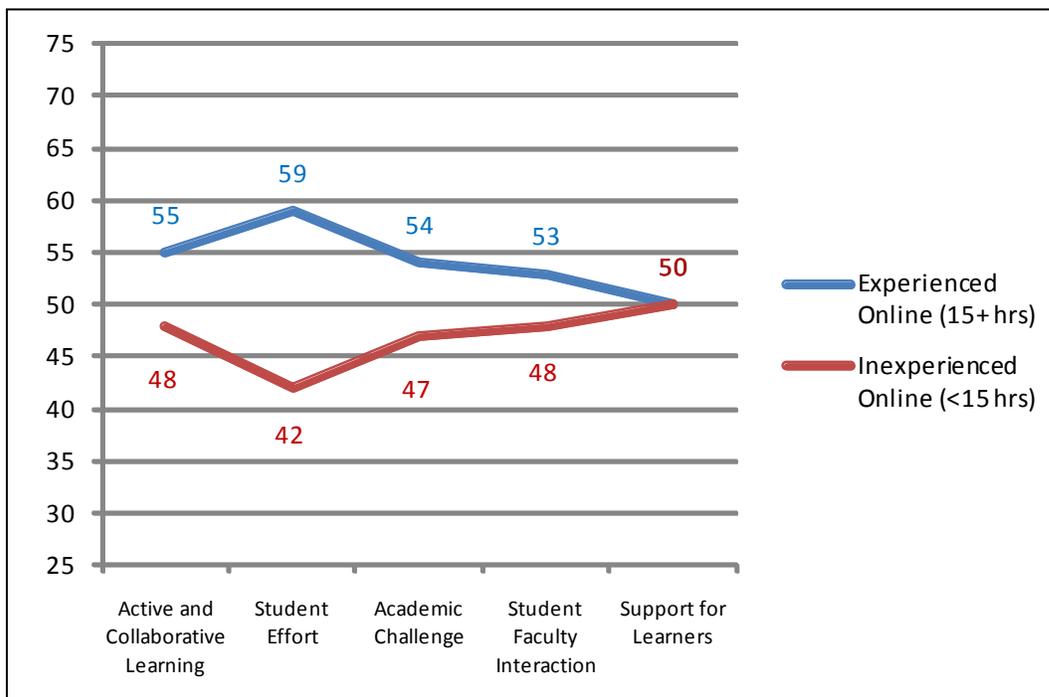
	Exp'd Mean	Exp'd Std Dev	Inexp'd Mean	Inexp'd Std Dev	Mean Diff	Sig (2 Tail)	Effect Size
12b. Made a class presentation	1.85	1.008	1.56	0.918	0.29	0.000	0.31
12g. Worked with other students on projects during class	1.89	1.011	1.65	0.930	0.24	0.001	0.25
12d. Prepared two or more drafts of a paper or assignment before turning it in	2.69	1.044	2.43	1.087	0.26	0.001	0.24
12e. Worked on a paper or project that required integrating ideas or information from various sources	2.98	1.002	2.64	1.078	0.34	0.000	0.32
13c. Synthesizing and organizing ideas, information, or experiences in new ways	2.93	0.90	2.69	0.958	0.24	0.001	0.26
12i. Discussed grades or assignments one-on-one with an instructor	2.04	0.862	1.82	0.822	0.22	0.000	0.26
12l. Received prompt feedback (written or oral) from instructors on your performance	2.87	0.908	2.63	1.016	0.24	0.001	0.25
27b. How often have you used this service? [academic advising]	1.45	0.715	1.13	0.761	0.32	0.000	0.43
25c. Received a clear introduction to course topics	3.47	0.672	3.20	0.800	0.27	0.000	0.36
25d. Received information about the starting time for activities, due dates, grading criteria, and other class policies	3.59	0.62	3.36	0.787	0.23	0.000	0.32
25f. Received direction from instructors that keeps you engaged and heading in the right direction	3.08	0.876	2.79	0.960	0.29	0.000	0.31
25g. Received guidance on ground rules for discussion and online participation	3.31	0.825	2.90	0.990	0.41	0.000	0.44
25h. Received explanations that corrected or confirmed your understanding of the material	2.87	0.876	2.62	0.912	0.25	0.001	0.28
5m. Participated in activities for students to get to know one another	2.32	1.079	2.03	0.945	0.29	0.001	0.29

This trend was further substantiated in the significantly different Presence items. Experienced online students reported greater direction from instructors including: clear introductions on course topics (0.27), critical information such as the starting time for activities, deadlines, grading criteria, and class policies (0.23), basic rules for discussion

and online participation (0.41), and explanations correcting or confirming their understanding of course material (0.25). In general, experienced online learners were more apt to agree that they *received direction from instructors that keeps you engaged and heading in the right direction* (0.29). Additionally, experienced online respondents were more likely to have *participated in activities for students to get to know one another* (0.29).

Figure 7 compares the engagement levels of experienced and inexperienced online learners on the five CCSSE constructs. Students of all experience levels demonstrated similar engagement on Support for Learners. On all other constructs, experienced online learners scored notably higher than their inexperienced peers.

**Figure 7: Standardized Scores on CCSSE Constructs: Experience Online**



### ***Veteran Status***

Just 8% of online only respondents identified themselves as military veterans. While an additional 4% identified themselves as current active duty and <1% identified themselves as members of the national guard or reserve, this study focuses on the veterans as college students who face a number of unique challenges, as described in chapter two.

Veterans tended to be more diverse and more male than their nonveteran counterparts and, interestingly, showed characteristic differences from the overall U.S. veteran population 18 to 64 years of age. Just over one-third (36%) of SOSE veteran respondents were women compared to 7% of U.S. veterans; about half (51%) of veteran survey respondents were white compared with 80% of U.S. veterans (Census Bureau, 2007). Veteran respondents were more likely to spend more than 30 hours per week working (+11), but non-veterans were more likely to spend more than 21 hours per week caring for dependents (+7%). Veteran survey respondents were more likely than their non-veteran classmates to be nontraditional students (+19%), to hold previously-earned associate degrees (10%) or bachelor's degree or higher (+3%), and to be experienced online learners (+8%). However, about two-thirds of both veterans and non-veterans considered themselves *proficient* or *expert* in using a computer for online learning. Only 13% of veteran respondents, compared with one-fifth (20%) of non-veteran respondents, *had no plans to return to college* or were *uncertain* about when they would take classes again.

**Table 18: Descriptive Comparison of Survey Respondents: Veteran Status**

	Veteran	Non-veterans
Female	36%	83%
Non-traditional age (25 years or older)	98%	79%
White, non-Hispanic	51%	78%
Black or African American, non-Hispanic	34%	10%
Hispanic	6%	5%
Other race/ethnicity	9%	7%
Married	70%	53%
Children living with them	70%	51%
Part-time enrollment status	64%	69%
Work more than 30 hours per week	70%	59%
Spend more than 20 hours per week caring for dependents	47%	54%
Hold an associate degree	30%	20%
Hold a bachelor's degree or higher	15%	12%
Experienced online learners (completed 15 or more hours)	47%	39%
Consider themselves <i>proficient</i> or <i>expert</i> in using a computer for online learning	76%	76%
Uncertain/No plans to return to college	13%	20%

An analysis of the 36 items comprising the five CCSSE constructs and the 40 additional Presence items revealed no significant difference between veteran and non-veteran respondents.

### **Summary**

The purpose of this study was to investigate online student engagement. This chapter provided findings from statistical analyses used to complete the study. Although the Presence construct could not be validated due to the low number of cases available for analysis, survey results were reported to answer research questions one and two. First,

the engagement levels of online students were reported based on the five CCSSE constructs (Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners), then the engagement levels of disaggregated groups of community college online students were reported based on item-level comparisons. To answer research question three, the following chapter will present conclusions and implications for practice based on these findings.

## CHAPTER V: CONCLUSIONS AND RECOMMENDATIONS

### **Introduction**

Improving student outcomes in community college online education requires understanding how institutional practices and student characteristics and behaviors affect levels of student engagement in Internet-facilitated courses. The purpose of this study was to investigate community college online student engagement with the ultimate goal of identifying institutional practices with the potential to improve student engagement levels within community college online education programs. The Survey of Online Student Engagement (SOSE) was administered over an eight week period in Fall 2009 to community college online students at five research sites across the United States.

A number of constraints were placed upon the scope of this study. First, the data used to answer the research questions were limited to results of the Survey of Online Student Engagement administered at four community colleges and one community college online consortium, located in Arizona, Florida, Iowa, Tennessee, and Texas. Thus, the experiences of the participants in this survey may not represent the experiences of all community college online students attending community colleges in these five states or any other state in the nation. Second, the survey was conducted exclusively with community college students and not with students at four-year institutions of higher education. Third, the survey data provide a snapshot rather than a longitudinal view of community college online student engagement.

The previous chapters detailed the purpose of the study and provided the literature review, methodology, and findings from the statistical analyses conducted with the SOSE

data set. In this chapter, key findings, conclusions, implications for practice, and recommendations for further research will be drawn from the literature review provided in chapter two and the results of the statistical analyses reported in chapter four. This chapter is organized in four sections: a brief summary of the study, key findings for the first two research questions, implications for practice for the third research question, and recommendations for further research, followed by a summary.

### **Review of the Study**

For more than 35 years, American higher education institutions have experienced increasing pressure to demonstrate their value and efficacy. In the decades prior to the 1970s, community colleges were expected to demonstrate accountability through compliance with government regulations and data requests (Roueche, Baker, & Brownell, 1971). By the 1980s, greater attention was paid to student outcome measures such as persistence and retention rates, graduation rates, degrees awarded, and job placement, among others (Dougherty & Hong, 2006). It became clear that reducing student attrition was critical to the financial welfare of community colleges (Summers, 2003). Student engagement and persistence models began to emerge to help educators understand the factors associated with student success.

Over time, it emerged from research that the best predictor of student learning and personal development is *student engagement*, the time and energy students devote to educationally purposeful activities (Pace, 1980; Pascarella & Terenzini, 1991; Astin, 1993). Pace (1984) determined that quality of student effort is a function of the opportunities that an institution offers and the extent to which students take advantage of

those opportunities within the context of academic, intellectual, personal, and interpersonal experiences. Tinto (1975) focused on *integration*, the degree to which a student is academically and socially integrated, as a predictor of persistence. Chickering and Gamson (1987) provided a set of indicators to create an underlying framework for creating engaging classroom environments to influence student persistence.

Voluminous studies underpin these theories and models with empirical examples of practices institutions can use to increase student engagement. However, the majority of such research was conducted within four-year institutions (Pascarella, 1997; Townsend, Donaldson, & Wilson, 2004). Since substantial differences exist between two-year and four-year institutions' missions, populations, and environmental characteristics, additional investigation was needed to better understand whether and how research conducted at four-year institutions can be applied to community colleges.

Over the past eight years, the Center for Community College Student Engagement has addressed this research gap, primarily through the Community College Survey of Student Engagement (CCSSE). The Center's research has demonstrated that student engagement is a key indicator of learning and therefore serves as a proxy for quality in evaluating educational practice at community college campuses of all sizes across the United States. However, with the meteoric rise of online education within higher education, community college teaching and learning has moved beyond the campus. With ever increasing numbers of community college students taking classes online (Allen & Seaman, 2008), there is a growing need for a quality assessment measurement similar to CCSSE but appropriate to the unique nature of online education.

In this study, the research design included: the development of the Survey of Online Student Engagement instrument; cognitive interviews with eight students currently enrolled in online community college courses, including individuals from each of the student groups of particular interest to this study; administration of the survey at five research sites; and analysis of the resulting data. The independent variables used in the study—gender, race/ethnicity, age, enrollment status, level of online education experience, and veteran status—were chosen due to their use in previous studies, appropriateness at the research sites, and utility to the field. A quantitative method was employed to determine online student engagement levels among and between subgroups of survey respondents.

With CCSSE, the Center for Community College Student Engagement developed and validated five constructs to measure student engagement: Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, and Support for Learners. In considering online learning, a sixth construct—Presence—appears in the literature (Gunawardena, 1995; Picciano, 2002; Garrison & Anderson, 2003). SOSE included CCSSE items, as well as new items developed from the literature to measure Presence. Although the Presence construct could not be confirmed in this study due to an insufficient number of cases available for exploratory factor analysis, the Presence items yielded interesting findings reported in chapter four.

The fall 2009 administration of SOSE attracted a total of 2,259 survey respondents, which equates to an overall response rate of 6.3% with varying response rates (1% to 19%) at the five research sites. After the data were cleaned, a total of 2,085

records were available for analysis. Of these respondents, 906 reported taking classes exclusively online. Given the demonstrated differences in characteristics and experiences between students taking classes exclusively online and those taking classes both online and on-campus, the study focused on the former, the “online only” respondents.

### **Key Findings and Conclusions**

Chapter four answered the first two research questions by providing descriptive statistics, the results of item means tests and, where appropriate, consolidated scores on the five CCSSE constructs. The following section summarizes answers to the first two research questions by presenting conceptual key findings drawn from the data and literature previously presented. Analysis for research question one resulted in four key findings; analysis for research question two resulted in three additional key findings.

#### ***Research Question 1***

*How engaged are community college online students on six factors: Active and Collaborative Learning, Student-Faculty Interaction, Academic Challenge, Student Effort, Support for Learners, and Presence?*

*Key Finding #1: Community college online students are less engaged than their peers involved in blended instruction.*

Overall, community college students enrolled exclusively in online classes are less engaged than classmates in blended instructional settings. On the five CCSSE constructs, online only students were less engaged on Active and Collaborative Learning, Student-Faculty Interaction, and Support for Learners; however, online only students were more engaged in terms of Student Effort and equally engaged on Academic

Challenge. Additionally, online only students showed significant differences on four Presence items.

*Key Finding #2: Although less engaged, online only students work hard at their studies.*

Online only students scored the same as blended students on Academic Challenge, indicating that both groups found their college experiences equally rigorous. However, online only students scored higher than blended students on Student Effort, suggesting respondents found that courses taught exclusively online required more individual effort. These results are not unexpected given the fact that online classes often require students to work independently and to be disciplined about their learning (Shale, 1990; Dutton et al., 2002).

*Key Finding #3: Online only students are isolated relative to other students and faculty.*

Perhaps the biggest difference between the online learner cohort and other students lies in their experience of interpersonal contact with other members of the college community. Although the majority (93%) of online only respondents reported going to campus at least once for key services such as advising or registration, they experience remarkably little face-to-face contact with faculty and other students: only 10% of online only respondents went to campus to meet with an instructor and only 5% went to campus to meet with other students. Surprisingly, online only students also were less likely than their blended counterparts to use electronic communication—including social networking tools, online instant messaging, text messaging or SMS, or even telephone/cell phone—to make connections with people at the college. Unfortunately, feelings of isolation can be an important stress factor for online students (Hara and Kling,

2001). Moreover, the presence of consistent and meaningful interactions among online learners and faculty has been established as an important key to both retention and learning (Gunawardena, 1995; Gunawardena & Zittle, 1997; Garrison, Anderson, & Archer, 2000; Garrison, 2007).

*Key Finding #4: Online only students are a unique cohort.*

In this context, a *cohort* is a group of students sharing distinguishing characteristics and experiences. Students taking classes exclusively online differed from their blended and on-campus counterparts in a variety of ways. With an average age of 35, online only respondents tended to be older than both their blended peers and the national population of community college students. While increased age seems to bring previous successful college experiences (higher GPAs and degrees attained) for online only students, age also brings additional responsibilities including marriage, dependents, and substantial (30+ hours per week) work schedules. Given the demands on their time, it is not surprising that the majority (70%) of the online only students attended college part-time, nor that more (+7%) online only students are *uncertain* or *have no plans to return to college*. While online learners at a college likely include students with a broad range of student characteristics, their unique experiences and challenges make them a unique cohort.

***Research Question 2***

*Are there significant differences in the level of engagement among and between online students based on demographic characteristics, enrollment status, and student experiences?*

*Key Finding #5: Enrollment status is a strong predictor of online student engagement.*

The challenges facing part-time community college students are well documented. On-campus part-time students are consistently less engaged in activities and services outside the classroom than their full-time peers, due in part to the limited time part-timers spend on campus, (CCSSE, 2008). They also are appreciably less likely than full-time students both to persist and to attain degrees (NCES, 2007). The challenges faced by on-campus part-time learners are also apparent in—and likely exacerbated by—the online environment. In this study, enrollment status (part-time/full-time) accounted for the greatest number of statistically significant item differences, as well as the most consistent gap in engagement scores across the five CCSSE constructs. Across the board, with depressing consistency, part-time online students were less engaged than their full-time classmates.

*Key Findings #6: Experience with online learning is a strong predictor of engagement.*

Current research in on-campus college environments indicates that helping students succeed through the equivalent of the first semester (12–15 credit hours) substantially improves their chances of persisting semester-to-semester and fulfilling their educational goals (CCCSE, 2009b). Research in online college environments suggests the same phenomenon is present: as students gain experience in online courses, they become more successful online learners (Ehrman, 1990; Moore & Kearsley, 1996; Wojciechowski, 2005). This study provides additional evidence supporting the important role experience plays in student engagement. While experienced respondents (15+ credit hours in online courses) and inexperienced respondents (<15 credit hours in online

courses) had the same engagement score on Support for Learners, experienced respondents scored substantially higher on all other CCSSE constructs. Experience accounted for the second greatest number of statistically significant item differences, and inexperience resulted in the lowest benchmark score in the study (42 on Student Effort).

*Key Finding #7: Student demographics appear to mean less online than on-campus.*

Previous studies found differences in learning, attitudes, motivation, or experiences of online students based on gender (Chen, 1986; Young, 2000); race/ethnicity (Owens, 1998; Chen, 1999; Fischer, 2007); and age (Junco & Mastrodicasa, 2007). Certainly these characteristics are among those used to define and track cohorts of students on campuses. However, in this study, gender and age appeared to play little or no role in online student engagement. The data were less definitive on race/ethnicity; however, whereas minority and at-risk students appear more engaged on-campus, this difference appears to be leveled in the online environment. It is unclear whether these findings are a result of the instructional medium, the individuals who self-select into online course or, more likely, a combination of these factors.

*Gender:* Since the invention of the World Wide Web in 1992 made distance education accessible anywhere Internet access could be established (Harasim, 2000), the percentage of female college students among online learners has steadily increased. Early studies warned that female students were more technophobic and less confident in their use of computers (Dambrot, 1985; Karma, 1994) and suggested that females had a marked preference for face to face communication (Anderson, 1997; Weinman & Cain, 1999). This is not the case today. For the past decade, online learners have been

predominantly nontraditional-age women (Kramarae, 2001; Moore & Kearsley, 2005), a reality reflected in the SOSE respondent population. Although the demographic characteristics of males and female respondents differed somewhat—men tended to be older and work more hours, while women were more likely to have children living at home and spend more time caring for dependents—there was no significant difference in student engagement based on gender.

Age: Today's traditional students, the Millennial generation, are defined principally by their comfort with technology (Howe & Strauss, 2000; Coleman, Little, & Lester, 2006). Given nontraditional students' lifelong use of technology, it might be expected that these students would be more engaged in an online environment than older students. Adelman (2005) asserted that nontraditional students are at a distinct disadvantage, positing that age "makes an enormous difference in the distribution of virtually any postsecondary outcome or process" (pp. 119). However, others have suggested that older students operate as self-directed and self-disciplined learners better than their younger classmates (Knowles, 1984; McSporrán & Young, 2001) and, at least on campus, traditional-age students are less engaged learners (CCCSE, 2009a). In this study, where the majority (81%) of respondents were nontraditional students, statistically significant differences in behavior between traditional and nontraditional respondents were evidenced on only two survey items; age appeared to play a role in overall engagement only as it was tied to enrollment status—younger online students are more likely to attend full-time, and full-time students are more engaged than their part-time classmates.

Race/ethnicity: It has long been acknowledged that race/ethnicity is a defining factor in college success. As Berlak (2005) dryly notes, “That there is a race gap in education achievement is not news” (p. 227). Interestingly, minority and other at-risk students consistently appear more engaged than their white peers on the Community College Survey of Student Engagement (CCSSE), a phenomenon explained by the spring administration timeline of the survey. By the second semester, only the most engaged minority and at-risk students remain on campus to participate in the survey (CCSSE, 2010). When engagement is measured among entering students during the fall semester, the predictable engagement gap is evident: at-risk students consistently appear less engaged (CCCSE, 2009b). In this study, when engagement was measured in online courses, the gap appears to flatten out. White students were more engaged on Student Effort and Support for Learners, while minority students were more engaged on Active and Collaborative Learning, Academic Challenge, and Student-Faculty Interaction. The number of online only minority participation in SOSE (n=155) cannot allow a definitive statement about minority students’ engagement in online community college courses. However, in this study, the distinct race/ethnicity-based engagement gaps demonstrated in on-campus engagement survey findings do not appear to be replicated online.

### **Implications for Practice**

The development and expansion of online education is helping community colleges fulfill the promise of the “open door” to higher education, allowing hundreds of thousands of community college students access to Internet-facilitated teaching and learning. However, enrolling students in courses is only the first step toward fulfilling the

community college mission. To meet their educational goals, student must persist and successfully complete courses and programs. Decades of research on student engagement highlight the importance of getting students engaged with their college communities (Astin, 1984; Tinto, 1993; NSSE, 2004; McClenney & Marti, 2006; CCCSE 2009a). Unfortunately, too many community college online students—especially those attending part-time—learn in relative isolation, disengaged from their peers and faculty members. The challenge for community college administrators, faculty, and staff is to find effective mechanisms for increasing engagement, and ultimately retention and success rates, among their online student populations. The following recommendations are proposed as critical starting points for institutions engaged in this important work.

### ***Research Question 3***

*What institutional practices are suggested by the data to be supportive of online student engagement in community colleges?*

#### **Recommendation #1: Track online students as a cohort.**

As the focus on community colleges has shifted from accountability through compliance reporting to demonstrating efficacy through student success, accrediting agencies and projects like *Achieving the Dream: Community Colleges Count* have encouraged institutions to define and track cohorts of students to better understand and begin to close performance gaps. As Maki (2002), notes: “Results of cohort analysis bring focus to assessment interpretations and eventually to pedagogical or curricular changes” (p. 11). Typically, cohorts tracked within community colleges include groups facing barriers to success such as low-income students, under-prepared students, first-

generation in college students, and students of color (ATD, 2009). While the challenges associated with these groups may seem substantially different than the challenges associated with being an online learner (the former being student characteristics students bring with them to college, the latter being a set of experiences engendered by the medium and the college's approach to online pedagogy), the engagement and retention gaps for online students are clear. Of the research sites—all remarkable online programs—only two of the five communicated about their online learners in terms of a cohort of students within the broader college community. Until community colleges begin tracking online students as a unique cohort, it will be difficult for institutions to discover and address the differences in experiences and outcomes for their online learners.

*Recommendation #2: Support students through their first online academic term.*

As students gain experience in online courses, their levels of engagement and chances for success increase. Even as colleges begin to track online learners as a cohort, steps should be taken to ensure more entering online students successfully navigate the first critical 15 hours of online instruction. At a minimum, community colleges should develop and implement the following two interventions:

- Mandatory online learning readiness assessment: Online learning not only requires many of the skills needed for on-campus success, but also skills unique to the online environment (Shale, 1990; Dutton et al., 2002). An effective online learning readiness assessment would help students set realistic expectations about online courses and make pragmatic assessments of their likelihood for success in

an online instructional environment *before* they enroll. To ensure all potential online students are assessed for readiness before enrolling in online courses, such an evaluation should be required prior to the first online course registration. While the decision to enroll in online or on-campus course would remain with the student, mandatory online learning readiness assessment would help students make informed decisions about their educational path.

- Mandatory online education orientation: Prior research has demonstrated that college orientation sessions help create a sense of connection and commitment for on-campus students (Robinson, Burns, & Gaw, 1996) and that this holds true for students in online learning environments (Wojciechowski & Palmer, 2005). Although all five research sites offer this student support service, nearly half (46%) of online only respondents indicated they did not take an online education orientation (*an orientation that showed you how online classes work at this college*) prior to beginning classes. Recognizing the demonstrated connection between online education orientation attendance and subsequent success in online courses, and taking into consideration the propensity of many students not to participate in optional activities, community colleges should make online education orientation mandatory—especially for students enrolled part-time and those with fewer than 15 online college course hours.

Recommendation #3: Proactively foster engagement for online learners.

The literature on student engagement emphasizes the importance of students establishing a relationship with someone at their college (Terenzini et al., 1995; CCCSE

2009a). This study found that students taking courses exclusively online, especially those enrolled part-time, are unlikely to reach out and establish such connections for themselves. Community colleges concerned with increasing student engagement, retention, and success for online learners should develop and implement programs and pedagogies designed to establish social and academic networks of support for these students. Institutions should consider the following interventions:

- Reach out via technology, old and new. The lower use rates of social networking tools by online only students may signal an opportunity for colleges to bring these students into a new communication environment. Colleges can provide training on new media such as FaceBook or Twitter as part of online courses, then reach out through these media to provide relevant information and foster online student interaction. While establishing new communication channels, institutions should not ignore more traditional media including email messages and telephone calls. In all cases, sending messages that require an active response—for points in class, to complete an assignment, for an entry to win a prize, to vote on a campus issue, etc.—will be more engaging than simply broadcasting announcements to a passive audience of online students.
- Organize academic and student life events for online students. Although distance learners may be unable to attend a special lecture or exhibit on campus, colleges can create virtual versions of campus events through podcasts, webinars, blogs, and so forth. To encourage attendance, ask faculty to include such virtual events in their online curricula.

- Establish online student organizations: Student organizations are a component of academic life often unavailable to online students. Kolowich (2010) reports that some institutions are addressing this issue: “At a handful of institutions...these extracurricular organizations offer online students what many feel they are missing: the social and professional opportunities that historically have been part of the college experience.” Of SOSE online only respondents, 47% rated student organizations as *somewhat important* or *very important*, but just 16% indicated they were *somewhat satisfied* or *very satisfied* with the student organizations at their colleges. While some traditional on-campus clubs may not translate to the online environment, institutions should work with their online students and faculty to conceptualize online student organizations capable of attracting members and fostering online community.

- Adopt collaborative learning pedagogies in all online courses: Chickering and Gamson (1987) explain the importance of collaborative learning:

Learning is enhanced when it is more like a team effort than a solo race.

Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning.

Sharing one’s own ideas and responding to others’ reactions improves thinking and deepens understanding. (p. 3)

Regrettably, the majority (56%) of online only SOSE respondents *never* worked on projects with other students. To ensure online learners benefit from

collaborative learning, colleges should ensure online course require and support group projects and other forms of cooperative work.

### **Recommendations for Further Research**

The American writer Will Durant once said, “Inquiry is fatal to certainty.” Certainly, the more we learn, the more we find we need to learn. This study examined the overall engagement level of online community college students and compared engagement levels among subgroups of students during the fall 2009 semester at five research sites across the United States. Further research is needed to expand and validate the findings in this study. Recommendations for further research include the following:

- Regression analysis: This study examined the relative engagement levels of subgroups of community college online students primarily through independent parametric tests. Regression analysis of the SOSE results would provide additional insight on the engagement levels of online students belonging to more than one sub-group and could identify the compounding influences of multiple factors (such as enrollment status and experience level) on online student engagement.
- Expanded sample: After data cleaning, the sample for this study included 2,085 respondents, 906 (43%) taking classes exclusively online and 1,179 (57%) taking classes both online and on-campus. Garnering a larger sample, either by administering SOSE at additional research sites and/or incentivizing student participation, would allow validation research on the Presence construct, as well as provide corroborating or contradictory evidence for the findings of this study.

- Longitudinal study: Administered during a single academic term, this study provided a snapshot of online student engagement. Longitudinal tracking of a similar cohort of community college online learners could provide a deeper understanding of the factors affecting online student engagement and success. Specifically, additional knowledge about the role of experience in online student success could be gained.
- Focus on race/ethnicity: Additional research is needed to determine (a) the precise role race/ethnicity plays in online community college student engagement and (b) whether students' self-selection into online courses in some way ameliorates the race/ethnicity-related engagement and achievement gaps apparent in on-campus instructional environments.
- Links between online student engagement and online student outcomes: Similar to the validation research conducted using CCSSE responses and institutional data to validate the CCSSE constructs/variables for on-campus settings, additional research is needed to explore the relationships between the student engagement constructs/variables in this study and online learning outcomes such as successful course completion and term-to-term retention.

### **Summary**

Research into community college online student engagement is critical to improving educational practice and student outcomes in the fastest growing segment of American higher education. It is hoped this study will provide the foundation for the development of an assessment tool community colleges can use to assess quality in their

online education programs. In the meantime, the key findings provide new insights into community college online learner experiences, while the recommendations for practice provide practical approaches to meeting these students' demonstrated needs.

As the online education boom continues to reverberate, much is riding on community colleges' ability to engage, retain, and ultimately credential their online learners. From President Barack Obama's goal to make the U.S. the world leader in college degrees by 2020 to individual online learners' goals for better, more prosperous futures, community college online education has an important role to play. Finding and implementing the most effective educational practices are necessary to meeting these goals—and there are 1.9 million community college online students counting on us to succeed.

## Appendix 1: SOSE Interface (Sample Screens)



### SOSE Survey Protocol

Please read the following protocol: [FAQs](#) [Help](#)

**Online Survey Consent Form**  
**SURVEY OF ONLINE STUDENT ENGAGEMENT**

You are being invited to participate in a research study examining online student behaviors and perceptions. Your participation in this study will contribute to a better understanding of how colleges can support online students' academic success.

This study is sponsored by the **Center for Community College Student Engagement**, and is being conducted by **Karla A. Fisher**, Doctoral Student, Community College Leadership Program, College of Education, Dept. of Educational Administration, The University of Texas at Austin (3316 Grandview Street, Austin, TX 78705; 512-232-8247; [fisher@ccsse.org](mailto:fisher@ccsse.org)).

It will take about **20 minutes** to complete the questionnaire. You may move backwards and forwards through the survey pages, but must complete the survey in one sitting. Please enter the survey when you have time to complete the entire survey.

[I DECLINE](#) | [I HAVE READ THE AGREEMENT AND I ACCEPT](#)

**Center for Community College Student Engagement**  
—a Research and Service Initiative—  
Community College Leadership Program | Department of Educational Administration | College of Education  
The University of Texas at Austin

Comments to: [webmaster@ccsse.org](mailto:webmaster@ccsse.org)      [Terms of Using Data](#) | [Privacy Policy](#) | ©2003-2010 CCSSE



### To begin, here are some general questions about your enrollment...

<< [Save and View Previous](#)      [FAQs](#) [Help](#)

**1. Thinking about this current academic year, how are you taking classes at this college?**

I am taking ONLY online classes and I do NOT go to campus

I am taking online classes AND I go to campus (whether for this class or other classes; or to take exams, complete lab sessions, attend lectures, etc.)

**2. Thinking about this current academic year, how would you characterize your enrollment at this college?**

Full-time

Less than full-time

5 %      [Save and Go to Next >>](#)

**Center for Community College Student Engagement**  
—a Research and Service Initiative—  
Community College Leadership Program | Department of Educational Administration | College of Education  
The University of Texas at Austin

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## Appendix 2: SOSE Codebook

### Survey of Online Student Engagement Codebook

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
		SOSE_ID	Survey Number	[Automatically generated]
		datestart	Begin time when survey first accessed	[Automatically recorded]
		dateend	End time when last page of survey accessed (if completed)	[Automatically recorded]
		BROWSER	Type of browser used to access survey	[Automatically recorded]
		IPADDRES	IP address of respondent	[Automatically recorded]
		courname	The name of the course from which the student was provided a link to the survey, as provided by the participant	[Type in response]
		courseno	The course number	[Type in response]
		instrnam	The instructor name of the course	[Type in response]
	1	SBLENDED	Thinking about this current academic term, how are you taking classes at this college?	1=I am taking ONLY online classes and I do NOT go to campus 2=I am taking online classes AND I go to campus
2	2	SENRLMNT	Thinking about this current academic term, how would you characterize your enrollment at this college?	1= Less than full-time 2=Full-time
3	3	SONLNSVY	Have you taken this ONLINE survey in another class this term?	1=Yes 2=No
3	4	SSRVAGAI	Have you taken this survey in PAPER form in another class this term?	1=Yes 2=No

5) For which of the following reasons have you gone in person, even once, to this college's campus, office, or extension center?

(This question asks students to select all options that apply. To permit multiple responses, the question is represented in the codebook by eight separate items the student either checks or does not check.)

**NOTE:** All items below have the following response values:

**0=No response**  
**1=Response**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
	5a	S4ORIENT	For orientation

	5b	S4RGSTR	To register for courses
	5c	S4ADVISE	For advising
	5d	S4CLASS	To attend class, lab, or a lecture
	5e	S4TEST	To take quizzes or examinations
	5f	S4LIB	To use the library
	5g	S4MEETIN	To meet with instructors
	5h	S4MEETST	To meet other students
	5i	S4OTRRSN	Other
	5iT	S4OTRTEXT	[Type in other reason]

6) At what other types of institutions are you taking ONLINE-ONLY classes this term?  
 (This question asks students to select all options that apply. To permit multiple responses, the question is represented in the codebook by six separate items the student either checks or does not check.)

**NOTE:** All items below have the following response values:

**0=No response**

**1=Response**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
	6a	SONCLSNO	None
	6b	SONCLSHS	High school
	6c	SONCLSVT	Vocational/technical school
	6d	SONCLSCC	Another community or technical college
	6e	SONCLS4Y	4-year college/university
	6f	SONCLASS	Other
	6fT	SONCLTXT	[Type in other reason]

7) At what other types of institutions are you taking ON-CAMPUS classes this term?  
 (This question asks students to select all options that apply. To permit multiple responses, the question is represented in the codebook by six separate items the student either checks or does not check.)

**NOTE:** All items below have the following response values:

**0=No response**

**1=Response**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
24	7a	SOTCLSNO	None
24	7b	SOTCLSHS	High school
24	7c	SOTCLSVT	Vocational/technical school
24	7d	SOTCLSCC	Another community or technical college
24	7e	SOTCLS4Y	4-year college/university
24	7f	SOTCLASS	Other
24	7fT	SOTCLTXT	[Type in other reason]

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
23	8a	SONCHRSH	ONLINE-ONLY credit hours earned at this college	[Type in number]
23	8b	STRCHRSH	ON-CAMPUS credit hours earned at this college [Type in number]	[Type in number]
	9a	SONCHRSE	ONLINE-ONLY credit hours earned at other colleges	[Type in number]
	9b	STRCHRSE	ON-CAMPUS credit hours earned at other colleges	[Type in number]
	10	SHSONLIN	How many ONLINE-ONLY classes did you take for high school credit or GED (graduate equivalency diploma) preparation?	1=None 2=One class 3=Two classes 4=Three classes 5=Four or more classes
	11	SRSNONLN	Which one of the following is your main reason for attending class ONLINE?	1=It fits my work schedule 2=To avoid commuting to and from campus 3=To stay home due to family commitments 4=To allow me to work at my own pace 5=I believed online classes would be less challenging or easier than face-to-face classes 6=I live/work in a remote location; campus is too far away 7=I have a disability; online access is more convenient 8=The class or section I needed was only available online 9=Other
	11ijT	SOTHRTXT	[type in other reason]	Text

12) In your experiences in all ONLINE classes at this college during the current school year, about how often have you done each of the following?

**NOTE:** All items below have the following response values:

- 1=Never
- 2=Sometimes
- 3=Often
- 4=Very often

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
4a	12a	SCLQUEST	Asked questions in class or contributed to class discussions

<b>CCSSE Item #</b>	<b>SOSE Item #</b>	<b>Variable Name</b>	<b>Item Description/Variable Label</b>
4b	12b	SCLPRES	Made a class presentation
	12c	SMODDISC	Moderated a class discussion
4c	12d	SREWROPA	Prepared two or more drafts of a paper or assignment before turning it in
4d	12e	SINTEGRA	Worked on a paper or project that required integrating ideas or information from various sources
4e	12f	SCLUNPRE	Participated in an online discussion without completing readings or assignments
4f	12g	SCLASSGR	Worked with other students on projects during class
4h	12h	STUTOR	Tutored or taught other students (paid or voluntary)
4l	12i	SFACGRAD	Discussed grades or assignments one-on-one with an instructor
4m	12j	SFACPLAN	Talked about career plans with an instructor or advisor
4n	12k	SFACIDEA	Discussed ideas from your readings or classes one-on-one with instructors
4o	12l	SFACFEED	Received prompt feedback (written or oral) from instructors on your performance
4p	12m	SWORKHRD	Worked harder than you thought you could to meet an instructor's standards or expectations
4q	12n	SFACOTH	Worked with instructors on activities other than coursework
4r	12o	SOOCIDEA	Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)
4t	12p	SDIFFSTD	Had serious conversations with students who differ from you in terms of their religious beliefs, political opinions, or personal values
4u	12q	SSKIPCLA	Skipped class activities
4e	12r	SMISSDLN	Missed deadlines for class assignments
	12s	STECHPRB	Encountered technical problems that disrupted your work for online classes
	12t	SNONACAD	Brainstormed or discussed solutions with another student about an issue not directly related to coursework
	12u	SPEERASK	Sought tutoring or advice on academic matters from another student
	12v	SSOURCES	Utilized a variety of sources to explore issues related to course subjects
	12w	SSHARE	Shared articles, links, or course materials with another student

13) During the current school year, how much has your ONLINE coursework at this college emphasized the following mental activities?

**NOTE:** All items below have the following response values:

- 1=Very little**
- 2=Some**
- 3=Quite a bit**
- 4=Very much**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
5a	13a	SMEMORIZ	Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form
5b	13b	SANALYZE	Analyzing the basic elements of an idea, experience, or theory
5c	13c	SSYNTHSZ	Synthesizing and organizing ideas, information, or experiences in new ways
5d	13d	SEVALUAT	Making judgments about the value or soundness of information, arguments, or methods
5e	13e	SAPPLYING	Applying theories or concepts to practical problems or in new situations
5f	13f	SPERFORM	Using information you have read or heard to perform a new skill.

14) During the current school year, about how much reading and writing have you done for your ONLINE classes at this college?

**NOTE:** All items below have the following response values:

- 1=None**
- 2=Between 1 and 4**
- 3=Between 5 and 10**
- 4=Between 11 and 20**
- 5=More than 20**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
6a	14a	SPREADASN	Number of assigned textbooks, manuals, books, or book-length packs of course readings (including e-books and online texts)
6b	14b	SREADOWN	Number of books read on your own (not assigned) for personal enjoyment or academic enrichment
6c	14c	SWRITANY	Number of written papers or reports of any length

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
7	15	SEXAMS	To what extent have your examinations in your ONLINE classes during the current school year have challenged you to do your best work at this college?	Responses range from 1 to 7, with scale anchors described: (1) Extremely easy (7) Extremely challenging

16) How would you describe your online course website?

**NOTE:** All items below have responses ranging from 1 to 7, with scale anchors as described:

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	16a	SFACILIT	Mark the number that best represents how well it helps your learning.	(1) It gets in the way of my learning (7) It helps my learning

	16b	SEASEUSE	Mark the number that best represents how easy it is to use.	(1) It is very hard to use (7) It is very easy to use
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17) Which of the following have you done, are you doing, or do you plan to do ONLINE while attending this college?

**NOTE:** All items below have the following response values:

**1=I Have Not Done, Nor Plan To Do ONLINE**  
**2=I Plan To Do ONLINE**  
**3=I Have Done ONLINE**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
	17a	SONDEVRD	Developmental/remedial reading course
	17b	SONDEVWR	Developmental/remedial writing course
	17c	SONDEVM	Developmental/remedial math course

18) Which of the following have you done, are you doing, or do you plan to do ON CAMPUS while attending this college?

**NOTE:** All items below have the following response values:

**1=I Have Not Done, Nor Plan To Do ON CAMPUS**  
**2=I Plan To Do ON CAMPUS**  
**3=I Have Done ON CAMPUS**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
8c	18a	SDEVREAD	Developmental/remedial reading course
8b	18b	SDEVWRIT	Developmental/remedial writing course
8a	18c	SDEVMATH	Developmental/remedial math course

19) How much does this college emphasize each of the following for ONLINE classes?

**NOTE:** All items below have the following response values:

**1=Very little**  
**2=Some**  
**3=Quite a bit**  
**4=Very much**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
9a	19a	SENVSCHL	Encouraging you to spend significant amounts of time studying
9b	19b	SENVSPRT	Providing the support you need to help you succeed at this college
9c	19c	SENV DVRS	Encouraging contact among students from different economic, social, and racial or ethnic backgrounds
9d	19d	SENVNACA	Helping you cope with your non-academic responsibilities (work, family, etc.)
9e	19e	SENVSOCL	Providing the support you need to thrive socially

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
9f	19f	SFINSUPP	Providing the financial support you need to afford your education
	19g	SSPACES	Providing "virtual" spaces for casual or informal socializing among online students
	19h	SNETWORK	Using online social networking tools to connect to people at this college
	19i	SOFFCAMP	Organizing off-campus programs designed for online students like yourself (for example, travel-study trips, field trips, internships, externships, or service-learning programs)
	19j	SEVENTS	Inviting you to attend on-campus events (for example, sporting events, guest lectures, cultural presentations, and graduation ceremonies)

20) About how many hours do you spend in a typical 7-day week doing each of the following?

**NOTE:** All items below have the following response values:

- 0=None**
- 1=1-5 hours**
- 2=6-10 hours**
- 3=11-20 hours**
- 4=21-30 hours**
- 5=More than 30 hours**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
10a	20a	SACADPRP	Preparing for ONLINE class (studying, reading, writing, rehearsing, doing homework, viewing recorded lectures, or other activities related to your program)
	20b	SINTSTUD	Interacting WITH OTHER ONLINE STUDENTS (chats, e-mails, discussion forums, phone calls, text messages, etc.)
	20c	SINTINST	Interacting WITH ONLINE INSTRUCTORS (chats, e-mails, discussion forums, phone calls, text messages, etc.)
10b	20d	SPAYWRK	Working for pay
10d	20e	SCAREDEP	Providing care for dependents living with you (parents, children, spouse, etc.)

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	21	SPROFCNT	How would you rate your proficiency in using a computer for ONLINE LEARNING?	1=Novice 2=Advanced beginner 3=Competent 4=Proficient 5=Expert

22) How often do you communicate with your ONLINE class instructors using these methods?

**NOTE:** All items below have the following response values:

- 1=Never**
- 2=Sometimes**
- 3=Often**
- 4=Very often**

<b>CCSSE Item #</b>	<b>SOSE Item #</b>	<b>Variable Name</b>	<b>Item Description/Variable Label</b>
	22a	SCOMWEB	Class Web site e-mail function
	22b	SCOMMAIL	Other e-mail outside of the class Web site
	22c	SCOMIM	Instant Messenger
	22d	SCOMWEB2	Online social networking tool
	22e	SCOMSMS	Text messaging or "SMS"
	22f	SCOPHON	Cell phone, Web phone, or telephone

23) When participating in ONLINE conversations (discussion boards, live chats, etc.) in your classes at this college, how often do students:

**NOTE:** All items below have the following response values:

- 1=Never**
- 2=Sometimes**
- 3=Often**
- 4=Very often**

<b>CCSSE Item #</b>	<b>SOSE Item #</b>	<b>Variable Name</b>	<b>Item Description/Variable Label</b>
	23a	SCOLLAB	Collaborate to develop ideas together
	23b	SDEBATE	Debate ideas with one another
	23c	SHANDSON	"Learn by doing" through hands-on activities
	23d	SOBSERVE	Observe other people's discussions and work before joining in

<b>CCSSE Item #</b>	<b>SOSE Item #</b>	<b>Variable Name</b>	<b>Item Description/Variable Label</b>	<b>Response Value</b>
	24	SLNSTYLE	Which kind of interaction helps you LEARN BEST when participating in ONLINE conversations (discussion boards, live chats, etc.)? (Select one.)	1=Collaborate to develop ideas together 2=Debate ideas with one another 3="Learn by doing" through hands-on activities 4= Observe other people's discussions and work before joining in

25) Thinking about your ONLINE classes at this college, how often have you ...?

**NOTE:** All items below have the following response values:

- 1=Never**
- 2=Sometimes**
- 3=Often**
- 4=Very often**

<b>CCSSE Item #</b>	<b>SOSE Item #</b>	<b>Variable Name</b>	<b>Item Description/Variable Label</b>
	25a	S121INST	Communicated one-on-one with your instructors
	25b	SGOALS	Received clear descriptions of course goals
	25c	STOPICS	Received a clear introduction to course topics
	25d	SSYLABUS	Received information about the starting times for activities, due dates, grading criteria, and other class policies
	25e	SNFORMED	Received information from instructors about the college in general (for example, add/drop deadlines, how to contact advisors, financial aid, etc.)
	25f	SDIRECT	Received direction from instructors that keeps you engaged and heading in the right direction
	25g	SDCOURS	Received guidance on ground rules for discussion and online participation
	25h	SCORRECT	Received explanations that corrected or confirmed your understanding of the material
	25i	SREGFDBK	Received feedback on a regular basis that helped you keep track of your progress in a class
	25j	SRECOGIN	Received recognition from instructors for your contributions
	25k	SRECOGST	Received recognition from classmates for your contributions
	25l	SNOTRUST	Hesitated to express your ideas for fear of negative comments or criticism
	25m	SGET2KNW	Participated in activities for students to get to know one another
	25n	SGRPLRN	Worked with classmates or in groups to explore new terms, concepts, and ideas

26) How much has YOUR EXPERIENCE IN ONLINE CLASSES AT THIS COLLEGE contributed to your knowledge, skills, and personal development in the following areas?

**NOTE:** All items below have the following response values:

- 1=Very little**
- 2=Some**
- 3=Quite a bit**
- 4=Very much**

<b>CCSSE Item #</b>	<b>SOSE Item #</b>	<b>Variable Name</b>	<b>Item Description/Variable Label</b>
12a	26a	SGNGENED	Acquiring a broad general education
12b	26b	SGNWORK	Acquiring job or work-related knowledge and skills
12c	26c	SGNWRITE	Writing clearly and effectively

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
12d	26d	SGNSPEAK	Speaking clearly and effectively
12e	26e	SGNANALY	Thinking critically and analytically
12f	26f	SGNSOLVE	Solving numerical problems
12g	26g	SGNCMPTS	Using computing and information technology
12h	26h	SGNOTHRS	Working effectively with others
12i	26i	SGNINQ	Learning effectively on your own
12j	26j	SGNSELF	Understanding yourself
12k	26k	SGNDVERS	Understanding people of other racial and ethnic backgrounds
12l	26l	SGNETHIC	Developing a personal code of values and ethics
12m	26m	SGNCOMMU	Contributing to the welfare of your community
12n	26n	SCARGOAL	Developing clearer career goals
12o	26o	SGAINCAR	Gaining information about career opportunities

27) What has been your experience with academic advising/planning?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	27a	SKNWACA	Did you know about this service?	1=Yes 2=No
13a1	27b	SUSEACA	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13a2	27c	SSATAACA	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13a3	27d	SIMPACA	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

28) What has been your experience with career counseling?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	28a	SKNWCCOU	Did you know about this service?	1=Yes 2=No
13b1	28b	SUSECCOU	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13b2	28c	SSATCCOU	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very

13b3	28d	SIMPCCOU	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very
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29) What has been your experience with job placement assistance?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	29a	SKNWBPL	Did you know about this service?	1=Yes 2=No
13c1	29b	SUSEJBPL	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13c2	29c	SSATJBPL	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13c3	29d	SIMPJBPL	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

30) What has been your experience with peer or other tutoring?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	30a	SKNWTUTR	Did you know about this service?	1=Yes 2=No
13d1	30b	SUSETUTR	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13d2	30c	SSATTUTR	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13d3	30d	SIMPTUTR	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

31) What has been your experience with skill labs (writing, math, etc.)?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	31a	SKNWLAB	Did you know about this service?	1=Yes 2=No
13e1	31b	SUSELAB	How often have you <u>used</u> this service?	0=Never 1=Once

				2=More than once
13e2	31c	SSATLAB	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13e3	31d	SIMPLAB	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

32) What has been your experience with financial aid advising?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	32a	SKNWFADV	Did you know about this service?	1=Yes 2=No
13g1	32b	SUSEFADV	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13g2	32c	SSATFADV	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13c3	32d	SIMPFADV	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

33) What has been your experience with student organizations?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	33a	SKNWSORG	Did you know about this service?	1=Yes 2=No
13i1	33b	SUSESORG	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13i2	33c	SSATSORG	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13i3	33d	SIMPSORG	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

34) What has been your experience with transfer credit assistance?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
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	34a	SKNWTCRD	Did you know about this service?	1=Yes 2=No
13j1	34b	SUSETCRD	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13j2	34c	SSATTCRD	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13j3	34d	SIMPTCRD	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

35) What has been your experience with services to students with disabilities?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	35a	SKNWDSAB	Did you know about this service?	1=Yes 2=No
13k1	35b	SUSED SAB	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13k2	35c	SSATDSAB	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13k3	35d	SIMPDSAB	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

36) What has been your experience with the creation or hosting of an e-portfolio, blog, or personalized Web page?

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	36a	SKNWPORT	Did you know about this service?	1=Yes 2=No
13h1	36b	SUSEPORT	How often have you <u>used</u> this service?	0=Never 1=Once 2=More than once
13h2	36c	SSATPORT	How <u>satisfied</u> are you with this service as an ONLINE student?	0=N.A. 1=Not at all 2=Somewhat 3=Very
13h3	36d	SIMPPORT	How <u>important</u> is this service to you as an ONLINE student?	1=Not at all 2=Somewhat 3=Very

37) Indicate which of the following are your reasons/goals for attending this college.

**NOTE:** All items below have the following response values:

- 1=Not a goal**
- 2=Secondary goal**
- 3=Primary goal**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
17a	37a	SCRTPRGM	Complete a certificate program
17b	37b	SASSOCDG	Obtain an associate degree
17c	37c	STR4YR	Transfer to a 4-year college or university
17d	37d	SOBUPSKL	Obtain or update job-related skills
17e	37e	SSLFIMP	Self-improvement/personal enjoyment
17f	37f	SCARCHNG	Change careers

38) In your experiences in all ONLINE classes at this college, how well does each of the following statements describe your experience?

**NOTE:** All items below have the following response values:

- 1=Never true**
- 2=Rarely true**
- 3=Sometimes true**
- 4=Usually true**
- 5=Always true**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
	38a	SFREEXPS	I feel free to express ideas and opinions in my class
	38b	SSEEPSRN	I perceive the personalities of others in my class as if we were together in person
	38c	SRVLPRSN	I am able to reveal my personality to my classmates and instructor (at least as much as I want to reveal)
	38d	SRANDOM	In online discussions, my classmates' responses are random or isolated, making it hard to have a meaningful conversation
	38e	SGENCONV	When I interact with my instructors, it is a genuine conversation
	38f	SWELCOME	My instructors do a good job of making people feel like a part of the class
	38g	SCURIOUS	Online assignments and activities make me curious or interested in the topics

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
	39	S_HOWTO	Did you take part in an orientation that showed you how ONLINE classes work at this college prior to the beginning of classes?	1=No 2=Yes, on campus 3=Yes, online

40) Before starting ONLINE classes at this college, did you participate in any college-sponsored tutorials or lessons on any of the following subjects? (Mark all that apply)

(This question asks students to select all options that apply. To permit multiple responses, the question is represented in the codebook by four separate items the student either checks or does not check.)

**NOTE:** All items below have the following response values:

**0=No response**

**1=Response**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
	40a	SLSNELRN	Use of your college's online learning system
	40b	SLSNSKIL	Computer skills
	40c	SLSNCOLL	College success skills
	40d	SLSNLIB	Online libraries and other information sources for use in your coursework

41) Before starting ONLINE classes at this college, did you take placement tests or readiness exams in any of these subjects? (Mark all that apply)

(This question asks students to select all options that apply. To permit multiple responses, the question is represented in the codebook by four separate items the student either checks or does not check.)

**NOTE:** All items below have the following response values:

**0=No response**

**1=Response**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
	41a	STSTSKIL	Computer skills
	41b	SWEBETIQ	Communication skills or Web etiquette

42) Indicate how often as an ONLINE student at this college you have used social networking tools (such as Facebook, MySpace, Twitter, etc.) to connect with others in the following ways)

**NOTE:** All items below have the following response values:

**1=Never**

**2=Sometimes**

**3=Often**

**4=Very often**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
	42a	SWEB2COL	Tracking updates, announcements, or events directly from this college
	42b	SWEB2CLB	Interacting with or following any official, college-sponsored student groups, clubs, or associations
	42c	SWEB2GRP	Forming, joining, or following any unofficial group created for students from this college

	42d	SWEB2INS	Connecting to my instructors (for example, through friend links or status update feeds)
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43) How likely is it that the following issues would cause you to withdraw from class or from this college?

**NOTE:** All items below have the following response values:

- 1=Not Likely**
- 2=Somewhat Likely**
- 3=Likely**
- 4=Very Likely**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
14a	43a	SWRKFULL	Working full-time
14b	43b	SCAREDP	Caring for dependents
14c	43c	SACADUNP	Academically unprepared
14d	43d	SLACKFIN	Lack of finances
14e	43e	STRANSFER	Transfer to a 4-year college or university
14f	43f	STECHNOL	Technology problems with online classes
14g	43g	SINDEPNT	Difficulty working independently as an online learner
14h	43h	SNOSUPRT	Lack of support for online learners

44) Indicate which of the following are sources you use to pay your tuition at this college.

(Please respond to each item)

**NOTE:** All items below have the following response values:

- 1=Not a source**
- 2=Minor source**
- 3=Major source**

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label
18a	44a	SOWNINC	My own income/savings
18b	44b	SPARSPIN	Parent or spouse/significant other's income/savings
18c	44c	SEMPLOYR	Employer contributions
18d	44d	SGRANTS	Grants and scholarships
18e	44e	SSTULOAN	Student loans (bank, etc.)
18f	44f	SPUBASST	Public assistance

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
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CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
20	45	STKAGAIN	When do you plan to take classes <u>at this college</u> again?	1=I will accomplish my goal(s) this term and will not be returning 2=I have no current plans to return 3=Within the next 12 months 4=Uncertain
21	46	SGPA	<u>At this college</u> , in what range is your overall college grade average?	1=Pass/fail classes only 2=Do not have a GPA at this school 3=C- or lower 4=C 5=B- to C+ 6=B 7=A- to B+ 8=A
26	47	SRECOMMN	Would you recommend ONLINE classes at this college to a friend or family member?	1=Yes 2=No
27	48	SENTREXP	How would you evaluate your entire ONLINE educational experience <u>at this college</u> ?	1=Poor 2=Fair 3=Good 4=Excellent
31	49	SMARY	Are you married?	1=Yes 2=No
28	50	SHAVKID	Do you have children who live with you?	1=Yes 2=No
	51	SVETSTAT	Which of the following best describes your service in the U.S. military?	1=Never served in the military 2=Current active duty 3=Current national guard or reserve 4=Military veteran
29	52	SAGETEXT	Your age: [Type in number of years]	Text
30	53	SSEX	Your sex	1=Male 2=Female
32	54	SENGFRST	Is English your native (first) language?	1=Yes 2=No
	54T	SALTLANG	Your native (first) language: [Type in name of language]	Text
33	55	SINTRNAT	Are you an international student or foreign national?	1=Yes 2=No

CCSSE Item #	SOSE Item #	Variable Name	Item Description/Variable Label	Response Value
34	56	SRERACE	What is your racial identification? (Mark <b>only one</b> )	1=American Indian or other Native American 2=Asian, Asian American or Pacific Islander 3=Native Hawaiian 4=Black or African American, Non-Hispanic 5=White, Non-Hispanic 6=Hispanic, Latino, Spanish 7=Other
	56T	SALTRACE	[Type in description]	Text
35	57	SHIACRED	What is the highest academic credential you have earned?	1=None 2=High school diploma or GED 3=Vocational/technical certificate 4=Associate degree 5=Bachelor's degree 6=Master's/doctoral/professional degree
36a	58m	SMOTHED	Highest level of education: mother	1=Not a high school graduate 2=High school diploma or GED 3=Some college, did not complete degree 4=Associate degree 5=Bachelor's degree 6=Master's/1 <sup>st</sup> professional degree 7=Doctorate degree 8=Unknown
36b	58f	SFATHED	Highest level of education: father	1=Not a high school graduate 2=High school diploma or GED 3=Some college, did not complete degree 4=Associate degree 5=Bachelor's degree 6=Master's/1 <sup>st</sup> professional degree 7=Doctorate degree 8=Unknown

59) What is the postal code where you live (or of your APO/FPO address if you are deployed overseas as a member of the U.S. military)?

<b>CCSSE Item #</b>	<b>SOSE Item #</b>	<b>Variable Name</b>	<b>Item Description/Variable Label</b>	<b>Response Value</b>
	59d	SZIP	What is the postal code where you currently live?	1=U.S. ZIP code 2=APO/FPO ZIP code 3=Other country's postal code
	59t	SZIPTXT	Respondent zip code	[Type in ZIP code]
	59c	SCNTRY	In what country are you currently living?	[Type in country name]

### Appendix 3: SOSE Frequency Table

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
1	SBLENDED	Thinking about this current academic term, how are you taking classes at this college?	1=I am taking ONLY online classes, I do NOT go to campus	906	100.0%	0	0.0%	906	43.5%
			2=I am taking online classes AND I go to campus	0	0.0%	1179	100.0%	1179	56.5%
			TOTAL	906	100.0%	1179	100.0%	2085	100.0%
2	SENRLMNT	Thinking about this current academic term, how would you characterize your enrollment at this college?	1= Less than full-time	638	70.4%	472	40.0%	1110	53.2%
			2=Full-time	268	29.6%	707	60.0%	975	46.8%
			TOTAL	906	100.0%	1179	100.0%	2085	100.0%
5a	S4ORIENT	[Went to college campus, office, or extension center, even once] For orientation	0=No response	737	81.9%	748	63.7%	1485	71.6%
			1=Response	163	18.1%	426	36.3%	589	28.4%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5b	S4RGSTR	[Went to college campus, office, or extension center, even once] To register for courses	0=No response	570	63.3%	554	47.2%	1124	54.2%
			1=Response	330	36.7%	620	52.8%	950	45.8%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5c	S4ADVISE	[Went to college campus, office, or extension center, even once] For advising	0=No response	510	56.7%	391	33.3%	901	43.4%
			1=Response	390	43.3%	783	66.7%	1173	56.6%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5d	S4CLASS	[Went to college campus, office, or extension center, even once] To attend class, lab, or a lecture	0=No response	743	82.6%	232	19.8%	975	47.0%
			1=Response	157	17.4%	942	80.2%	1099	53.0%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5e	S4TEST	[Went to college campus, office, or extension center, even once] To take quizzes or examinations	0=No response	562	62.4%	460	39.2%	1022	49.3%
			1=Response	338	37.6%	714	60.8%	1052	50.7%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5f	S4LIB	[Went to college campus, office, or extension center, even once] To use the library	0=No response	715	79.4%	554	47.2%	1269	61.2%
			1=Response	185	20.6%	620	52.8%	805	38.8%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5g	S4MEETIN	[Went to college campus, office, or extension center, even once] To meet with instructors	0=No response	814	90.4%	776	66.1%	1590	76.7%
			1=Response	86	9.6%	398	33.9%	484	23.3%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5h	S4MEETST	[Went to college campus, office, or extension center, even once] To meet other students	0=No response	854	94.9%	868	73.9%	1722	83.0%
			1=Response	46	5.1%	306	26.1%	352	17.0%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
5i	S4OTRRSN	[Went to college campus, office, or extension center, even once] Other	0=No response	606	67.3%	1041	88.7%	1647	79.4%
			1=Response	294	32.7%	133	11.3%	427	20.6%
			TOTAL	900	100.0%	1174	100.0%	2074	100.0%
6a	SONCLSNO	[Types of institutions where taking ONLINE-ONLY classes this term] None	0=No response	135	15.1%	93	8.0%	228	11.1%
			1=Response	761	84.9%	1073	92.0%	1834	88.9%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
6b	SONCLSXS	[Types of institutions where taking ONLINE-ONLY classes this term] High school	0=No response	873	97.4%	1162	99.7%	2035	98.7%
			1=Response	23	2.6%	4	0.3%	27	1.3%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
6c	SONCLSVT	[Types of institutions where taking ONLINE-ONLY classes this term] Vocational/technical school	0=No response	892	99.6%	1161	99.6%	2053	99.6%
			1=Response	4	0.4%	5	0.4%	9	0.4%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
6d	SONCLSCC	[Types of institutions where taking ONLINE-ONLY classes this term] Another community or technical college	0=No response	860	96.0%	1142	97.9%	2002	97.1%
			1=Response	36	4.0%	24	2.1%	60	2.9%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
6e	SONCLS4Y	[Types of institutions where taking ONLINE-ONLY classes this term] 4-year college/university	0=No response	845	94.3%	1124	96.4%	1969	95.5%
			1=Response	51	5.7%	42	3.6%	93	4.5%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
6f	SONCLASS	[Types of institutions where taking ONLINE-ONLY classes this term] Other	0=No response	885	98.8%	1156	99.1%	2041	99.0%
			1=Response	11	1.2%	10	0.9%	21	1.0%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
7a	SOTCLSNO	[Types of institutions where taking ON-CAMPUS classes this term] None	0=No response	122	13.6%	203	17.4%	325	15.8%
			1=Response	774	86.4%	963	82.6%	1737	84.2%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
7b	SOTCLSXS	[Types of institutions where taking ON-CAMPUS classes this term] High school	0=No response	858	95.8%	1155	99.1%	2013	97.6%
			1=Response	38	4.2%	11	0.9%	49	2.4%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
7c	SOTCLSVT	[Types of institutions where taking ON-CAMPUS classes this term] Vocational/technical school	0=No response	894	99.8%	1156	99.1%	2050	99.4%
			1=Response	2	0.2%	10	0.9%	12	0.6%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
7d	SOTCLSCC	[Types of institutions where taking ON-CAMPUS classes this term] Another community or technical college	0=No response	872	97.3%	1084	93.0%	1956	94.9%
			1=Response	24	2.7%	82	7.0%	106	5.1%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
7e	SOTCLS4Y	[Types of institutions where taking ON-CAMPUS classes this term] 4-year college/university	0=No response	856	95.5%	1102	94.5%	1958	95.0%
			1=Response	40	4.5%	64	5.5%	104	5.0%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
7f	SOTCLASS	[Types of institutions where taking ON-CAMPUS classes this term] Other	0=No response	882	98.4%	1141	97.9%	2023	98.1%
			1=Response	14	1.6%	25	2.1%	39	1.9%
			TOTAL	896	100.0%	1166	100.0%	2062	100.0%
10	SHSONLIN	How many ONLINE-ONLY classes did you take for high school credit or GED (graduate equivalency diploma) preparation?	1=None	807	93.8%	1060	95.2%	1867	94.6%
			2=One class	23	2.7%	30	2.7%	53	2.7%
			3=Two classes	14	1.6%	13	1.2%	27	1.4%
			4=Three classes	8	0.9%	7	0.6%	15	0.8%
			5=Four or more classes	8	0.9%	3	0.3%	11	0.6%
			TOTAL	860	100.0%	1113	100.0%	1973	100.0%
11	SRSNONLN	Which one of the following is your main reason for attending class ONLINE?	1=It fits my work schedule	373	43.3%	458	41.3%	831	42.2%
			2=To avoid commuting to and from campus	63	7.3%	98	8.8%	161	8.2%
			3=To stay home due to family commitments	159	18.4%	148	13.4%	307	15.6%
			4=To allow me to work at my own pace	74	8.6%	116	10.5%	190	9.6%
			5=I believed online classes would be less challenging or easier than face-to-face classes	7	0.8%	14	1.3%	21	1.1%
			6=I live/work in a remote location; campus is too far away	69	8.0%	20	1.8%	89	4.5%
			7=I have a disability; online access is more convenient	7	0.8%	16	1.4%	23	1.2%
			8=The class or section I needed was only available online	33	3.8%	176	15.9%	209	10.6%
			9=Other	77	8.9%	62	5.6%	139	7.1%
			TOTAL	862	100.0%	1108	100.0%	1970	100.0%
12a	SCLQUEST	Asked questions in class or contributed to class discussions	1=Never	95	11.4%	84	7.8%	179	9.3%
			2=Sometimes	158	18.9%	191	17.7%	349	18.2%
			3=Often	167	20.0%	270	25.0%	437	22.8%
			4=Very often	416	49.8%	537	49.6%	953	49.7%
			TOTAL	836	100.0%	1082	100.0%	1918	100.0%
12b	SCLPRES	Made a class presentation	1=Never	497	60.1%	600	55.8%	1097	57.6%
			2=Sometimes	174	21.0%	256	23.8%	430	22.6%
			3=Often	83	10.0%	133	12.4%	216	11.4%
			4=Very often	73	8.8%	87	8.1%	160	8.4%
			TOTAL	827	100.0%	1076	100.0%	1903	100.0%
12c	SMODDISC	Moderated a class discussion	1=Never	500	61.4%	560	52.8%	1060	56.6%
			2=Sometimes	142	17.4%	229	21.6%	371	19.8%
			3=Often	99	12.2%	153	14.4%	252	13.4%
			4=Very often	73	9.0%	118	11.1%	191	10.2%
			TOTAL	814	100.0%	1060	100.0%	1874	100.0%
12d	SREWROPA	Prepared two or more drafts of a paper or assignment before turning it in	1=Never	184	22.1%	262	24.3%	446	23.4%
			2=Sometimes	225	27.0%	272	25.3%	497	26.0%
			3=Often	227	27.3%	280	26.0%	507	26.6%
			4=Very often	197	23.6%	262	24.3%	459	24.0%
			TOTAL	833	100.0%	1076	100.0%	1909	100.0%
12e	SINTEGRA	Worked on a paper or project that required integrating ideas or information from various sources	1=Never	138	16.6%	169	15.7%	307	16.1%
			2=Sometimes	177	21.2%	239	22.2%	416	21.8%
			3=Often	259	31.1%	314	29.2%	573	30.0%
			4=Very often	259	31.1%	355	33.0%	614	32.1%
			TOTAL	833	100.0%	1077	100.0%	1910	100.0%
12f	SCLUNPRE	Participated in an online discussion without completing readings or assignments	1=Never	468	56.5%	551	51.2%	1019	53.5%
			2=Sometimes	208	25.1%	308	28.6%	516	27.1%
			3=Often	71	8.6%	105	9.8%	176	9.2%
			4=Very often	81	9.8%	112	10.4%	193	10.1%
			TOTAL	828	100.0%	1076	100.0%	1904	100.0%
12f (RVC)	RVSCLUNP	Participated in an online discussion without completing readings or assignments	1=Very often	81	9.8%	112	10.4%	193	10.1%
			2=Often	71	8.6%	105	9.8%	176	9.2%
			3=Sometimes	208	25.1%	308	28.6%	516	27.1%
			4=Never	468	56.5%	551	51.2%	1019	53.5%
			TOTAL	828	100.0%	1076	100.0%	1904	100.0%
12g	SCLASSGR	Worked with other students on projects during class	1=Never	462	55.7%	527	49.1%	989	51.9%
			2=Sometimes	193	23.3%	255	23.7%	448	23.5%
			3=Often	107	12.9%	164	15.3%	271	14.2%
			4=Very often	68	8.2%	128	11.9%	196	10.3%
			TOTAL	830	100.0%	1074	100.0%	1904	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
12h	STUTOR	Tutored or taught other students (paid or voluntary)	1=Never	745	89.7%	890	82.9%	1635	85.9%
			2=Sometimes	62	7.5%	129	12.0%	191	10.0%
			3=Often	16	1.9%	29	2.7%	45	2.4%
			4=Very often	8	1.0%	25	2.3%	33	1.7%
			TOTAL	831	100.0%	1073	100.0%	1904	100.0%
12i	SFACGRAD	Discussed grades or assignments one-on-one with an instructor	1=Never	284	35.1%	326	31.6%	610	33.1%
			2=Sometimes	369	45.6%	470	45.5%	839	45.6%
			3=Often	108	13.3%	158	15.3%	266	14.4%
			4=Very often	48	5.9%	78	7.6%	126	6.8%
			TOTAL	809	100.0%	1032	100.0%	1841	100.0%
12j	SFACPLAN	Talked about career plans with an instructor or advisor	1=Never	451	55.8%	544	52.8%	995	54.1%
			2=Sometimes	276	34.2%	326	31.6%	602	32.7%
			3=Often	53	6.6%	117	11.3%	170	9.2%
			4=Very often	28	3.5%	44	4.3%	72	3.9%
			TOTAL	808	100.0%	1031	100.0%	1839	100.0%
12k	SFACIDEA	Discussed ideas from your readings or classes one-on-one with instructors	1=Never	488	61.2%	560	54.9%	1048	57.6%
			2=Sometimes	236	29.6%	297	29.1%	533	29.3%
			3=Often	48	6.0%	119	11.7%	167	9.2%
			4=Very often	26	3.3%	44	4.3%	70	3.9%
			TOTAL	798	100.0%	1020	100.0%	1818	100.0%
12l	SFACFEED	Received prompt feedback (written or oral) from instructors on your performance	1=Never	98	12.2%	128	12.4%	226	12.3%
			2=Sometimes	233	29.0%	294	28.5%	527	28.7%
			3=Often	260	32.3%	343	33.3%	603	32.9%
			4=Very often	213	26.5%	265	25.7%	478	26.1%
			TOTAL	804	100.0%	1030	100.0%	1834	100.0%
12m	SWORKHRD	Worked harder than you thought you could to meet an instructor's standards or expectations	1=Never	116	14.4%	132	12.9%	248	13.6%
			2=Sometimes	239	29.8%	283	27.6%	522	28.5%
			3=Often	265	33.0%	374	36.5%	639	34.9%
			4=Very often	183	22.8%	237	23.1%	420	23.0%
			TOTAL	803	100.0%	1026	100.0%	1829	100.0%
12n	SFACOTH	Worked with instructors on activities other than coursework	1=Never	701	87.6%	837	82.0%	1538	84.5%
			2=Sometimes	68	8.5%	119	11.7%	187	10.3%
			3=Often	24	3.0%	44	4.3%	68	3.7%
			4=Very often	7	0.9%	21	2.1%	28	1.5%
			TOTAL	800	100.0%	1021	100.0%	1821	100.0%
12o	SOOCIDEA	Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	1=Never	162	20.3%	219	21.3%	381	20.8%
			2=Sometimes	254	31.8%	313	30.4%	567	31.0%
			3=Often	216	27.0%	300	29.1%	516	28.2%
			4=Very often	168	21.0%	198	19.2%	366	20.0%
			TOTAL	800	100.0%	1030	100.0%	1830	100.0%
12p	SDIFFSTD	Had serious conversations with students who differ from you in terms of their religious beliefs, political opinions, or personal values	1=Never	394	49.1%	462	45.0%	856	46.8%
			2=Sometimes	245	30.5%	309	30.1%	554	30.3%
			3=Often	99	12.3%	166	16.2%	265	14.5%
			4=Very often	65	8.1%	90	8.8%	155	8.5%
			TOTAL	803	100.0%	1027	100.0%	1830	100.0%
12q	SSKIPCLA	Skipped class activities	1=Never	658	82.8%	828	81.7%	1486	82.2%
			2=Sometimes	118	14.8%	162	16.0%	280	15.5%
			3=Often	12	1.5%	17	1.7%	29	1.6%
			4=Very often	7	0.9%	6	0.6%	13	0.7%
			TOTAL	795	100.0%	1013	100.0%	1808	100.0%
12r	SMISSDLN	Missed deadlines for class assignments	1=Never	505	63.9%	619	61.4%	1124	62.5%
			2=Sometimes	255	32.3%	346	34.3%	601	33.4%
			3=Often	20	2.5%	34	3.4%	54	3.0%
			4=Very often	10	1.3%	9	0.9%	19	1.1%
			TOTAL	790	100.0%	1008	100.0%	1798	100.0%
12s	STECHPRB	Encountered technical problems that disrupted your work for online classes	1=Never	352	44.5%	396	39.5%	748	41.7%
			2=Sometimes	369	46.6%	494	49.3%	863	48.1%
			3=Often	51	6.4%	87	8.7%	138	7.7%
			4=Very often	19	2.4%	25	2.5%	44	2.5%
			TOTAL	791	100.0%	1002	100.0%	1793	100.0%
12t	SNONACAD	Brainstormed or discussed solutions with another student about an issue not directly related to coursework	1=Never	571	72.0%	668	66.0%	1239	68.6%
			2=Sometimes	184	23.2%	262	25.9%	446	24.7%
			3=Often	28	3.5%	67	6.6%	95	5.3%
			4=Very often	10	1.3%	15	1.5%	25	1.4%
			TOTAL	793	100.0%	1012	100.0%	1805	100.0%
12u	SPEERASK	Sought tutoring or advice on academic matters from another student	1=Never	574	73.0%	680	67.3%	1254	69.8%
			2=Sometimes	174	22.1%	254	25.1%	428	23.8%
			3=Often	25	3.2%	60	5.9%	85	4.7%
			4=Very often	13	1.7%	17	1.7%	30	1.7%
			TOTAL	786	100.0%	1011	100.0%	1797	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
12v	SSOURCES	Utilized a variety of sources to explore issues related to course subjects	1=Never	150	19.0%	188	18.6%	338	18.7%
			2=Sometimes	258	32.7%	380	37.5%	638	35.4%
			3=Often	254	32.2%	280	27.6%	534	29.6%
			4=Very often	128	16.2%	165	16.3%	293	16.3%
			TOTAL	790	100.0%	1013	100.0%	1803	100.0%
12w	SSHARE	Shared articles, links, or course materials with another student	1=Never	354	44.6%	417	41.2%	771	42.7%
			2=Sometimes	240	30.2%	328	32.4%	568	31.5%
			3=Often	132	16.6%	169	16.7%	301	16.7%
			4=Very often	68	8.6%	98	9.7%	166	9.2%
			TOTAL	794	100.0%	1012	100.0%	1806	100.0%
13a	SMEMORIZ	Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form	1=Very little	161	21.5%	188	19.4%	349	20.3%
			2=Some	264	35.3%	346	35.8%	610	35.6%
			3=Quite a bit	206	27.5%	293	30.3%	499	29.1%
			4=Very much	117	15.6%	140	14.5%	257	15.0%
			TOTAL	748	100.0%	967	100.0%	1715	100.0%
13b	SANALYZE	Analyzing the basic elements of an idea, experience, or theory	1=Very little	57	7.7%	70	7.3%	127	7.4%
			2=Some	175	23.5%	248	25.8%	423	24.8%
			3=Quite a bit	313	42.0%	403	41.8%	716	41.9%
			4=Very much	200	26.8%	242	25.1%	442	25.9%
			TOTAL	745	100.0%	963	100.0%	1708	100.0%
13c	SSYNTHSZ	Synthesizing and organizing ideas, information, or experiences in new ways	1=Very little	78	10.5%	88	9.2%	166	9.7%
			2=Some	199	26.7%	285	29.7%	484	28.4%
			3=Quite a bit	282	37.8%	368	38.4%	650	38.1%
			4=Very much	187	25.1%	217	22.7%	404	23.7%
			TOTAL	746	100.0%	958	100.0%	1704	100.0%
13d	SEVALUAT	Making judgments about the value or soundness of information, arguments, or methods	1=Very little	95	12.7%	119	12.4%	214	12.6%
			2=Some	210	28.2%	293	30.6%	503	29.6%
			3=Quite a bit	265	35.5%	329	34.4%	594	34.9%
			4=Very much	176	23.6%	215	22.5%	391	23.0%
			TOTAL	746	100.0%	956	100.0%	1702	100.0%
13e	SAPPLYING	Applying theories or concepts to practical problems or in new situations	1=Very little	89	11.9%	107	11.1%	196	11.5%
			2=Some	179	24.0%	262	27.2%	441	25.8%
			3=Quite a bit	274	36.7%	374	38.9%	648	37.9%
			4=Very much	204	27.3%	219	22.8%	423	24.8%
			TOTAL	746	100.0%	962	100.0%	1708	100.0%
13f	SPERFORM	Using information you have read or heard to perform a new skill.	1=Very little	96	12.9%	122	12.6%	218	12.7%
			2=Some	220	29.5%	285	29.5%	505	29.5%
			3=Quite a bit	235	31.5%	321	33.3%	556	32.5%
			4=Very much	196	26.2%	237	24.6%	433	25.3%
			TOTAL	747	100.0%	965	100.0%	1712	100.0%
14a	SPREADASN	Number of assigned textbooks, manuals, books, or book-length packs of course readings (including e-books and online texts)	1=None	27	3.6%	25	2.6%	52	3.1%
			2=Between 1 and 4	440	58.9%	542	57.1%	982	57.9%
			3=Between 5 and 10	155	20.7%	206	21.7%	361	21.3%
			4=Between 11 and 20	78	10.4%	97	10.2%	175	10.3%
			5=More than 20	47	6.3%	80	8.4%	127	7.5%
			TOTAL	747	100.0%	950	100.0%	1697	100.0%
14b	SREADOWN	Number of books read on your own (not assigned) for personal enjoyment or academic enrichment	1=None	205	27.5%	265	28.0%	470	27.8%
			2=Between 1 and 4	373	50.1%	429	45.4%	802	47.5%
			3=Between 5 and 10	97	13.0%	140	14.8%	237	14.0%
			4=Between 11 and 20	26	3.5%	53	5.6%	79	4.7%
			5=More than 20	44	5.9%	58	6.1%	102	6.0%
			TOTAL	745	100.0%	945	100.0%	1690	100.0%
14c	SWRITANY	Number of written papers or reports of any length	1=None	91	12.2%	122	12.9%	213	12.6%
			2=Between 1 and 4	264	35.3%	346	36.6%	610	36.0%
			3=Between 5 and 10	184	24.6%	238	25.2%	422	24.9%
			4=Between 11 and 20	128	17.1%	162	17.1%	290	17.1%
			5=More than 20	81	10.8%	78	8.2%	159	9.4%
			TOTAL	748	100.0%	946	100.0%	1694	100.0%
15	SEXAMS	To what extent have your examinations in your ONLINE classes during the current school year have challenged you to do your best work at this college? (Responses range from 1 to 7, with scale anchors described at right.)	1=Extremely easy	8	1.1%	19	2.0%	27	1.6%
			2	11	1.5%	16	1.7%	27	1.6%
			3	33	4.4%	49	5.2%	82	4.9%
			4	107	14.4%	153	16.3%	260	15.4%
			5	212	28.5%	245	26.1%	457	27.2%
			6	211	28.4%	266	28.3%	477	28.3%
			7=Extremely challenging	161	21.7%	192	20.4%	353	21.0%
			TOTAL	743	100.0%	940	100.0%	1683	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
16a	SFACILIT	Mark the number that best represents how well it [online course website] helps your learning. (Responses range from 1 to 7, with scale anchors described at right.)	1=It gets in the way of my learning	6	0.8%	24	2.6%	30	1.8%
			2	12	1.6%	24	2.6%	36	2.2%
			3	27	3.7%	35	3.8%	62	3.7%
			4	109	14.8%	151	16.2%	260	15.6%
			5	164	22.3%	192	20.6%	356	21.4%
			6	192	26.1%	258	27.7%	450	27.0%
			7=It helps my learning	226	30.7%	247	26.5%	473	28.4%
			TOTAL	736	100.0%	931	100.0%	1667	100.0%
16b	SEASEUSE	Mark the number that best represents how easy it [online course website] is to use. (Responses range from 1 to 7, with scale anchors described at right.)	1=It is very hard to use	11	1.5%	11	1.2%	22	1.3%
			2	9	1.2%	17	1.8%	26	1.6%
			3	28	3.8%	42	4.5%	70	4.2%
			4	87	11.9%	100	10.7%	187	11.2%
			5	115	15.7%	149	15.9%	264	15.8%
			6	196	26.7%	282	30.2%	478	28.6%
			7=It is very easy to use	288	39.2%	334	35.7%	622	37.3%
			TOTAL	734	100.0%	935	100.0%	1669	100.0%
17a	SONDEVRD	Developmental/remedial reading course	1=I Have Not Done, Nor Plan To Do ONLINE	584	81.9%	804	88.6%	1388	85.7%
			2=I Plan To Do ONLINE	58	8.1%	35	3.9%	93	5.7%
			3=I Have Done ONLINE	71	10.0%	68	7.5%	139	8.6%
			TOTAL	713	100.0%	907	100.0%	1620	100.0%
17b	SONDEVWR	Developmental/remedial writing course	1=I Have Not Done, Nor Plan To Do ONLINE	546	76.9%	770	85.0%	1316	81.4%
			2=I Plan To Do ONLINE	80	11.3%	62	6.8%	142	8.8%
			3=I Have Done ONLINE	84	11.8%	74	8.2%	158	9.8%
			TOTAL	710	100.0%	906	100.0%	1616	100.0%
17c	SONDEVMM	Developmental/remedial math course	1=I Have Not Done, Nor Plan To Do ONLINE	485	68.0%	740	81.9%	1225	75.8%
			2=I Plan To Do ONLINE	111	15.6%	52	5.8%	163	10.1%
			3=I Have Done ONLINE	117	16.4%	112	12.4%	229	14.2%
			TOTAL	713	100.0%	904	100.0%	1617	100.0%
18a	SDEVREAD	Developmental/remedial reading course	1=I Have Not Done, Nor Plan To	619	88.6%	686	77.2%	1305	82.2%
			2=I Plan To Do ON CAMPUS	20	2.9%	58	6.5%	78	4.9%
			3=I Have Done ON CAMPUS	60	8.6%	145	16.3%	205	12.9%
			TOTAL	699	100.0%	889	100.0%	1588	100.0%
18b	SDEVWRIT	Developmental/remedial writing course	1=I Have Not Done, Nor Plan To	613	87.6%	656	73.2%	1269	79.5%
			2=I Plan To Do ON CAMPUS	20	2.9%	84	9.4%	104	6.5%
			3=I Have Done ON CAMPUS	67	9.6%	156	17.4%	223	14.0%
			TOTAL	700	100.0%	896	100.0%	1596	100.0%
18c	SDEVMMATH	Developmental/remedial math course	1=I Have Not Done, Nor Plan To	565	80.0%	508	56.1%	1073	66.6%
			2=I Plan To Do ON CAMPUS	53	7.5%	140	15.5%	193	12.0%
			3=I Have Done ON CAMPUS	88	12.5%	258	28.5%	346	21.5%
			TOTAL	706	100.0%	906	100.0%	1612	100.0%
19a	SENVSCHL	Encouraging you to spend significant amounts of time studying	1=Very little	24	3.4%	42	4.7%	66	4.1%
			2=Some	123	17.5%	140	15.6%	263	16.4%
			3=Quite a bit	305	43.3%	377	42.0%	682	42.6%
			4=Very much	252	35.8%	338	37.7%	590	36.9%
			TOTAL	704	100.0%	897	100.0%	1601	100.0%
19b	SENVSPRT	Providing the support you need to help you succeed at this college	1=Very little	50	7.1%	57	6.4%	107	6.7%
			2=Some	144	20.5%	170	19.0%	314	19.6%
			3=Quite a bit	273	38.8%	349	38.9%	622	38.9%
			4=Very much	236	33.6%	321	35.8%	557	34.8%
			TOTAL	703	100.0%	897	100.0%	1600	100.0%
19c	SENVDVRS	Encouraging contact among students from different economic, social, and racial or ethnic backgrounds	1=Very little	172	24.6%	164	18.3%	336	21.1%
			2=Some	196	28.1%	215	24.0%	411	25.8%
			3=Quite a bit	173	24.8%	270	30.2%	443	27.8%
			4=Very much	157	22.5%	245	27.4%	402	25.3%
			TOTAL	698	100.0%	894	100.0%	1592	100.0%
19d	SENVNACA	Helping you cope with your non-academic responsibilities (work, family, etc.)	1=Very little	324	46.3%	316	35.5%	640	40.2%
			2=Some	180	25.7%	272	30.5%	452	28.4%
			3=Quite a bit	99	14.1%	164	18.4%	263	16.5%
			4=Very much	97	13.9%	139	15.6%	236	14.8%
			TOTAL	700	100.0%	891	100.0%	1591	100.0%
19e	SENVSOCL	Providing the support you need to thrive socially	1=Very little	294	42.3%	272	30.3%	566	35.6%
			2=Some	198	28.5%	291	32.4%	489	30.7%
			3=Quite a bit	128	18.4%	197	22.0%	325	20.4%
			4=Very much	75	10.8%	137	15.3%	212	13.3%
			TOTAL	695	100.0%	897	100.0%	1592	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
19f	SFINSUPP	Providing the financial support you need to afford your education	1=Very little	178	26.4%	142	16.5%	320	20.8%
			2=Some	186	27.6%	212	24.7%	398	25.9%
			3=Quite a bit	146	21.6%	231	26.9%	377	24.6%
			4=Very much	165	24.4%	275	32.0%	440	28.7%
			TOTAL	675	100.0%	860	100.0%	1535	100.0%
19g	SSPACES	Providing "virtual" spaces for casual or informal socializing among online students	1=Very little	140	20.9%	172	20.0%	312	20.4%
			2=Some	239	35.7%	252	29.4%	491	32.1%
			3=Quite a bit	166	24.8%	251	29.3%	417	27.3%
			4=Very much	125	18.7%	183	21.3%	308	20.2%
			TOTAL	670	100.0%	858	100.0%	1528	100.0%
19h	SNETWORK	Using online social networking tools to connect to people at this college	1=Very little	229	34.3%	201	23.5%	430	28.2%
			2=Some	208	31.1%	252	29.4%	460	30.2%
			3=Quite a bit	136	20.4%	240	28.0%	376	24.7%
			4=Very much	95	14.2%	164	19.1%	259	17.0%
			TOTAL	668	100.0%	857	100.0%	1525	100.0%
19i	SOFFCAMP	Organizing off-campus programs designed for online students like yourself (for example, travel-study trips, field trips, internships, externships, or service-learning programs)	1=Very little	394	59.3%	419	49.0%	813	53.5%
			2=Some	158	23.8%	228	26.7%	386	25.4%
			3=Quite a bit	65	9.8%	127	14.9%	192	12.6%
			4=Very much	47	7.1%	81	9.5%	128	8.4%
			TOTAL	664	100.0%	855	100.0%	1519	100.0%
19j	SEVENTS	Inviting you to attend on-campus events (for example, sporting events, guest lectures, cultural presentations, and graduation ceremonies)	1=Very little	273	40.7%	252	29.3%	525	34.3%
			2=Some	196	29.3%	233	27.1%	429	28.1%
			3=Quite a bit	118	17.6%	194	22.6%	312	20.4%
			4=Very much	83	12.4%	180	21.0%	263	17.2%
			TOTAL	670	100.0%	859	100.0%	1529	100.0%
20a	SACADPRP	[Hours per 7-day week] Preparing for ONLINE class (studying, reading, writing, rehearsing, doing homework, viewing recorded lectures, or other activities related to your program)	0=None	2	0.3%	15	1.8%	17	1.1%
			1=1-5 hours	145	21.9%	236	27.8%	381	25.2%
			2=6-10 hours	205	30.9%	287	33.8%	492	32.5%
			3=11-20 hours	177	26.7%	183	21.5%	360	23.8%
			4=21-30 hours	95	14.3%	81	9.5%	176	11.6%
			5=More than 30 hours	39	5.9%	48	5.6%	87	5.8%
			TOTAL	663	100.0%	850	100.0%	1513	100.0%
20b	SINTSTUD	[Hours per 7-day week] Interacting WITH OTHER ONLINE STUDENTS (chats, e-mails, discussion forums, phone calls, text messages, etc.)	0=None	192	28.9%	194	22.9%	386	25.5%
			1=1-5 hours	379	57.0%	527	62.3%	906	60.0%
			2=6-10 hours	61	9.2%	90	10.6%	151	10.0%
			3=11-20 hours	21	3.2%	20	2.4%	41	2.7%
			4=21-30 hours	6	0.9%	8	0.9%	14	0.9%
			5=More than 30 hours	6	0.9%	7	0.8%	13	0.9%
			TOTAL	665	100.0%	846	100.0%	1511	100.0%
20c	SINTINST	[Hours per 7-day week] Interacting WITH ONLINE INSTRUCTORS (chats, e-mails, discussion forums, phone calls, text messages, etc.)	0=None	161	24.2%	209	24.6%	370	24.5%
			1=1-5 hours	454	68.4%	566	66.7%	1020	67.5%
			2=6-10 hours	32	4.8%	51	6.0%	83	5.5%
			3=11-20 hours	8	1.2%	9	1.1%	17	1.1%
			4=21-30 hours	7	1.1%	5	0.6%	12	0.8%
			5=More than 30 hours	2	0.3%	8	0.9%	10	0.7%
			TOTAL	664	100.0%	848	100.0%	1512	100.0%
20d	SPAYWRK	[Hours per 7-day week] Working for pay	0=None	153	23.1%	265	31.5%	418	27.8%
			1=1-5 hours	23	3.5%	32	3.8%	55	3.7%
			2=6-10 hours	24	3.6%	44	5.2%	68	4.5%
			3=11-20 hours	31	4.7%	62	7.4%	93	6.2%
			4=21-30 hours	38	5.7%	89	10.6%	127	8.4%
			5=More than 30 hours	394	59.4%	350	41.6%	744	49.4%
			TOTAL	663	100.0%	842	100.0%	1505	100.0%
20e	SCAREDEP	[Hours per 7-day week] Providing care for dependents living with you (parents, children, spouse, etc.)	0=None	156	23.5%	195	23.0%	351	23.2%
			1=1-5 hours	56	8.4%	89	10.5%	145	9.6%
			2=6-10 hours	53	8.0%	62	7.3%	115	7.6%
			3=11-20 hours	56	8.4%	62	7.3%	118	7.8%
			4=21-30 hours	55	8.3%	55	6.5%	110	7.3%
			5=More than 30 hours	288	43.4%	383	45.3%	671	44.4%
			TOTAL	664	100.0%	846	100.0%	1510	100.0%
21	SPROFCNT	How would you rate your proficiency in using a computer for ONLINE LEARNING?	1=Novice	11	1.6%	33	3.9%	44	2.9%
			2=Advanced beginner	28	4.2%	78	9.1%	106	6.9%
			3=Competent	133	19.8%	181	21.1%	314	20.6%
			4=Proficient	340	50.7%	380	44.4%	720	47.2%
			5=Expert	159	23.7%	184	21.5%	343	22.5%
			TOTAL	671	100.0%	856	100.0%	1527	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
22a	SCOMWEB	Class website e-mail function	1=Never	51	7.7%	74	8.7%	125	8.3%
			2=Sometimes	267	40.2%	332	39.1%	599	39.6%
			3=Often	198	29.8%	261	30.7%	459	30.3%
			4=Very often	148	22.3%	182	21.4%	330	21.8%
			TOTAL	664	100.0%	849	100.0%	1513	100.0%
22b	SCOMMAIL	Other e-mail outside of the class Web site	1=Never	372	55.9%	450	53.0%	822	54.3%
			2=Sometimes	173	26.0%	208	24.5%	381	25.1%
			3=Often	68	10.2%	115	13.5%	183	12.1%
			4=Very often	53	8.0%	76	9.0%	129	8.5%
			TOTAL	666	100.0%	849	100.0%	1515	100.0%
22c	SCOMIM	Instant Messenger	1=Never	593	90.1%	720	85.4%	1313	87.5%
			2=Sometimes	38	5.8%	70	8.3%	108	7.2%
			3=Often	13	2.0%	32	3.8%	45	3.0%
			4=Very often	14	2.1%	21	2.5%	35	2.3%
			TOTAL	658	100.0%	843	100.0%	1501	100.0%
22d	SCOMWEB2	Online social networking tool	1=Never	602	90.7%	721	85.5%	1323	87.8%
			2=Sometimes	33	5.0%	64	7.6%	97	6.4%
			3=Often	13	2.0%	29	3.4%	42	2.8%
			4=Very often	16	2.4%	29	3.4%	45	3.0%
			TOTAL	664	100.0%	843	100.0%	1507	100.0%
22e	SCOMSMS	Text messaging or "SMS"	1=Never	598	90.5%	723	86.1%	1321	88.0%
			2=Sometimes	23	3.5%	54	6.4%	77	5.1%
			3=Often	12	1.8%	25	3.0%	37	2.5%
			4=Very often	28	4.2%	38	4.5%	66	4.4%
			TOTAL	661	100.0%	840	100.0%	1501	100.0%
22f	SCOMPHON	Cell phone, Web phone, or telephone	1=Never	493	74.7%	548	64.7%	1041	69.1%
			2=Sometimes	107	16.2%	201	23.7%	308	20.4%
			3=Often	26	3.9%	45	5.3%	71	4.7%
			4=Very often	34	5.2%	53	6.3%	87	5.8%
			TOTAL	660	100.0%	847	100.0%	1507	100.0%
23a	SCOLLAB	Collaborate to develop ideas together	1=Never	188	29.1%	204	24.7%	392	26.6%
			2=Sometimes	253	39.2%	352	42.7%	605	41.1%
			3=Often	140	21.7%	177	21.5%	317	21.5%
			4=Very often	65	10.1%	92	11.2%	157	10.7%
			TOTAL	646	100.0%	825	100.0%	1471	100.0%
23b	SDEBATE	Debate ideas with one another	1=Never	141	21.8%	137	16.7%	278	19.0%
			2=Sometimes	196	30.3%	300	36.6%	496	33.8%
			3=Often	194	30.0%	217	26.5%	411	28.0%
			4=Very often	115	17.8%	166	20.2%	281	19.2%
			TOTAL	646	100.0%	820	100.0%	1466	100.0%
23c	SHANDSON	"Learn by doing" through hands-on activities	1=Never	311	48.6%	337	41.3%	648	44.5%
			2=Sometimes	189	29.5%	268	32.8%	457	31.4%
			3=Often	94	14.7%	137	16.8%	231	15.9%
			4=Very often	46	7.2%	74	9.1%	120	8.2%
			TOTAL	640	100.0%	816	100.0%	1456	100.0%
23d	SOBSERVE	Observe other people's discussions and work before joining in	1=Never	142	22.2%	119	14.5%	261	17.8%
			2=Sometimes	217	33.9%	323	39.3%	540	36.9%
			3=Often	182	28.4%	239	29.1%	421	28.8%
			4=Very often	100	15.6%	141	17.2%	241	16.5%
			TOTAL	641	100.0%	822	100.0%	1463	100.0%
24	SLNSTYLE	Which kind of interaction helps you LEARN BEST when participating in ONLINE conversations (discussion boards, live chats, etc.)?	1=Collaborate to develop ideas	105	16.5%	137	16.8%	242	16.7%
			2=Debate ideas with one another	161	25.2%	217	26.7%	378	26.0%
			3="Learn by doing" through hands-on activities	204	32.0%	245	30.1%	449	30.9%
			4=Observe other people's discussions and work before	168	26.3%	215	26.4%	383	26.4%
			TOTAL	638	100.0%	814	100.0%	1452	100.0%
25a	S121INST	Communicated one-on-one with your instructors	1=Never	72	11.3%	110	13.5%	182	12.5%
			2=Sometimes	353	55.5%	404	49.4%	757	52.1%
			3=Often	137	21.5%	219	26.8%	356	24.5%
			4=Very often	74	11.6%	84	10.3%	158	10.9%
			TOTAL	636	100.0%	817	100.0%	1453	100.0%
25b	SGOALS	Received clear descriptions of course goals	1=Never	17	2.7%	26	3.2%	43	3.0%
			2=Sometimes	91	14.3%	145	17.8%	236	16.3%
			3=Often	230	36.1%	302	37.1%	532	36.7%
			4=Very often	300	47.0%	340	41.8%	640	44.1%
			TOTAL	638	100.0%	813	100.0%	1451	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
25c	STOPICS	Received a clear introduction to course topics	1=Never	10	1.6%	24	3.0%	34	2.4%
			2=Sometimes	88	13.9%	121	15.0%	209	14.5%
			3=Often	236	37.2%	290	35.8%	526	36.5%
			4=Very often	300	47.3%	374	46.2%	674	46.7%
			TOTAL	634	100.0%	809	100.0%	1443	100.0%
25d	SSYLABUS	Received information about the starting times for activities, due dates, grading criteria, and other class policies	1=Never	7	1.1%	15	1.8%	22	1.5%
			2=Sometimes	72	11.3%	91	11.2%	163	11.2%
			3=Often	186	29.1%	264	32.5%	450	31.0%
			4=Very often	374	58.5%	442	54.4%	816	56.2%
			TOTAL	639	100.0%	812	100.0%	1451	100.0%
25e	SNFORMED	Received information from instructors about the college in general (for example, add/drop deadlines, how to contact advisors, financial aid, etc.)	1=Never	88	13.8%	96	11.9%	184	12.7%
			2=Sometimes	158	24.7%	194	24.0%	352	24.3%
			3=Often	163	25.5%	240	29.6%	403	27.8%
			4=Very often	230	36.0%	280	34.6%	510	35.2%
			TOTAL	639	100.0%	810	100.0%	1449	100.0%
25f	SDIRECT	Received direction from instructors that keeps you engaged and heading in the right direction	1=Never	49	7.7%	63	7.8%	112	7.7%
			2=Sometimes	167	26.1%	189	23.3%	356	24.5%
			3=Often	220	34.4%	270	33.3%	490	33.8%
			4=Very often	203	31.8%	290	35.7%	493	34.0%
			TOTAL	639	100.0%	812	100.0%	1451	100.0%
25g	SDCOURS	Received guidance on ground rules for discussion and online participation	1=Never	41	6.4%	51	6.3%	92	6.3%
			2=Sometimes	150	23.5%	160	19.6%	310	21.3%
			3=Often	180	28.2%	277	34.0%	457	31.5%
			4=Very often	267	41.8%	327	40.1%	594	40.9%
			TOTAL	638	100.0%	815	100.0%	1453	100.0%
25h	SCORRECT	Received explanations that corrected or confirmed your understanding of the material	1=Never	53	8.6%	79	9.9%	132	9.4%
			2=Sometimes	212	34.5%	245	30.9%	457	32.5%
			3=Often	212	34.5%	260	32.7%	472	33.5%
			4=Very often	137	22.3%	210	26.4%	347	24.6%
			TOTAL	614	100.0%	794	100.0%	1408	100.0%
25i	SREGFDBK	Received feedback on a regular basis that helped you keep track of your progress in a class	1=Never	46	7.5%	79	10.0%	125	8.9%
			2=Sometimes	156	25.4%	206	26.0%	362	25.7%
			3=Often	228	37.1%	278	35.1%	506	36.0%
			4=Very often	185	30.1%	229	28.9%	414	29.4%
			TOTAL	615	100.0%	792	100.0%	1407	100.0%
25j	SRECOGIN	Received recognition from instructors for your contributions	1=Never	123	20.1%	181	22.9%	304	21.7%
			2=Sometimes	208	33.9%	263	33.3%	471	33.6%
			3=Often	160	26.1%	190	24.1%	350	24.9%
			4=Very often	122	19.9%	156	19.7%	278	19.8%
			TOTAL	613	100.0%	790	100.0%	1403	100.0%
25k	SRECOGST	Received recognition from classmates for your contributions	1=Never	194	31.6%	227	28.7%	421	30.0%
			2=Sometimes	227	37.0%	309	39.1%	536	38.2%
			3=Often	133	21.7%	166	21.0%	299	21.3%
			4=Very often	59	9.6%	88	11.1%	147	10.5%
			TOTAL	613	100.0%	790	100.0%	1403	100.0%
25l	SNOTRUST	Hesitated to express your ideas for fear of negative comments or criticism	1=Never	364	59.3%	424	53.8%	788	56.2%
			2=Sometimes	180	29.3%	243	30.8%	423	30.2%
			3=Often	50	8.1%	90	11.4%	140	10.0%
			4=Very often	20	3.3%	31	3.9%	51	3.6%
			TOTAL	614	100.0%	788	100.0%	1402	100.0%
25m	SGET2KNW	Participated in activities for students to get to know one another	1=Never	199	32.7%	189	24.0%	388	27.8%
			2=Sometimes	198	32.5%	317	40.2%	515	36.8%
			3=Often	138	22.7%	183	23.2%	321	23.0%
			4=Very often	74	12.2%	100	12.7%	174	12.4%
			TOTAL	609	100.0%	789	100.0%	1398	100.0%
25n	SGRPLRN	Worked with classmates or in groups to explore new terms, concepts, and ideas	1=Never	265	43.2%	297	37.6%	562	40.1%
			2=Sometimes	179	29.2%	270	34.2%	449	32.0%
			3=Often	122	19.9%	149	18.9%	271	19.3%
			4=Very often	48	7.8%	73	9.3%	121	8.6%
			TOTAL	614	100.0%	789	100.0%	1403	100.0%
26a	SGNGENED	Acquiring a broad general education	1=Very little	42	7.0%	72	9.3%	114	8.3%
			2=Some	152	25.4%	189	24.5%	341	24.9%
			3=Quite a bit	212	35.4%	269	34.8%	481	35.1%
			4=Very much	193	32.2%	243	31.4%	436	31.8%
			TOTAL	599	100.0%	773	100.0%	1372	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
26b	SGNWORK	Acquiring job or work-related knowledge and skills	1=Very little	111	18.5%	141	18.3%	252	18.4%
			2=Some	167	27.8%	229	29.7%	396	28.8%
			3=Quite a bit	168	28.0%	218	28.2%	386	28.1%
			4=Very much	155	25.8%	184	23.8%	339	24.7%
			TOTAL	601	100.0%	772	100.0%	1373	100.0%
26c	SGNWRITE	Writing clearly and effectively	1=Very little	87	14.5%	111	14.3%	198	14.4%
			2=Some	140	23.4%	181	23.4%	321	23.4%
			3=Quite a bit	209	34.9%	268	34.6%	477	34.7%
			4=Very much	163	27.2%	214	27.6%	377	27.5%
			TOTAL	599	100.0%	774	100.0%	1373	100.0%
26d	SGNSPEAK	Speaking clearly and effectively	1=Very little	182	30.5%	196	25.4%	378	27.6%
			2=Some	148	24.8%	219	28.4%	367	26.8%
			3=Quite a bit	148	24.8%	201	26.0%	349	25.5%
			4=Very much	119	19.9%	156	20.2%	275	20.1%
			TOTAL	597	100.0%	772	100.0%	1369	100.0%
26e	SGNANALY	Thinking critically and analytically	1=Very little	41	6.8%	54	7.0%	95	6.9%
			2=Some	132	22.0%	156	20.3%	288	21.1%
			3=Quite a bit	220	36.7%	288	37.5%	508	37.1%
			4=Very much	207	34.5%	270	35.2%	477	34.9%
			TOTAL	600	100.0%	768	100.0%	1368	100.0%
26f	SGNSOLVE	Solving numerical problems	1=Very little	173	28.9%	254	33.0%	427	31.2%
			2=Some	143	23.9%	190	24.7%	333	24.3%
			3=Quite a bit	155	25.9%	168	21.8%	323	23.6%
			4=Very much	128	21.4%	157	20.4%	285	20.8%
			TOTAL	599	100.0%	769	100.0%	1368	100.0%
26g	SGNCMPTS	Using computing and information technology	1=Very little	64	10.7%	87	11.3%	151	11.0%
			2=Some	145	24.2%	170	22.0%	315	23.0%
			3=Quite a bit	188	31.4%	246	31.9%	434	31.7%
			4=Very much	201	33.6%	268	34.8%	469	34.3%
			TOTAL	598	100.0%	771	100.0%	1369	100.0%
26h	SGNOTHRS	Working effectively with others	1=Very little	161	27.2%	193	25.2%	354	26.1%
			2=Some	187	31.5%	206	26.9%	393	28.9%
			3=Quite a bit	145	24.5%	216	28.2%	361	26.6%
			4=Very much	100	16.9%	150	19.6%	250	18.4%
			TOTAL	593	100.0%	765	100.0%	1358	100.0%
26i	SGNINQ	Learning effectively on your own	1=Very little	29	4.9%	38	5.0%	67	4.9%
			2=Some	76	12.8%	105	13.8%	181	13.4%
			3=Quite a bit	182	30.7%	267	35.0%	449	33.1%
			4=Very much	305	51.5%	353	46.3%	658	48.6%
			TOTAL	592	100.0%	763	100.0%	1355	100.0%
26j	SGNSELF	Understanding yourself	1=Very little	70	11.9%	86	11.3%	156	11.6%
			2=Some	129	21.9%	156	20.5%	285	21.1%
			3=Quite a bit	185	31.5%	251	32.9%	436	32.3%
			4=Very much	204	34.7%	269	35.3%	473	35.0%
			TOTAL	588	100.0%	762	100.0%	1350	100.0%
26k	SGNDVERS	Understanding people of other racial and ethnic backgrounds	1=Very little	205	34.7%	201	26.3%	406	30.0%
			2=Some	160	27.1%	202	26.5%	362	26.7%
			3=Quite a bit	118	20.0%	197	25.8%	315	23.3%
			4=Very much	108	18.3%	163	21.4%	271	20.0%
			TOTAL	591	100.0%	763	100.0%	1354	100.0%
26l	SGNETHIC	Developing a personal code of values and ethics	1=Very little	155	26.2%	174	22.8%	329	24.3%
			2=Some	150	25.4%	170	22.3%	320	23.6%
			3=Quite a bit	138	23.4%	206	27.0%	344	25.4%
			4=Very much	148	25.0%	213	27.9%	361	26.7%
			TOTAL	591	100.0%	763	100.0%	1354	100.0%
26m	SGNCOMMU	Contributing to the welfare of your community	1=Very little	234	39.8%	285	37.3%	519	38.4%
			2=Some	179	30.4%	216	28.3%	395	29.2%
			3=Quite a bit	101	17.2%	146	19.1%	247	18.3%
			4=Very much	74	12.6%	117	15.3%	191	14.1%
			TOTAL	588	100.0%	764	100.0%	1352	100.0%
26n	SCARGOAL	Developing clearer career goals	1=Very little	133	22.5%	172	22.6%	305	22.5%
			2=Some	147	24.9%	194	25.5%	341	25.2%
			3=Quite a bit	158	26.7%	194	25.5%	352	26.0%
			4=Very much	153	25.9%	202	26.5%	355	26.2%
			TOTAL	591	100.0%	762	100.0%	1353	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
26o	SGAINCAR	Gaining information about career opportunities	1=Very little	209	35.5%	238	31.4%	447	33.2%
			2=Some	149	25.3%	193	25.4%	342	25.4%
			3=Quite a bit	119	20.2%	170	22.4%	289	21.5%
			4=Very much	111	18.9%	158	20.8%	269	20.0%
			TOTAL	588	100.0%	759	100.0%	1347	100.0%
27a	SKNWACA	Did you know about this service? [academic advising/planning]	1=Yes	429	71.9%	594	77.2%	1023	74.9%
			2=No	168	28.1%	175	22.8%	343	25.1%
			TOTAL	597	100.0%	769	100.0%	1366	100.0%
27b	SUSEACA	How often have you used this service? [academic advising/planning]	0=Never	80	19.2%	79	13.5%	159	15.9%
			1=Once	148	35.5%	154	26.3%	302	30.1%
			2=More than once	189	45.3%	352	60.2%	541	54.0%
			TOTAL	417	100.0%	585	100.0%	1002	100.0%
27c	SSATACA	How satisfied are you with this service as an ONLINE student? [academic advising/planning]	0=N.A.	69	16.4%	85	14.4%	154	15.2%
			1=Not at all	42	10.0%	64	10.8%	106	10.5%
			2=Somewhat	148	35.2%	226	38.2%	374	37.0%
			3=Very	162	38.5%	216	36.5%	378	37.4%
			TOTAL	421	100.0%	591	100.0%	1012	100.0%
27d	SIMPACA	How important is this service to you as an ONLINE student? [academic advising/planning]	1=Not at all	38	8.9%	51	8.7%	89	8.8%
			2=Somewhat	139	32.7%	190	32.3%	329	32.4%
			3=Very	248	58.4%	348	59.1%	596	58.8%
			TOTAL	425	100.0%	589	100.0%	1014	100.0%
28a	SKNWCCOU	Did you know about this service? [career counseling]	1=Yes	258	43.1%	381	49.5%	639	46.7%
			2=No	341	56.9%	389	50.5%	730	53.3%
			TOTAL	599	100.0%	770	100.0%	1369	100.0%
28b	SUSECCOU	How often have you used this service? [career counseling]	0=Never	146	57.7%	184	48.8%	330	52.4%
			1=Once	55	21.7%	110	29.2%	165	26.2%
			2=More than once	52	20.6%	83	22.0%	135	21.4%
			TOTAL	253	100.0%	377	100.0%	630	100.0%
28c	SSATCCOU	How satisfied are you with this service as an ONLINE student? [career counseling]	0=N.A.	128	50.8%	168	44.7%	296	47.1%
			1=Not at all	16	6.3%	29	7.7%	45	7.2%
			2=Somewhat	48	19.0%	89	23.7%	137	21.8%
			3=Very	60	23.8%	90	23.9%	150	23.9%
			TOTAL	252	100.0%	376	100.0%	628	100.0%
28d	SIMPCCOU	How important is this service to you as an ONLINE student? [career counseling]	1=Not at all	44	17.5%	59	15.9%	103	16.6%
			2=Somewhat	107	42.6%	137	37.0%	244	39.3%
			3=Very	100	39.8%	174	47.0%	274	44.1%
			TOTAL	251	100.0%	370	100.0%	621	100.0%
29a	SKNWJBPL	Did you know about this service? [job placement assistance]	1=Yes	139	23.3%	215	28.1%	354	26.0%
			2=No	458	76.7%	550	71.9%	1008	74.0%
			TOTAL	597	100.0%	765	100.0%	1362	100.0%
29b	SUSEJBPL	How often have you used this service? [job placement assistance]	0=Never	122	89.1%	164	76.6%	286	81.5%
			1=Once	10	7.3%	35	16.4%	45	12.8%
			2=More than once	5	3.6%	15	7.0%	20	5.7%
			TOTAL	137	100.0%	214	100.0%	351	100.0%
29c	SSATJBPL	How satisfied are you with this service as an ONLINE student? [job placement assistance]	0=N.A.	107	78.1%	144	68.2%	251	72.1%
			1=Not at all	9	6.6%	16	7.6%	25	7.2%
			2=Somewhat	9	6.6%	33	15.6%	42	12.1%
			3=Very	12	8.8%	18	8.5%	30	8.6%
			TOTAL	137	100.0%	211	100.0%	348	100.0%
29d	SIMPJBPL	How important is this service to you as an ONLINE student?	1=Not at all	40	29.4%	53	25.4%	93	27.0%
			2=Somewhat	46	33.8%	71	34.0%	117	33.9%
			3=Very	50	36.8%	85	40.7%	135	39.1%
			TOTAL	136	100.0%	209	100.0%	345	100.0%
30a	SKNWTUTR	Did you know about this service? [peer or other tutoring]	1=Yes	309	52.3%	468	61.3%	777	57.4%
			2=No	282	47.7%	295	38.7%	577	42.6%
			TOTAL	591	100.0%	763	100.0%	1354	100.0%
30b	SUSETUTR	How often have you used this service? [peer or other tutoring]	0=Never	224	73.9%	275	59.4%	499	65.1%
			1=Once	38	12.5%	55	11.9%	93	12.1%
			2=More than once	41	13.5%	133	28.7%	174	22.7%
			TOTAL	303	100.0%	463	100.0%	766	100.0%
30c	SSATTUTR	How satisfied are you with this service as an ONLINE student? [peer or other tutoring]	0=N.A.	212	70.2%	256	56.1%	468	61.7%
			1=Not at all	9	3.0%	21	4.6%	30	4.0%
			2=Somewhat	46	15.2%	86	18.9%	132	17.4%
			3=Very	35	11.6%	93	20.4%	128	16.9%
			TOTAL	302	100.0%	456	100.0%	758	100.0%
30d	SIMPTUTR	How important is this service to you as an ONLINE student? [peer or other tutoring]	1=Not at all	79	26.2%	86	18.8%	165	21.7%
			2=Somewhat	116	38.5%	185	40.4%	301	39.7%
			3=Very	106	35.2%	187	40.8%	293	38.6%
			TOTAL	301	100.0%	458	100.0%	759	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
31a	SKNWLAB	Did you know about this service? [skill labs (writing, math, etc.)]	1=Yes	202	34.2%	335	43.6%	537	39.5%
			2=No	388	65.8%	433	56.4%	821	60.5%
			TOTAL	590	100.0%	768	100.0%	1358	100.0%
31b	SUSELAB	How often have you used this service? [skill labs (writing, math, etc.)]	0=Never	124	62.6%	138	41.9%	262	49.7%
			1=Once	29	14.6%	45	13.7%	74	14.0%
			2=More than once	45	22.7%	146	44.4%	191	36.2%
			TOTAL	198	100.0%	329	100.0%	527	100.0%
31c	SSATLAB	How satisfied are you with this service as an ONLINE student? [skill labs (writing, math, etc.)]	0=N.A.	113	57.7%	139	42.0%	252	47.8%
			1=Not at all	4	2.0%	9	2.7%	13	2.5%
			2=Somewhat	35	17.9%	68	20.5%	103	19.5%
			3=Very	44	22.4%	115	34.7%	159	30.2%
			TOTAL	196	100.0%	331	100.0%	527	100.0%
31d	SIMPLAB	How important is this service to you as an ONLINE student? [skill labs (writing, math, etc.)]	1=Not at all	41	21.1%	46	14.2%	87	16.8%
			2=Somewhat	80	41.2%	99	30.5%	179	34.5%
			3=Very	73	37.6%	180	55.4%	253	48.7%
			TOTAL	194	100.0%	325	100.0%	519	100.0%
32a	SKNWFADV	Did you know about this service? [financial aid advising]	1=Yes	423	71.6%	604	78.4%	1027	75.5%
			2=No	168	28.4%	166	21.6%	334	24.5%
			TOTAL	591	100.0%	770	100.0%	1361	100.0%
32b	SUSEFADV	How often have you used this service? [financial aid advising]	0=Never	131	31.3%	123	20.8%	254	25.2%
			1=Once	110	26.3%	122	20.6%	232	23.0%
			2=More than once	177	42.3%	346	58.5%	523	51.8%
			TOTAL	418	100.0%	591	100.0%	1009	100.0%
32c	SSATFADV	How satisfied are you with this service as an ONLINE student? [financial aid advising]	0=N.A.	115	27.8%	116	19.5%	231	22.9%
			1=Not at all	52	12.6%	66	11.1%	118	11.7%
			2=Somewhat	104	25.2%	136	22.8%	240	23.8%
			3=Very	142	34.4%	278	46.6%	420	41.6%
			TOTAL	413	100.0%	596	100.0%	1009	100.0%
32d	SIMPADV	How important is this service to you as an ONLINE student? [financial aid advising]	1=Not at all	43	10.5%	51	8.5%	94	9.3%
			2=Somewhat	65	15.9%	92	15.4%	157	15.6%
			3=Very	302	73.7%	454	76.0%	756	75.1%
			TOTAL	410	100.0%	597	100.0%	1007	100.0%
33a	SKNWSORG	Did you know about this service? [student organizations]	1=Yes	229	38.7%	342	44.6%	571	42.0%
			2=No	363	61.3%	425	55.4%	788	58.0%
			TOTAL	592	100.0%	767	100.0%	1359	100.0%
33b	SUSESORG	How often have you used this service? [student organizations]	0=Never	200	90.1%	243	72.3%	443	79.4%
			1=Once	13	5.9%	48	14.3%	61	10.9%
			2=More than once	9	4.1%	45	13.4%	54	9.7%
			TOTAL	222	100.0%	336	100.0%	558	100.0%
33c	SSATSORG	How satisfied are you with this service as an ONLINE student? [student organizations]	0=N.A.	176	79.3%	222	67.1%	398	72.0%
			1=Not at all	10	4.5%	17	5.1%	27	4.9%
			2=Somewhat	24	10.8%	51	15.4%	75	13.6%
			3=Very	12	5.4%	41	12.4%	53	9.6%
			TOTAL	222	100.0%	331	100.0%	553	100.0%
33d	SIMPSORG	How important is this service to you as an ONLINE student? [student organizations]	1=Not at all	113	52.6%	127	39.0%	240	44.4%
			2=Somewhat	68	31.6%	137	42.0%	205	37.9%
			3=Very	34	15.8%	62	19.0%	96	17.7%
			TOTAL	215	100.0%	326	100.0%	541	100.0%
34a	SKNWTCD	Did you know about this service? [transfer credit assistance]	1=Yes	245	41.4%	271	35.4%	516	38.0%
			2=No	347	58.6%	495	64.6%	842	62.0%
			TOTAL	592	100.0%	766	100.0%	1358	100.0%
34b	SUSETCRD	How often have you used this service? [transfer credit assistance]	0=Never	117	49.0%	129	49.0%	246	49.0%
			1=Once	85	35.6%	89	33.8%	174	34.7%
			2=More than once	37	15.5%	45	17.1%	82	16.3%
			TOTAL	239	100.0%	263	100.0%	502	100.0%
34c	SSATTCRD	How satisfied are you with this service as an ONLINE student? [transfer credit assistance]	0=N.A.	103	43.1%	118	43.9%	221	43.5%
			1=Not at all	18	7.5%	31	11.5%	49	9.6%
			2=Somewhat	61	25.5%	57	21.2%	118	23.2%
			3=Very	57	23.8%	63	23.4%	120	23.6%
			TOTAL	239	100.0%	269	100.0%	508	100.0%
34d	SIMPTCRD	How important is this service to you as an ONLINE student? [transfer credit assistance]	1=Not at all	29	12.2%	37	14.2%	66	13.2%
			2=Somewhat	55	23.1%	59	22.6%	114	22.8%
			3=Very	154	64.7%	165	63.2%	319	63.9%
			TOTAL	238	100.0%	261	100.0%	499	100.0%
35a	SKNWD SAB	Did you know about this service? [services to students with disabilities]	1=Yes	191	32.3%	281	36.6%	472	34.7%
			2=No	401	67.7%	486	63.4%	887	65.3%
			TOTAL	592	100.0%	767	100.0%	1359	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
35b	SUSED SAB	How often have you used this service? [services to students with disabilities]	0=Never	172	91.0%	247	89.2%	419	89.9%
			1=Once	7	3.7%	7	2.5%	14	3.0%
			2=More than once	10	5.3%	23	8.3%	33	7.1%
			TOTAL	189	100.0%	277	100.0%	466	100.0%
35c	SSATDSAB	How satisfied are you with this service as an ONLINE student? [services to students with disabilities]	0=N.A.	157	84.9%	224	82.4%	381	83.4%
			1=Not at all	4	2.2%	8	2.9%	12	2.6%
			2=Somewhat	11	5.9%	16	5.9%	27	5.9%
			3=Very	13	7.0%	24	8.8%	37	8.1%
TOTAL	185	100.0%	272	100.0%	457	100.0%			
35d	SIMPDSAB	How important is this service to you as an ONLINE student? [services to students with disabilities]	1=Not at all	80	43.7%	116	43.8%	196	43.8%
			2=Somewhat	41	22.4%	47	17.7%	88	19.6%
			3=Very	62	33.9%	102	38.5%	164	36.6%
			TOTAL	183	100.0%	265	100.0%	448	100.0%
36a	SKNWPORT	Did you know about this service? [creation or hosting of an e-portfolio, blog, or personalized web page]	1=Yes	91	15.4%	118	15.4%	209	15.4%
			2=No	500	84.6%	649	84.6%	1149	84.6%
			TOTAL	591	100.0%	767	100.0%	1358	100.0%
36b	SUSEPORT	How often have you used this service? [creation or hosting of an e-portfolio, blog, or personalized web page]	0=Never	44	49.4%	47	40.5%	91	44.4%
			1=Once	27	30.3%	43	37.1%	70	34.1%
			2=More than once	18	20.2%	26	22.4%	44	21.5%
			TOTAL	89	100.0%	116	100.0%	205	100.0%
36c	SSATPORT	How satisfied are you with this service as an ONLINE student? [creation or hosting of an e-portfolio, blog, or personalized web page]	0=N.A.	42	46.7%	41	36.0%	83	40.7%
			1=Not at all	9	10.0%	13	11.4%	22	10.8%
			2=Somewhat	25	27.8%	40	35.1%	65	31.9%
			3=Very	14	15.6%	20	17.5%	34	16.7%
TOTAL	90	100.0%	114	100.0%	204	100.0%			
36d	SIMP PORT	How important is this service to you as an ONLINE student? [creation or hosting of an e-portfolio, blog, or personalized web page]	1=Not at all	36	40.4%	40	35.1%	76	37.4%
			2=Somewhat	36	40.4%	51	44.7%	87	42.9%
			3=Very	17	19.1%	23	20.2%	40	19.7%
			TOTAL	89	100.0%	114	100.0%	203	100.0%
37a	SCRTPRGM	Complete a certificate program	1=Not a goal	336	60.9%	446	60.9%	782	60.9%
			2=Secondary goal	96	17.4%	104	14.2%	200	15.6%
			3=Primary goal	120	21.7%	182	24.9%	302	23.5%
			TOTAL	552	100.0%	732	100.0%	1284	100.0%
37b	SASSOCDG	Obtain an associate degree	1=Not a goal	136	23.9%	86	11.3%	222	16.7%
			2=Secondary goal	95	16.7%	111	14.6%	206	15.5%
			3=Primary goal	338	59.4%	561	74.0%	899	67.7%
			TOTAL	569	100.0%	758	100.0%	1327	100.0%
37c	STR4YR	Transfer to a 4-year college or university	1=Not a goal	167	29.2%	170	22.9%	337	25.6%
			2=Secondary goal	134	23.4%	186	25.0%	320	24.3%
			3=Primary goal	271	47.4%	387	52.1%	658	50.0%
			TOTAL	572	100.0%	743	100.0%	1315	100.0%
37d	SOBUPSKL	Obtain or update job-related skills	1=Not a goal	148	26.7%	188	25.5%	336	26.0%
			2=Secondary goal	190	34.3%	205	27.8%	395	30.6%
			3=Primary goal	216	39.0%	344	46.7%	560	43.4%
			TOTAL	554	100.0%	737	100.0%	1291	100.0%
37e	SSLFIMP	Self-improvement/personal enjoyment	1=Not a goal	144	25.8%	165	22.5%	309	23.9%
			2=Secondary goal	222	39.7%	254	34.7%	476	36.9%
			3=Primary goal	193	34.5%	313	42.8%	506	39.2%
			TOTAL	559	100.0%	732	100.0%	1291	100.0%
37f	SCARCHNG	Change careers	1=Not a goal	245	43.9%	287	39.1%	532	41.2%
			2=Secondary goal	119	21.3%	108	14.7%	227	17.6%
			3=Primary goal	194	34.8%	339	46.2%	533	41.3%
			TOTAL	558	100.0%	734	100.0%	1292	100.0%
38a	SFREEEXPS	I feel free to express ideas and opinions in my class	1=Never true	18	3.1%	13	1.7%	31	2.3%
			2=Rarely true	22	3.8%	31	4.1%	53	3.9%
			3=Sometimes true	94	16.0%	154	20.2%	248	18.4%
			4=Usually true	225	38.4%	282	37.1%	507	37.6%
			5=Always true	227	38.7%	281	36.9%	508	37.7%
TOTAL	586	100.0%	761	100.0%	1347	100.0%			
38b	SSEEPSRN	I perceive the personalities of others in my class as if we were together in person	1=Never true	87	15.0%	52	6.9%	139	10.4%
			2=Rarely true	55	9.5%	86	11.4%	141	10.5%
			3=Sometimes true	152	26.2%	246	32.5%	398	29.8%
			4=Usually true	189	32.5%	231	30.6%	420	31.4%
			5=Always true	98	16.9%	141	18.7%	239	17.9%
TOTAL	581	100.0%	756	100.0%	1337	100.0%			

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
38c	SRVLPRSN	I am able to reveal my personality to my classmates and instructor (at least as much as I want to reveal)	1=Never true	53	9.1%	38	5.0%	91	6.8%
			2=Rarely true	30	5.2%	58	7.7%	88	6.6%
			3=Sometimes true	138	23.7%	176	23.3%	314	23.5%
			4=Usually true	196	33.7%	274	36.3%	470	35.2%
			5=Always true	165	28.4%	209	27.7%	374	28.0%
			TOTAL	582	100.0%	755	100.0%	1337	100.0%
38d	SRANDOM	In online discussions, my classmates' responses are random or isolated, making it hard to have a meaningful conversation	1=Never true	123	21.4%	133	17.6%	256	19.2%
			2=Rarely true	217	37.7%	266	35.2%	483	36.3%
			3=Sometimes true	157	27.3%	230	30.5%	387	29.1%
			4=Usually true	57	9.9%	88	11.7%	145	10.9%
			5=Always true	22	3.8%	38	5.0%	60	4.5%
			TOTAL	576	100.0%	755	100.0%	1331	100.0%
38e	SGENCONV	When I interact with my instructors, it is a genuine conversation	1=Never true	36	6.2%	42	5.6%	78	5.8%
			2=Rarely true	57	9.8%	86	11.4%	143	10.7%
			3=Sometimes true	142	24.4%	177	23.4%	319	23.9%
			4=Usually true	194	33.3%	233	30.9%	427	31.9%
			5=Always true	153	26.3%	217	28.7%	370	27.7%
			TOTAL	582	100.0%	755	100.0%	1337	100.0%
38f	SWELCOME	My instructors do a good job of making people feel like a part of the class	1=Never true	26	4.5%	42	5.6%	68	5.1%
			2=Rarely true	40	6.9%	52	6.9%	92	6.9%
			3=Sometimes true	139	23.9%	164	21.7%	303	22.7%
			4=Usually true	182	31.3%	224	29.7%	406	30.4%
			5=Always true	195	33.5%	273	36.2%	468	35.0%
			TOTAL	582	100.0%	755	100.0%	1337	100.0%
38g	SCURIOUS	Online assignments and activities make me curious or interested in the topics	1=Never true	28	4.8%	35	4.6%	63	4.7%
			2=Rarely true	40	6.9%	55	7.3%	95	7.1%
			3=Sometimes true	155	26.6%	211	27.9%	366	27.3%
			4=Usually true	199	34.1%	258	34.1%	457	34.1%
			5=Always true	161	27.6%	197	26.1%	358	26.7%
			TOTAL	583	100.0%	756	100.0%	1339	100.0%
39	S_HOWTO	Did you take part in an orientation that showed you how ONLINE classes work at this college prior to the beginning of classes?	1=No	267	45.6%	365	47.6%	632	46.7%
			2=Yes, on campus	53	9.0%	92	12.0%	145	10.7%
			3=Yes, online	266	45.4%	310	40.4%	576	42.6%
			TOTAL	586	100.0%	767	100.0%	1353	100.0%
40a	SLSNELRN	[Any college-sponsored tutorials or lessons] Use of your college's online learning system	0=No response	363	61.3%	514	66.8%	877	64.4%
			1=Response	229	38.7%	255	33.2%	484	35.6%
			TOTAL	592	100.0%	769	100.0%	1361	100.0%
40b	SLSNSKIL	[Any college-sponsored tutorials or lessons] Computer skills	0=No response	507	85.6%	650	84.5%	1157	85.0%
			1=Response	85	14.4%	119	15.5%	204	15.0%
			TOTAL	592	100.0%	769	100.0%	1361	100.0%
40c	SLSNCOLL	[Any college-sponsored tutorials or lessons] College success skills	0=No response	518	87.5%	622	80.9%	1140	83.8%
			1=Response	74	12.5%	147	19.1%	221	16.2%
			TOTAL	592	100.0%	769	100.0%	1361	100.0%
40d	SLSNLIB	[Any college-sponsored tutorials or lessons] Online libraries and other info sources for use in your coursework	0=No response	487	82.3%	609	79.2%	1096	80.5%
			1=Response	105	17.7%	160	20.8%	265	19.5%
			TOTAL	592	100.0%	769	100.0%	1361	100.0%
41a	STSTSKIL	[Any college-sponsored tutorials or lessons] Computer skills	0=No response	515	87.0%	649	84.4%	1164	85.5%
			1=Response	77	13.0%	120	15.6%	197	14.5%
			TOTAL	592	100.0%	769	100.0%	1361	100.0%
41b	SWEBETIQ	[Any college-sponsored tutorials or lessons] Communication skills or web etiquette	0=No response	520	87.8%	667	86.7%	1187	87.2%
			1=Response	72	12.2%	102	13.3%	174	12.8%
			TOTAL	592	100.0%	769	100.0%	1361	100.0%
42a	SWEB2COL	[Use social networking tools] Tracking updates, announcements, or events directly from this college	1=Never	457	79.9%	538	71.6%	995	75.2%
			2=Sometimes	68	11.9%	113	15.0%	181	13.7%
			3=Often	23	4.0%	52	6.9%	75	5.7%
			4=Very often	24	4.2%	48	6.4%	72	5.4%
			TOTAL	572	100.0%	751	100.0%	1323	100.0%
42b	SWEB2CLB	[Use social networking tools] Interacting with or following any official, college-sponsored student [Use social networking tools] groups, clubs, or associations	1=Never	496	86.9%	597	79.9%	1093	82.9%
			2=Sometimes	49	8.6%	84	11.2%	133	10.1%
			3=Often	20	3.5%	37	5.0%	57	4.3%
			4=Very often	6	1.1%	29	3.9%	35	2.7%
			TOTAL	571	100.0%	747	100.0%	1318	100.0%
42c	SWEB2GRP	[Use social networking tools] Forming, joining, or following any unofficial group created for students from this college	1=Never	503	88.1%	620	82.6%	1123	84.9%
			2=Sometimes	49	8.6%	72	9.6%	121	9.2%
			3=Often	10	1.8%	38	5.1%	48	3.6%
			4=Very often	9	1.6%	21	2.8%	30	2.3%
			TOTAL	571	100.0%	751	100.0%	1322	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
42d	SWEB2INS	[Use social networking tools] Connecting to my instructors (for example, through friend links or status update feeds)	1=Never	498	87.1%	628	83.7%	1126	85.2%
			2=Sometimes	50	8.7%	73	9.7%	123	9.3%
			3=Often	12	2.1%	33	4.4%	45	3.4%
			4=Very often	12	2.1%	16	2.1%	28	2.1%
			TOTAL	572	100.0%	750	100.0%	1322	100.0%
43a	SWRKFULL	[Cause to withdraw] Working full-time	1=Not Likely	319	55.5%	395	52.2%	714	53.6%
			2=Somewhat Likely	136	23.7%	155	20.5%	291	21.9%
			3=Likely	50	8.7%	90	11.9%	140	10.5%
			4=Very Likely	70	12.2%	116	15.3%	186	14.0%
			TOTAL	575	100.0%	756	100.0%	1331	100.0%
43b	SCAREDP	[Cause to withdraw] Caring for dependents	1=Not Likely	323	56.3%	392	52.1%	715	53.9%
			2=Somewhat Likely	137	23.9%	183	24.3%	320	24.1%
			3=Likely	57	9.9%	79	10.5%	136	10.3%
			4=Very Likely	57	9.9%	98	13.0%	155	11.7%
			TOTAL	574	100.0%	752	100.0%	1326	100.0%
43c	SACADUNP	[Cause to withdraw] Academically unprepared	1=Not Likely	415	72.2%	518	69.7%	933	70.8%
			2=Somewhat Likely	88	15.3%	140	18.8%	228	17.3%
			3=Likely	51	8.9%	43	5.8%	94	7.1%
			4=Very Likely	21	3.7%	42	5.7%	63	4.8%
			TOTAL	575	100.0%	743	100.0%	1318	100.0%
43d	SLACKFIN	[Cause to withdraw] Lack of finances	1=Not Likely	192	33.6%	222	29.4%	414	31.2%
			2=Somewhat Likely	144	25.2%	181	24.0%	325	24.5%
			3=Likely	92	16.1%	137	18.2%	229	17.3%
			4=Very Likely	144	25.2%	214	28.4%	358	27.0%
			TOTAL	572	100.0%	754	100.0%	1326	100.0%
43e	STRANSFER	[Cause to withdraw] Transfer to a 4-year college or university	1=Not Likely	298	52.1%	359	48.2%	657	49.9%
			2=Somewhat Likely	81	14.2%	143	19.2%	224	17.0%
			3=Likely	72	12.6%	87	11.7%	159	12.1%
			4=Very Likely	121	21.2%	156	20.9%	277	21.0%
			TOTAL	572	100.0%	745	100.0%	1317	100.0%
43f	STECHNOL	[Cause to withdraw] Technology problems with online classes	1=Not Likely	392	68.3%	493	66.0%	885	67.0%
			2=Somewhat Likely	106	18.5%	156	20.9%	262	19.8%
			3=Likely	45	7.8%	65	8.7%	110	8.3%
			4=Very Likely	31	5.4%	33	4.4%	64	4.8%
			TOTAL	574	100.0%	747	100.0%	1321	100.0%
43g	SINDEPNT	[Cause to withdraw] Difficulty working independently as an online learner	1=Not Likely	451	78.3%	560	75.0%	1011	76.4%
			2=Somewhat Likely	62	10.8%	103	13.8%	165	12.5%
			3=Likely	44	7.6%	45	6.0%	89	6.7%
			4=Very Likely	19	3.3%	39	5.2%	58	4.4%
			TOTAL	576	100.0%	747	100.0%	1323	100.0%
43h	SNOSUPRT	[Cause to withdraw] Lack of support for online learners	1=Not Likely	409	71.6%	517	69.2%	926	70.3%
			2=Somewhat Likely	80	14.0%	117	15.7%	197	14.9%
			3=Likely	51	8.9%	53	7.1%	104	7.9%
			4=Very Likely	31	5.4%	60	8.0%	91	6.9%
			TOTAL	571	100.0%	747	100.0%	1318	100.0%
44a	SOWNINC	[Source to pay tuition] My own income/savings	1=Not a source	177	31.3%	296	40.4%	473	36.4%
			2=Minor source	170	30.0%	225	30.7%	395	30.4%
			3=Major source	219	38.7%	212	28.9%	431	33.2%
			TOTAL	566	100.0%	733	100.0%	1299	100.0%
44b	SPARSPIN	[Source to pay tuition] Parent or spouse/significant other's income/savings	1=Not a source	420	77.3%	518	71.6%	938	74.1%
			2=Minor source	59	10.9%	95	13.1%	154	12.2%
			3=Major source	64	11.8%	110	15.2%	174	13.7%
			TOTAL	543	100.0%	723	100.0%	1266	100.0%
44c	SEMPLOYR	[Source to pay tuition] Employer contributions	1=Not a source	432	78.0%	581	80.7%	1013	79.5%
			2=Minor source	49	8.8%	69	9.6%	118	9.3%
			3=Major source	73	13.2%	70	9.7%	143	11.2%
			TOTAL	554	100.0%	720	100.0%	1274	100.0%
44d	SGRANTS	[Source to pay tuition] Grants and scholarships	1=Not a source	311	56.0%	276	37.0%	587	45.2%
			2=Minor source	46	8.3%	88	11.8%	134	10.3%
			3=Major source	198	35.7%	381	51.1%	579	44.5%
			TOTAL	555	100.0%	745	100.0%	1300	100.0%
44e	SSTULOAN	[Source to pay tuition] Student loans (bank, etc.)	1=Not a source	357	64.3%	413	56.2%	770	59.7%
			2=Minor source	40	7.2%	63	8.6%	103	8.0%
			3=Major source	158	28.5%	259	35.2%	417	32.3%
			TOTAL	555	100.0%	735	100.0%	1290	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
44f	SPUBASST	[Source to pay tuition] Public assistance	1=Not a source	500	92.3%	620	86.5%	1120	89.0%
			2=Minor source	20	3.7%	39	5.4%	59	4.7%
			3=Major source	22	4.1%	58	8.1%	80	6.4%
			TOTAL	542	100.0%	717	100.0%	1259	100.0%
45	STKAGAIN	When do you plan to take classes at this college again?	1=I will accomplish my goal(s) this	45	7.7%	51	6.7%	96	7.2%
			2=I have no current plans to return	27	4.6%	18	2.4%	45	3.4%
			3=Within the next 12 months	423	72.8%	612	80.8%	1035	77.4%
			4= Uncertain	86	14.8%	76	10.0%	162	12.1%
			TOTAL	581	100.0%	757	100.0%	1338	100.0%
46	SGPA	At this college, in what range is your overall college grade average?	1=Pass/fail classes only	1	0.2%	3	0.4%	4	0.3%
			2=Do not have a GPA at this	36	6.2%	41	5.4%	77	5.7%
			3=C- or lower	9	1.5%	7	0.9%	16	1.2%
			4=C	17	2.9%	27	3.5%	44	3.3%
			5=B- to C+	65	11.1%	103	13.5%	168	12.5%
			6=B	105	18.0%	147	19.3%	252	18.8%
			7=A- to B+	170	29.2%	251	33.0%	421	31.3%
			8=A	180	30.9%	182	23.9%	362	26.9%
			TOTAL	583	100.0%	761	100.0%	1344	100.0%
47	SRECOMM	Would you recommend ONLINE classes at this college to a friend or family member?	1=Yes	545	93.2%	680	89.4%	1225	91.0%
			2=No	40	6.8%	81	10.6%	121	9.0%
			TOTAL	585	100.0%	761	100.0%	1346	99.8%
48	SENTREXP	How would you evaluate your entire ONLINE educational experience at this college?	1=Poor	13	2.2%	39	5.1%	52	3.9%
			2=Fair	56	9.6%	88	11.6%	144	10.7%
			3=Good	248	42.5%	332	43.6%	580	43.1%
			4=Excellent	267	45.7%	302	39.7%	569	42.3%
			TOTAL	584	100.0%	761	100.0%	1345	100.0%
49	SMARY	Are you married?	1=Yes	321	55.1%	348	45.8%	669	49.9%
			2=No	262	44.9%	411	54.2%	673	50.1%
			TOTAL	583	100.0%	759	100.0%	1342	100.0%
50	SHAVKID	Do you have children who live with you?	1=Yes	338	58.1%	442	58.4%	780	58.3%
			2=No	244	41.9%	315	41.6%	559	41.7%
			TOTAL	582	100.0%	757	100.0%	1339	100.0%
51	SVETSTAT	Which of the following best describes your service in the U.S. military?	1=Never served in the military	509	87.8%	661	87.2%	1170	87.4%
			2=Current active duty	21	3.6%	14	1.8%	35	2.6%
			3=Current national guard or	3	0.5%	9	1.2%	12	0.9%
			4=Military veteran	47	8.1%	74	9.8%	121	9.0%
			TOTAL	580	100.0%	758	100.0%	1338	100.0%
53	SSEX	Your sex	1=Male	122	21.0%	158	21.0%	280	21.0%
			2=Female	459	79.0%	594	79.0%	1053	79.0%
			TOTAL	581	100.0%	752	100.0%	1333	100.0%
54	SENGFRST	Is English your native (first) language?	1=Yes	554	95.0%	704	92.8%	1258	93.7%
			2=No	29	5.0%	55	7.2%	84	6.3%
			TOTAL	583	100.0%	759	100.0%	1342	100.0%
55	SINTRNAT	Are you an international student or foreign national?	1=Yes	11	1.9%	19	2.5%	30	2.2%
			2=No	573	98.1%	735	97.5%	1308	97.8%
			TOTAL	584	100.0%	754	100.0%	1338	100.0%
56	SRERACE	What is your racial identification?	1=American Indian or other Native	5	0.9%	10	1.3%	15	1.1%
			2=Asian, Asian American or	21	3.7%	21	2.8%	42	3.2%
			3=Native Hawaiian	0	0.0%	1	0.1%	1	0.1%
			4=Black or African American, Non-	71	12.3%	155	20.7%	226	17.1%
			5=White, Non-Hispanic	437	76.0%	483	64.5%	920	69.5%
			6=Hispanic, Latino, Spanish	29	5.0%	49	6.5%	78	5.9%
			7=Other	12	2.1%	30	4.0%	42	3.2%
			TOTAL	575	100.0%	749	100.0%	1324	100.0%
57	SHIACRED	What is the highest academic credential you have earned?	1=None	6	1.0%	5	0.7%	11	0.8%
			2=High school diploma or GED	302	52.2%	477	63.2%	779	58.4%
			3=Vocational/technical certificate	83	14.4%	105	13.9%	188	14.1%
			4=Associate degree	117	20.2%	128	17.0%	245	18.4%
			5=Bachelor's degree	53	9.2%	29	3.8%	82	6.2%
			6=Master's/doctoral/prof degree	17	2.9%	11	1.5%	28	2.1%
			TOTAL	578	100.0%	755	100.0%	1333	100.0%

Item #	Variable Name	Item Description/Variable Label	Response Value	Online Only Students		Blended Students		All Students (Item Total)	
				N	%	N	%	N	%
58m	SMOTHED	Highest level of education: mother	1=Not a high school graduate	66	11.5%	87	11.6%	153	11.6%
			2=High school diploma or GED	204	35.6%	271	36.2%	475	35.9%
			3=Some college, did not complete degree	125	21.8%	159	21.2%	284	21.5%
			4=Associate degree	61	10.6%	90	12.0%	151	11.4%
			5=Bachelor's degree	66	11.5%	76	10.1%	142	10.7%
			6=Master's/1 <sup>st</sup> professional degree	30	5.2%	33	4.4%	63	4.8%
			7=Doctorate degree	4	0.7%	5	0.7%	9	0.7%
			8=Unknown	17	3.0%	28	3.7%	45	3.4%
			TOTAL	573	100.0%	749	100.0%	1322	100.0%
58f	SFATHED	Highest level of education: father	1=Not a high school graduate	88	15.4%	128	17.2%	216	16.4%
			2=High school diploma or GED	195	34.0%	247	33.2%	442	33.6%
			3=Some college, did not complete degree	86	15.0%	144	19.4%	230	17.5%
			4=Associate degree	45	7.9%	47	6.3%	92	7.0%
			5=Bachelor's degree	66	11.5%	72	9.7%	138	10.5%
			6=Master's/1 <sup>st</sup> professional degree	40	7.0%	33	4.4%	73	5.5%
			7=Doctorate degree	12	2.1%	12	1.6%	24	1.8%
			8=Unknown	41	7.2%	60	8.1%	101	7.7%
			TOTAL	573	100.0%	743	100.0%	1316	100.0%
59d	SZIP	What is the postal code where you currently live?	1=U.S. ZIP code	546	98.9%	727	100.0%	1273	99.5%
			2=APO/FPO ZIP code	4	0.7%	0	0.0%	4	0.3%
			3=Other country's postal code	2	0.4%	0	0.0%	2	0.2%
			TOTAL	552	100.0%	727	100.0%	1279	100.0%
Dummy Variable	DFIRSTGEN	First generation to attend college	1=First generation	189	33.0%	243	32.5%	432	32.7%
			2=Not first generation	384	67.0%	505	67.5%	889	67.3%
			TOTAL	573	100.0%	748	100.0%	1321	100.0%
Dummy Variable	DNONTRAD	Traditional/Nontraditional	1=Traditional age (18-24 yrs)	111	19.1%	206	27.2%	317	23.7%
			2=Nontraditional age (25+ yrs)	469	80.9%	550	72.8%	1019	76.3%
			TOTAL	580	100.0%	756	100.0%	1336	100.0%
Dummy Variable	DENRLMNT	Thinking about this current academic term, how would you characterize your enrollment at this college?	1=Part-time (less than full-time)	638	70.4%	472	40.0%	1110	53.2%
			2=Full-time	268	29.6%	707	60.0%	975	46.8%
			TOTAL	906	100.0%	1179	100.0%	2085	100.0%
Dummy Variable	DONLINEXP	Experience in online college courses	0=Less than 15 credit hours	547	64.7%	863	78.0%	1410	72.2%
			1=15 or more credit hours	299	35.3%	243	22.0%	542	27.8%
			TOTAL	846	100.0%	1106	100.0%	1952	100.0%
Dummy Variable	DVETSTAT	Veteran	1=Veteran	47	8.1%	74	9.8%	121	9.0%
			2=Current active duty or national	24	4.1%	23	3.0%	47	3.5%
			3=Never served in military	509	87.8%	661	87.2%	1170	87.4%
			TOTAL	580	100.0%	758	100.0%	1338	100.0%
Dummy Variable	DANYDEV	Taken at least one developmental course (math, writing, reading)	1=Yes	109	15.6%	312	34.8%	421	26.4%
			2=No	588	84.4%	584	65.2%	1172	73.6%
			TOTAL	697	100.0%	896	100.0%	1593	100.0%
Dummy Variable	DTOCAMPUS	Taken at least one developmental course (math, writing, reading)	1=Yes	835	92.8%	1168	66.7%	2003	75.5%
			2=No	65	7.2%	584	33.3%	649	24.5%
			TOTAL	900	100.0%	1752	100.0%	2652	100.0%

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## VITA

Karla Ann Fisher was born in Texas and raised in Oklahoma, where she graduated from Enid High School in 1985. Karla holds a B.A in English and an M.A. in Communication from St. Mary's University in San Antonio, Texas. She also holds a vocational degree from UCMT in Salt Lake City and attended community college classes while working on her bachelor's degree, giving her first-hand knowledge of the challenges faced by community and technical college students.

Karla began her doctoral studies in April 1997 in the Community College Leadership Program at The University of Texas at Austin. While completing her studies, she served as a Graduate Teaching Assistant in the Educational Administration Department and worked, first as a graduate researcher and then as college relations coordinator, for the Center for Community College Student Engagement at The University of Texas at Austin. As a doctoral student, Karla was named a Colvert Scholar and also received a George I. Sanchez Presidential Fellowship, among other awards. She graduated from The University of Texas at Austin with a Ph.D. in Educational Administration in May 2010.

Prior to joining the Community College Leadership Program, Karla served as Director of Institutional Marketing for Salt Lake Community College in Salt Lake City, Utah. In this role, she served on the President's Cabinet, directing all aspects of the college's marketing and communication activities including advertising, public relations, college website, direct mail/email, and publications including the annual General

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In addition to administrative roles, Karla has developed and taught classes at the concurrent high school, undergraduate, and graduate levels since 1996, including seven years in online learning environments. She currently teaches online as a community college faculty member.

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