

# Evaluation of the Academy for College Excellence: Year 1 Interim Report



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**MPR Associates, Inc.**  
2150 Shattuck Avenue, Suite 800  
Berkeley, CA 94704

*Contact*  
**Beverly Farr, Ph.D.**  
Bfarr@mprinc.com  
510-849-4942

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*Prepared by*

**MPR Associates, Inc.**

2150 Shattuck Avenue, Suite 800  
Berkeley, CA 94704  
510-849-4942

Beverly Farr, Ph.D.  
Susan Rotermund, Ph.D.  
Phoebe Ho, M.A.  
David Radwin, M.A.  
Jessica Robles, M.A.

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# Introduction

The number of underprepared students entering the nation's community colleges every year is substantial, and significant resources go into remedial education programs that seem to be ineffective and do little to inspire students to pursue further education. Understanding how effective programs work, and how such practices can be shared, is critical. One model that has shown promise in a number of initial studies is the Academy for College Excellence (ACE), founded at Cabrillo College in Aptos, California, in 2002. MPR Associates (MPR) of Berkeley, California, is conducting an evaluation of the ACE model as it is implemented at seven community colleges, including Cabrillo College (Los Aptos, CA) Hartnell (Salinas, CA), Los Medanos (Pittsburg, CA), Las Positas (Livermore, CA), Berkeley (Berkeley, CA), Delaware County (Media, PA), and Southwest Virginia (Richlands, VA).

The goal of the ACE program is to develop a national model for recruitment, preparation, retention, and acceleration of underprepared community college students. Centered on the belief that underprepared students, especially disadvantaged young adults, often enter community colleges with the desire to better their lives but without the academic qualifications, professional skills, and personal behaviors necessary to succeed, ACE has intentionally served a majority of students with multiple challenges related to poverty and discrimination<sup>1</sup>. For all participating students, the goal is to develop professional career skills and the ability to navigate the professional work culture that includes the organizational and study skills, motivation and self-confidence, and academic skills needed for college success.

A primary objective of ACE is to accelerate student progress by providing a program that conveys a vision of academic life that often differs from that which is commonly held by disadvantaged students and an understanding of what it will take to succeed. The approach of the program integrates team management strategies, movement classes, primary research tasks, and academic and computer courses. ACE has been successful at accelerating student progress because of its unique features. It is an intensive, full-time program that immerses students in a new vision of what academic life entails and how they can succeed in higher education and professional careers.

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<sup>1</sup> In this document, we refer to the type of students served by ACE as underprepared or high-risk. These terms conflate two different ways of characterizing them: They are high risk because of environmental factors—poverty, history of involvement with the judicial system, immigration status, drug abuse, etc., but they are also highly vulnerable or exhibit low levels of self-efficacy and self-esteem (See Diego Navarro, Supporting the students of the future. *Change: The Magazine of Higher Learning*, January/February 2012, forthcoming.)

The ACE program is one semester long and is divided into a two-week intensive Foundation Course that focuses on personal development and prepares students to be successful in college and a 12-16 week Bridge Semester of accelerated academic courses, including a project-based research course, most often the Social Justice course. A Team Self-Management Course builds on the self-awareness, self-esteem, and communications lessons of the Foundation Course, continues to build the ACE cohort's peer-support network, and helps students manage the challenges that accompany their lives as college students. The program is also unique in that the students move through both portions of the program as a cohort, with a program design that consciously creates and develops, through curriculum in the classroom, a peer-support a support network that also facilitates their persistence and success in the program. At the end of the ACE Bridge Semester students typically accumulate a full-time load of credits (12-16.5 credits), a larger number than the typical remedial program entails, propelling them down the road to completion.

The ACE program was built on a foundation of research on effective strategies to use with students who exhibit high risk factors, have faced significant challenges, or reflect characteristics that place them at high risk of failing educational programs. The students for whom the model was designed and who have participated in the program to date have largely come from neighborhoods and schools with a history of violence and under-performance. They are the students who are not served well by the institution, who remain outside the doors of the academic environment and who are unable to contribute to the improvement of our economy. They are individuals who have survived and persisted in life despite the difficulties they have faced, but the survival or persistence behaviors and habits they have developed are not necessarily well suited to the academic environment or to professional careers. The neighborhood and school environments in which they were raised have created symptoms in the students that are not unlike those of PTSD (Post-traumatic stress disorder), which leads to hyper-sensitivity, hyper-vigilance, and other conditions that make performing at school difficult. They have typically not had role models to learn from, and the behaviors and habits they rely on to survive are counterproductive in an academic setting. These students require customized recruitment strategies because they often do not independently take the steps needed to access education, nor were they encouraged to attend college by high school teachers or counselors. They may be confident about their ability to survive in tough environments or when confronted by significant life challenges, but they often do not feel the same level of confidence about surviving an academic environment. The ACE program builds on and redirects the strengths of these students into the skills and behaviors they need to succeed in the academic setting. ACE's curriculum and pedagogical approach reinforces the behaviors and habits required for college success while making the culture of professional careers explicit and tangible.

A large body of research supports the theoretical architecture of the ACE program. Research that has shown that factors within the affective dimension play an important role in the suc-

cess of all students and, in fact, all individuals. This includes research on motivation, self-efficacy, socio-emotional learning, and hope.

Three decades have passed since Bandura (1977) first introduced the construct of self-efficacy, and more recently (1997) he published *Self-efficacy: The Exercise of Control*, in which he situates self-efficacy within a theory of personal and collective agency that operates in concert with other sociocognitive factors in regulating human wellbeing and attainment. Self-efficacy beliefs have received increasing attention in educational research, primarily in studies of academic motivation and of self-regulation (Pintrich & Schunk, 1995). In this domain, self-efficacy researchers have focused on three areas: the link between efficacy beliefs and college major and career choices (Lent & Hackett, 1987); the efficacy beliefs of teachers related to their instructional practices and to various student outcomes (Ashton & Webb, 1986); and the correlation of students' self-efficacy beliefs with other motivation constructs and with students' academic performances and achievement.

Over the last decade or more, there has been an upsurge of research in psychology on the connection between motivation and cognition. Much of this work has focused on clarifying the structure of the motivational system, although this work has also begun to examine the influence of motivation on preference, choice and learning (Markman, Maddox, and Baldwin, 2005).

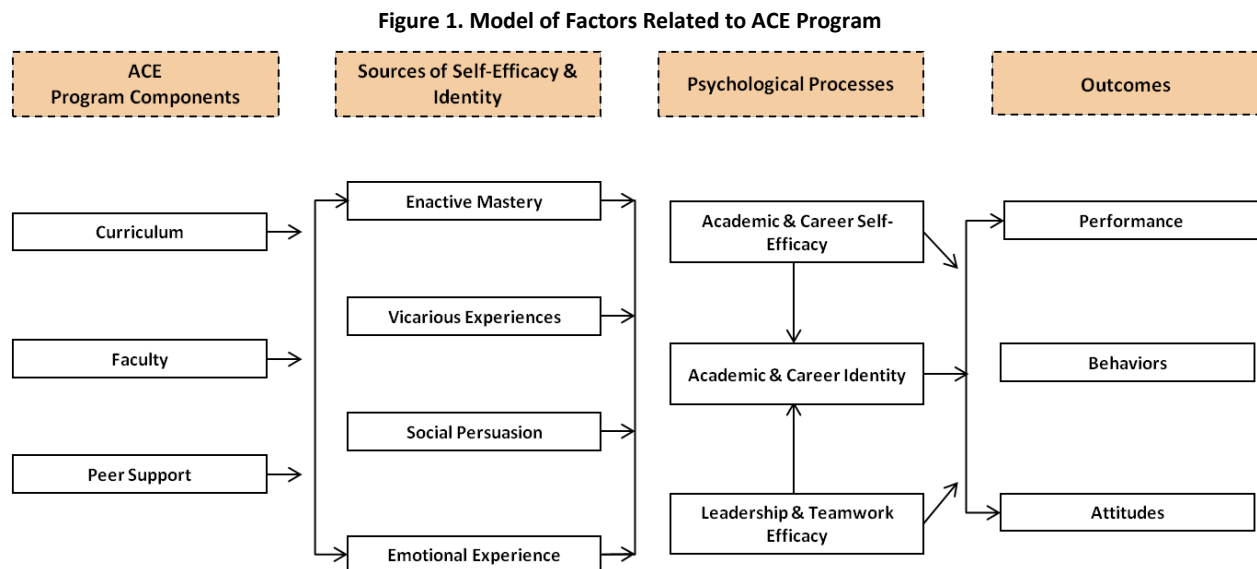
The influence of social and emotional factors on learning is confirmed by a large number of studies as well. Based on evidence from 61 educational researchers, 91 meta-analyses, and 179 handbook chapters, Wang, Haertel, and Wallberg (1997) found that social and emotional factors were among the most influential factors on student learning. Among those that were particularly high-ranking social and emotional components were classroom management, parental support, student-teacher social interactions, social-behavioral attributes, motivational-affective attributes, the peer group, school culture, and classroom climate. Through a review of these studies, the authors concluded that directly influencing the psychological components of learning is an effective way of changing how much and how well students learn.

The ACE model also focuses on the development of hope in its students. Recently, the construct of hope has been receiving increasing research attention and in one study was shown to be more closely related to academic achievement than intelligence, personality, or previous academic achievement (Day, Hanson, Maltby, Proctor, & Wood, 2010).

To develop a research framework for this study, it was essential to understand the theoretical underpinnings of the model, or the Theory of Action, that we could take it into account in developing data collection methods and instruments and in developing an analysis plan. In collaboration with Martin Chemers, professor emeritus of psychology from University of

California Santa Cruz, we developed an approach to an analysis and interpretation of the data related to self-efficacy and the use of educational practices that support development of self-efficacy. Chemers' research focuses specifically on psychological factors that affect the commitment and success of underrepresented students in STEM education. Early studies (Chemers, Hu, & Garcia, 2001) showed clearly that academic self-efficacy plays an important role in student success. Employing a longitudinal design with first-year students at UC Santa Cruz, one study conducted by Chemers indicated that measurements of academic self-efficacy taken in the first quarter of the school year predicted student outcomes eight months later, at the end of the year, including academic goals, grades, and adjustment and health. In subsequent studies, supported by the NIH/NIGMS, findings have replicated those results and demonstrated that "research self-efficacy" and "identity as a scientist" predicted commitment to a career in STEM and satisfaction with the educational experience. Research on self-efficacy and identity fully mediated the effects on commitment of student experiences with authentic research, positive mentoring, and networking with professional scientists and other science students.

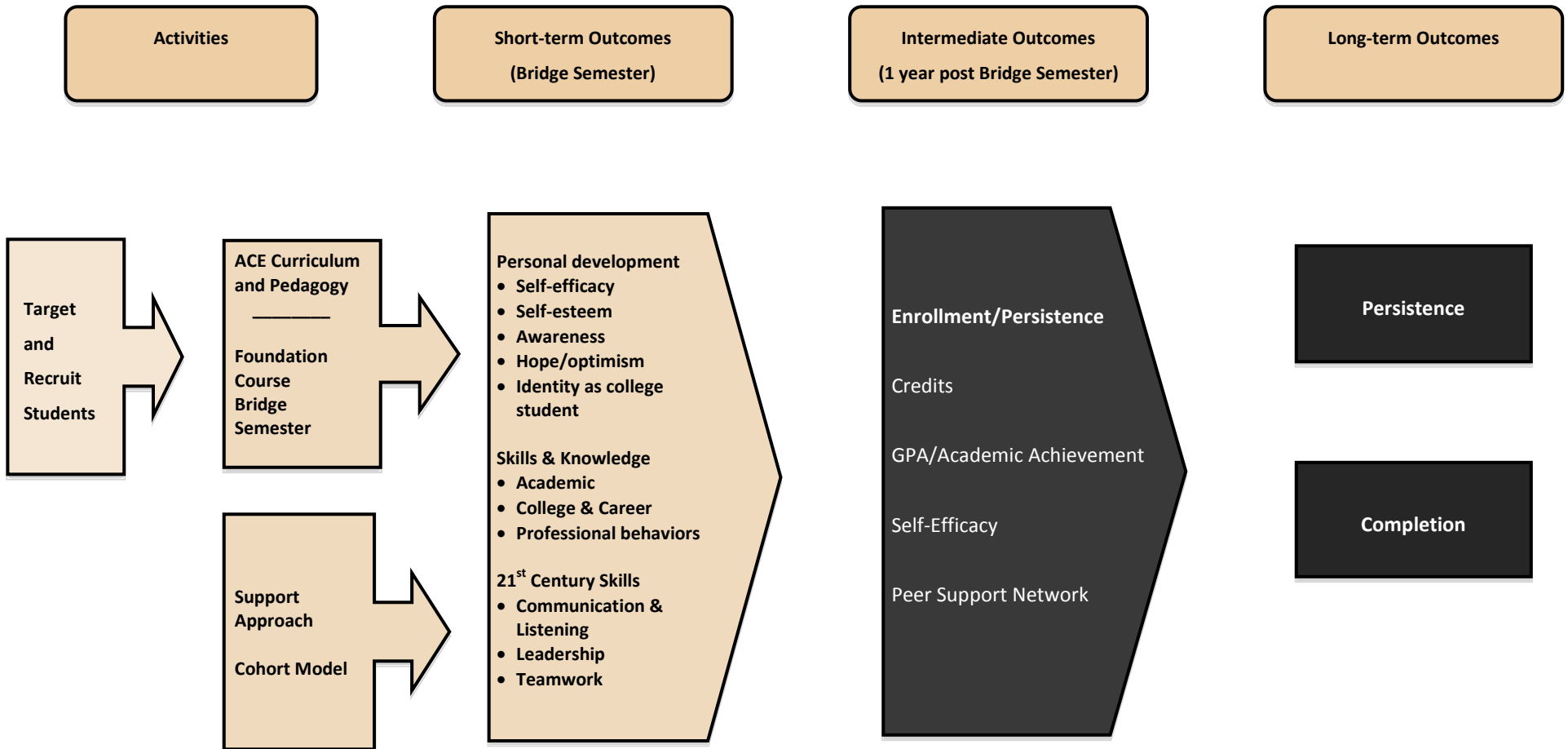
Chemers proposed a model (Figure 1) for factors within the ACE model that would serve as a framework for conducting Structural Equation Modeling analyses that would test the structural relationships between ACE program components, latent psychological mediators, and student outcomes. Based on this model, MPR researchers and ACE staff jointly designed and developed an instrument (College Student Self Efficacy Survey—CSSAS) that provides a measure of self-efficacy and other attributes such as mindfulness. The use of this measure at various data points allows us to conduct analyses of the relationship between improvement on these attributes and various outcome indicators.



The ACE program also focuses on the identification of working styles and the use of that knowledge in approaching learning situations and the development of 21<sup>st</sup> century professional skills. It includes identifying the styles of others in order to accommodate or capitalize on those styles when participating in a class or working with a team on a research project.

To illustrate the Theory of Action that frames the ACE model, MPR collaborated with the designers, funders, and our consultant, Chemers, to create a logic model that depicts the essential elements of the ACE program and shows how inputs, activities, and outcomes of ACE are related to one another. The logic model is displayed in Figure 2.

Figure 2: Logic Model for ACE Program



## Purpose of Study

The goal of the study is to conduct a rigorous longitudinal evaluation of the Academy for College Excellence (ACE) and of the various implementations of the model on the campuses noted above. The ACE Center, located in Santa Cruz, California, supports the ACE program at all seven colleges.

The evaluation of the Academy for College Excellence includes an analysis of key academic outcomes (e.g., credits earned, credit accrual, retention, persistence, attendance, successful completion of accelerated courses) for students participating in the ACE program, as well as analysis of psychosocial factors that are key aspects of the ACE model.<sup>2</sup> The academic outcome data are not yet included in this report since the collection and analysis of these data is a formidable task. We have received data from three colleges and have been in the process of cleaning and synthesizing them, but the initial extracts did not include spring 2011 data, and those data must be included in the first round of analyses. Previous studies on the ACE model have provided results that indicate that it is promising for ensuring retention of students who are under-prepared for college and for accelerating their progress through a community college program. In this study, a principal goal is to replicate previous findings on academic indicators, but at several different colleges. The specific objectives of the study and the accompanying research questions are presented below.

### *Evaluation Objectives*

1. Assess the impact of the ACE program on student outcomes.
2. Assess the elements of the program that are associated with desired outcomes.
3. Identify the types of students who benefit from the ACE program.
4. Assess integrity of implementation at each participating college.
5. Provide the ACE staff, funders, and participating colleges with data and information that will support ongoing program improvement.
6. Contribute knowledge to the community college field about features of the ACE model that are most promising for enabling high-risk students to persist in college.

### *Research Questions*

1. What are the effects of participation in the ACE program on student achievement indicators?

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<sup>2</sup> For this part of the study, we are aiming to replicate the findings of a study conducted by Columbia University's Community College Research Center (CCRC) in 2007 and will potentially add indicators that are deemed worthy of study. Note that the CCRC study evaluates the Digital Bridge Academy (the former name of ACE).

2. What are the effects of participation in the ACE program on personal growth outcomes, such as self-efficacy, personal responsibility, and college identity?
3. What are the elements of the ACE model that appear to result in the desired outcomes for students in the program?
4. What is the evidence two semesters after a student participates in the program that participation has positive effects on students' self-efficacy, college persistence, and career aspirations?
5. For what types of students does the model appear to be most effective? Are there certain student characteristics or dispositions that are more amenable to the ACE approach?
6. With what level of integrity is the ACE model implemented at all colleges? What is the effect of the level of integrity with which the ACE model is implemented on student outcomes?

**Table 1. Years of Study and Cohorts**

Year/Cohort	Data Collection and Analysis			
	End of Bridge Semester – Transcript and CSSAS data for ACE students	2 Semesters Post Bridge Semester	Academic transcript data, including comparison groups drawn from MIS database	CSSAS administered to comparison groups
Fall 2010/Cohort 1	Cabrillo and at least two other colleges	December 2011	Cabrillo and 2 other California colleges	Cabrillo only
Spring 2011/Cohort 2	Cabrillo and at least two other colleges	June 2012	Cabrillo and 2 other California colleges	Cabrillo only
Fall 2011/Cohort 3	Cabrillo and at least two other colleges	December 2012	Cabrillo and 2 other California colleges	Cabrillo and at least two other colleges
Spring 2012/Cohort 4	All 7 colleges	June 2013	All 7 colleges	Cabrillo and at least two other colleges

The general design of the study includes three major analyses of data: 1) comparison of ACE students on achievement indicators to other students in each of the colleges using comparison groups constructed from the institutional and program data both at the end of each semester and two semesters subsequent to the Bridge Semester; 2) analyses of ACE student performance on the CSSAS before participation in the ACE program, after the Foundation course, and after the Bridge Semester, and 3) comparison of ACE students to non-ACE students on the CSSAS at 2 points in time: before initiation of an ACE cohort (pre-test) and two semesters subsequent to the Bridge Semester.

# Methods

## Collection and Analysis of Data on Achievement Indicators: Overall Plan

In order to achieve balance between the “treatment” (ACE) group and the “control” group, the evaluation team will collect institutional (administrative) data elements from both participants and non-participants that are suspected to have some impact on student success. Most of these data are collected on the college application form and include demographic variables such as gender, race, age, nationality, and income as well as veteran status, dependency status, indicators of previous academic achievement such as type of degree or GED or type of high school attended. Where possible, these data will also include measures implemented during the application process, such as academic placement tests, non-academic intake surveys (such as the Self-efficacy Assessment administered to all Cabrillo College students and eventually at all campuses implementing the ACE model), the student’s risk level (provided by the ACE intake application), and quantity and type (such as remedial or college-level) of coursework in the first term.

Institutional data will also provide some of the intermediate outcomes, such as persistence to the second term and second year and academic milestones such as completion of a given number of transferable units, as well as longer-term outcomes such as completion of degrees and credentials and transfer to four-year institutions.

Finally, the data will be used to disaggregate the results over specific subgroups, cohorts, and campuses to help identify specific methods and techniques that are particularly effective and worthy of more detailed investigation.

### *Collection of Academic Data*

The data on student achievement outcomes from all colleges are being collected from each individual college. These data include student transcript information (e.g., courses and grades), assessment/placement test results for English, math, reading, and/or ESL, and demographic information (i.e., date of birth, gender, ethnicity) for all students participating in the programs as well as from a larger group of students that will be used to construct comparison groups. The data are being used to describe the background characteristics of students who participate in ACE programs and to address the extent to which participants’ academic outcomes differ from those of similar students not enrolled in such programs. The

analysis of student outcome data over the course of the study will include information about student participants across the full set of colleges implementing the ACE model.

### *Analyses of Academic Outcome Data*

In order to make statements about how students who participate in the ACE programs perform academically compared to similar students who do not participate, we are implementing a quasi-experimental research design. Creating comparison groups of students for ACE program participants in each college, based on background characteristics using propensity score stratification, will allow us to draw conclusions about the impact of the programs on student outcomes, which is a key objective of the overall evaluation.

To analyze student academic achievement at the seven colleges, we are using at least the indicators listed below that can be extracted from the institutional data from each college.

- Number of associate degree credits earned;
- Number of transfer credits earned;
- Credit accrual in the semester following ACE enrollment;
- Persistence to the next semester;
- Persistence over the following two semesters;
- Whether the student enrolled full time or part time in the semester following ACE enrollment;
- Whether the student passed English (one level below transfer) and transfer-level English (English 1A) in the two semesters following cohort entry;
- Whether the student passed beginning algebra, intermediate algebra and/or statistics in the two semesters following cohort entry. At Los Medanos College, the ACE intervention is the first semester of a two-semester sequence to complete transfer-level statistics in the student's first year of college.

These data have thus far been collected from three colleges implementing the ACE model—Cabrillo, Hartnell, and Los Medanos. Our current work involves cleaning and organizing them in order to identify ACE program students and to construct a comparison group for each college based on the data available. We are working on the construction of comparison groups using propensity score matching. Our analysis of student academic success will account for selection bias by identifying similar comparison groups of students for students participating in the ACE programs. We are implementing the statistical technique of propensity score stratification (Rosenbaum & Rubin, 1983), which uses many achievement-

related characteristics to estimate a student's propensity of participating in the ACE programs in the college and then places the students into propensity score strata. By comparing the outcomes of ACE and non-ACE students within the same strata (i.e., comparing ACE students with non-ACE students who were most like them before their participation in the ACE programs), we intend to simulate randomized assignment study and obtain as unbiased estimates of ACE effects as possible (given the data available on background characteristics).<sup>3</sup> Propensity score stratification is a viable approach to the degree that the data on student characteristics are comprehensive. We are collecting a large set of student demographic and program characteristics. These types of information may also help account for unobservable factors related to the students, such as awareness of and motivation to seek out a program like ACE.

The estimated effects of student variables on program participation will give us a general idea of the kinds of students participating in the ACE programs in each college and how those students compare with nonparticipating students in the same college. In addition to estimating a general ACE effect, propensity score stratification will enable us to examine whether the ACE effect differs for students with different propensities to participate in the pathway programs. Such differential effects will inform the ACE staff and funders about the types of students who may benefit most from the ACE programs.

For purposes of comparisons on achievement outcomes, the data used to create a matched comparison group of non-ACE students varies by cohort and location. Students will be matched on several areas of student characteristics, pre-college experiences, and early college experiences. These data include demographics such as age, gender, and race; socioeconomic status, measured by a proxy such as students' ZIP code or eligibility for financial aid; possession of a high school diploma and type of high school attended, and, to the extent they are available, the results of assessments used for initial course placement (typically COMPASS, ACCUPLACER, or ASSET) to measure academic readiness. In most cases, these institutional (administrative) data are already collected by the colleges as part of the enrollment and placement process.

Another critical component of ACE, and one that is well established in the literature as associated with college success, is that it requires full-time enrollment in the first (Bridge) semester. For students who otherwise would have enrolled part-time, which is measured in the ACE intake application, full-time enrollment represents a potentially important intervening or mediating factor connecting participation in ACE to eventual postsecondary success. Consequently, ACE students will be matched to non-ACE students on their intent to enroll full-time or part time. (It is assumed that non-ACE students who intended to enroll part-time

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<sup>3</sup>The student demographics and prior achievement variables we will include in the matching process will be specified more clearly when we learn more about the college data available for use in the study.

did in fact enroll part-time and those who intended to enroll full-time did in fact enroll full-time, so this information will be drawn from institutional data.) We have also included questions regarding their intent to enroll part-time or full-time on the pre-survey.

Currently, the ACE intake application asks students about their experiences in a number of areas believed to put them at risk for not finishing college. Many of these topics are highly sensitive, including whether the student has a history of mental health issues, was ever in foster care, was ever homeless, ever participated in gangs or had close association with gang members, was a victim of child abuse or domestic violence, or was ever arrested, incarcerated, or put on probation. In recognition of the sensitive nature of these questions, we will provide clear instructions to non-ACE students who participate in the comparison group and take the CSSAS two semesters after their first semester of college and who will complete the application form that they can skip any questions they do not feel comfortable answering. Some of the personal questions on the application will also provide useful information to identify students most similar to ACE participants. These items include students' number of children, whether any immediate family members have graduated from college, and parents' income, occupation, and highest level of education.

Beginning with the fall 2011 cohort of students in ACE programs, we obtained agreement for the school-wide CSSAS (S-CSSAS) to be administered to all incoming students at Cabrillo and one other college. Two other colleges are considering administering it to all incoming students. The survey contains a subset of questions that address less sensitive background characteristics along with elements of the CSSAS and SEA questionnaires. For the two colleges for which we have data, the comparison group of non-ACE students will be matched on these background characteristics obtained from the survey and institutional data. At the other ACE colleges, students will be matched on institutional data only.

After identifying a comparison group of students for each college's ACE participants through propensity score stratification, we will be able to analyze whether differences in outcomes exist between the two groups. For this analysis we need to account for a lack of independence among outcomes for students sharing similar educational circumstances (e.g., college contexts). In other words, some variation in student outcomes may be accounted for by college factors, which all the students in the same college share. The school-wide College Student Self-assessment Survey (S-CSSAS)—developed for this study—is currently being administered in two of the colleges and will be administered in more as the study moves forward. It will also be administered to a comparison group at the end of the Bridge Semester (End of Bridge Semester Survey or EBS) and two semesters later.

### **Progress on Quantitative Analyses**

As noted above, to date we have received institutional data from three colleges, although at the time, data from the spring 2011 semester were not yet available. In addition to needing these additional data, we also have been working with the ACE staff to generate and confirm lists of ACE students so that we can identify them in the databases. This process, along with the need to construct comparison groups in each college is very labor and time-intensive. Thus, we are planning to submit a revised version of this report in the first quarter of 2012 that will include the results of these analyses.

## **College Student Self-Assessment Survey (CSSAS)**

### ***Development of College Student Self Assessment Survey (CSSAS)***

The collection and analysis of student achievement indicator data are of primary importance in describing the effects of participation in the ACE program on academic outcomes. But achievement indicators will not tell the full story of ACE. Many participants and the designers report that the program is “transformative.” To understand what effects the program has on factors such as self-efficacy, mindfulness, communication, teamwork, and other affective dimension factors, MPR designed a survey instrument called the College Student Self-Assessment Survey (CSSAS).

The CSSAS is intended to be administered electronically to ACE students at three points in time: prior to the Foundation Course (Pre), at the end of the Foundation Course (Post) and again at the end of the Bridge Semester (EBS). To date, it has been fully administered to three cohorts of ACE students at all of the colleges implementing the ACE model (including fall 2011). Data collected from the fall 2010 and spring 2011 cohorts are analyzed in this report. Initial school-wide administration of the CSSAS began in fall 2011 at Cabrillo and Hartnell Colleges and will occur school-wide at Los Medanos College beginning in spring 2012. School-wide data for the CSSAS from these colleges will provide a source of comparison data for the CSSAS results for the ACE students. This report examines outcomes on the affective dimensions for ACE students in fall 2010 and spring 2011 and compares outcomes for ACE students with those of non-ACE students who took the CSSAS in fall 2011 as part of a school-wide administration.

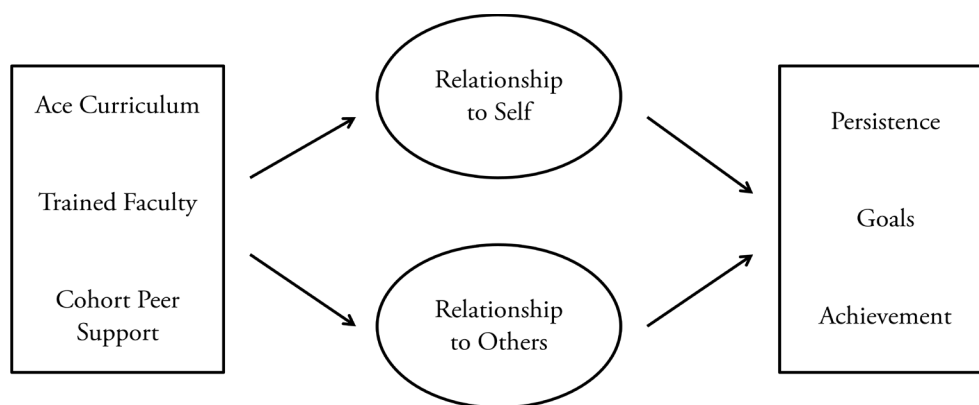
The CSSAS was designed to identify and measure important psychological constructs that are theorized to be outcomes of participating in the ACE program. ACE expects that students will score higher in many of the areas following the Foundation Course and will maintain or improve these scores when the survey is administered at the conclusion of the Bridge Semester. Ultimately, ACE expects that higher scores on the CSSAS will be associated with positive student outcomes of persistence, goals, and achievement. The underlying theory that

in large part prompted the design of the ACE model—as described by the founder, Diego Navarro—is that factors associated with the affective dimension are an instrumental part of being a success in school and life and that students who enroll in the ACE program typically have not developed these skills due to the negative circumstances of their lives and their prior negative experiences as students.

The CSSAS is based on several validated survey instruments used in other research studies to measure factors related to the affective dimension that are addressed in the ACE program. It also includes items developed to ensure collection of data on as much of the ACE process (see Figure 3 below) as possible. ACE posits that its program leads to transformational change in factors represented in the affective dimension and that it is these changes in students' increased understanding of themselves and others that leads to student success. The dimensions of relationship to self include academic self-efficacy, personal responsibility, awareness of self, and college identity. The dimensions of relationship to others include interaction and teamwork. Affective outcomes of these transformational changes include self-regulation behaviors, higher educational goals, and increased hope. Cognitive outcomes of these changes include higher achievement and decisions to persist in meeting educational and career goals.

Figure 3 provides a conceptual model of the ACE process, illustrating how mediating factors emerging from the ACE curriculum contribute to specific student outcomes. In this model, Relationship to Self and Relationship to Others are psychological mediators between ACE inputs and student outcomes. ACE inputs include the ACE curriculum, trained ACE faculty, and Peer Support related to the ACE cohort model.

**Figure 3. Conceptual Model of ACE Process**



The CSSAS is divided into sections measuring factors related to the affective dimension and is administered via computer to all students who participate in the program. The survey is

administered at three time points during the ACE program: prior to beginning the Foundation Course, immediately following the Foundation Course (which lasts approximately two weeks), and at the end of the Bridge Semester. The research design going forward includes plans to administer the CSSAS one year later to students who participated in the program to determine if gains posted during the ACE experience have been sustained for students who have gone through the program. The research design also calls for CSSAS to be administered to comparison groups to determine if other students score differently on the CSSAS and in what ways these scores may be differentially related to student outcomes.

### **CSSAS Scoring**

Scoring on the CSSAS is divided into separate scales based on the affective dimension factors being measured. Thus, the Academic Confidence section, which measures academic self-efficacy, has seven items that comprise the self-efficacy scale. Sample items include: “I usually do well in school”, “I know how to study for tests”, and “I am not able to ask questions in class (reverse coded).” Students rate how strongly they agree with each statement, based on a five point scale, from 1 = Strongly disagree to 5 = Strongly agree. Student scores on each item are summed to give an overall score for Academic Confidence, with higher scores indicating higher levels of academic self-efficacy. It is hypothesized that student scores on this scale will increase from initial scores when the CSSAS is given before the program begins, both after the foundation course and then again after completion of the Bridge Semester. However, we know that it is possible that scores in some areas will decrease when students become more aware of their habits, attitudes, and individual traits. Table 2 provides a summary of each section in the CSSAS, how it is scored, and the survey instrument or research upon which each scale is based.

### **CSSAS Design Process**

The creation of the CSSAS was based on a pilot survey jointly designed and developed by MPR and ACE staff and given to ACE students in the spring of 2010. The pilot survey measured factors within the affective dimension similar to those that appear in the CSSAS, but the survey was much longer and needed to be streamlined. Exploratory Factor Analysis was used to determine which underlying constructs emerged from the survey data. Exploratory Factor Analysis reveals the number of factors produced by a survey and measures how well the items in the survey measure each of the factors. As expected, the EFA revealed the affective dimensions theorized to be measured by the survey, including self-efficacy, interaction with others, teamwork, college identity, mindfulness, and the ability to observe, describe, and accept one’s internal state.

**Table 2. CSSAS Constructs and Sources**

Affective Dimension	Section and Description of Items	Source <sup>4</sup>
<b>Self-Efficacy</b>	Items relating to one's confidence in successfully completing school-related tasks and in one's ability to regulate learning and study behaviors. Also includes items related to student's hope regarding their academic future. Respondents rate the extent of their agreement on each statement using a five-point scale (1 = Strongly disagree; 5 = Strongly agree).	Academic Self-Efficacy Scale by Chemers, Hu, & Garcia (2001); Efficacy for Self-Regulated Learning Scale by Zimmerman, Bandura, & Marinez-Pons (1992); Domain Specific Hope Scale by Shorey and Snyder (2004)
<b>College-Identity, Teamwork, Interaction with Others, and Challenges</b>	Items relating to identifying as a college student communication skills and aspects of personal responsibility that affect interaction with others. Respondents rate the extent of their agreement on each statement using a five-point scale (1 = Strongly disagree; 5 = Strongly agree). Also includes two items on anticipated stress and ability to handle challenging stress levels, measured on a five-point scale.	Drafted by Dr. Martin Chemers based on previous survey research in each domain (2010); Personal Responsibility Questionnaire by Merger, Spencer, and Patton (2004)
<b>Mindfulness, and Observing, Accepting, and Describing One's Internal State</b>	Items relating to being mindful of one's behavior, and one's inner state, through observing, describing, and accepting one's actions, thoughts, and behaviors. Respondents rate how true specific statements are about themselves on a five-point scale (1 = Never or rarely true; 5 = Very often or always true).	Kentucky Inventory of Mindfulness Skills by Baer (2004)

Items with low factor loadings on a construct were eliminated because they did not provide a good measurement indicator for that construct. Also items that cross-loaded on to more than one factor were also eliminated because they did not do a good job of differentiating between factors. Items with the highest loadings on each factor were retained, while lower scoring items were dropped to decrease the length of the survey. EFA allows for parsimony in measurement of factors because items can be removed without sacrificing reliability or validity. Each identified factor was also subjected to a reliability test using Cronbach's Alpha, and scores for each factor were good, ranging from .71 to .92.

### Initial CSSAS Analysis

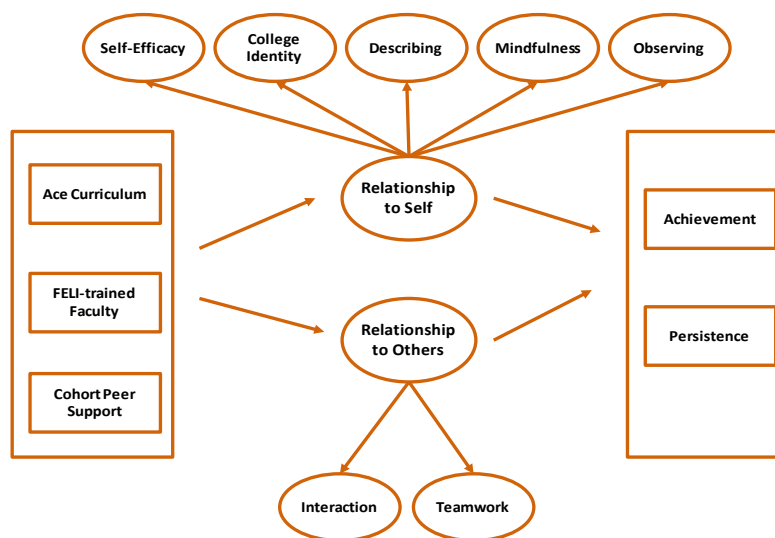
The final pilot CSSAS was administered in fall 2010 to all cohorts participating in the Foundation Course at the beginning of the ACE semester. It was administered again two weeks later, and then again at the end of the Bridge Semester. Exploratory and confirmatory factor analysis of these administrations of the CSSAS confirm the validity of the instrument. Confirmatory Factor Analysis revealed high overall measurement scores for each factor, plus high factor loadings for each measured item. Cronbach's alpha reliability scores also were good, remaining in the .7 to .95 range for each dimension.

<sup>4</sup> See list of References for full citations.

## Structural Equation Modeling and the CSSAS

Latent variable analysis of the CSSAS data will be used to test the theory of change for the ACE model. The elaborated conceptual model shown in Figure 4 shows how structural equation modeling will be used to test the relationship between psychosocial factors and student achievement. The use of latent constructs is based on the theory that many general concepts—such as identity, efficacy, and engagement—are best captured as unobserved variables that are explained by multiple observed indicators. Ultimately, Structural Equation Modeling will be used to test the structural relationships between ACE program components, latent psychological mediators, and student outcomes. It includes the latent constructs related to Relationship to Self and Relationship to Others, as well as the observed variable outcomes of Persistence (as measured by choice of courses, going to school full or part-time, and other variables) and Achievement (measured by credit accumulation and successful completion of “Gateway” math and English courses).

**Figure 4. Conceptual Diagram of Structural Equation Model of ACE Process and Outcomes**



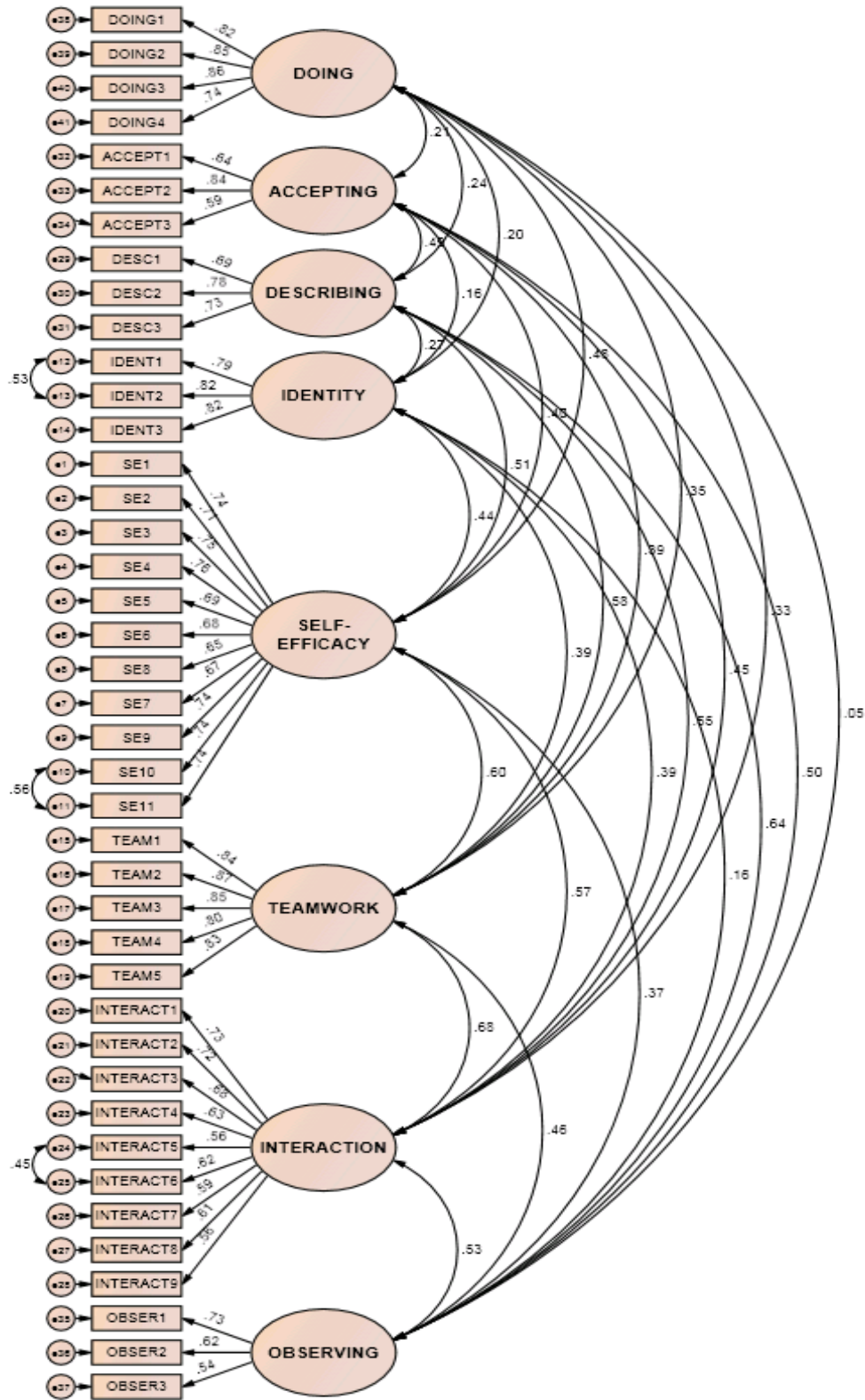
## Exploratory and Confirmatory Factor Analysis of CSSAS

MPR continued to pilot the CSSAS instrument in spring 2011 with all students participating in ACE. Exploratory and Confirmatory Factor Analysis (CFA) were used after each administration (Pre, Post, and EBS) to examine the validity of the instrument and determine if items were performing poorly. Confirmatory Factor Analysis follows Exploratory Factor Analysis in the research process. In CFA, the researcher specifies which items load on to identified factors, instead of allowing the computer software (Mplus 6.0) to determine which items hang together as factors based on statistical characteristics. Appropriate analysis techniques require that the EFA and CFA be conducted on different random samples pulled from the entire data set. Use of the same data for both analyses may yield unreliable results.

Analyses of the CSSAS were conducted by using a random sample of 40% of the survey takers for the EFA and 60% from the CFA. Items were dropped or reworded (from negative to positive) if the EFA or CFA revealed that items had low factor loadings or loaded on to more than one construct. The CFA for this report was conducted on the Pre-Foundation CSSAS data from fall 2010 and spring 2011 (N = 646) as well as on the school-wide CSSAS administered to non-ACE students in fall 2011 (N = 1107). Analysis of survey results administered to different populations of students adds validity to the instrument by showing that the factor analysis results are comparable, even when different types of students take the instrument. The results for the Confirmatory Factor Analysis of the model are shown in Figure 5. This model provides the factor loadings for each of the items on each affective dimension factors as well as the correlation between each factor. Ideally, in Confirmatory Factor Analysis, factor loadings will be above .4 and correlations of latent factors (the affective dimensions in the large circles) will be less than .7. The figure shows that the CSSAS meets both of these criteria. The factor loadings are all above .5 and the factor correlations are less than .7. The correlation between factors is used to determine if factors are measuring separate constructs or if they should be collapsed into one smaller factor (generally if the correlation is higher than .8). These results suggest that the CSSAS is a valid instrument.

Another way to measure the validity of an instrument is to use CFA to generate fit statistics for the model. These fit statistics measure the model as a whole, while the size of the factor loadings measure the validity of each individual construct and item. Standard fit statistics reported in the research literature include the Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and the Standardized Root Mean Square Residual (SRMR). All fit statistics for the two data sets tested here met the criteria required to claim that a survey is a valid and reliable instrument (see Table 3). A RMSEA score below .05 is considered necessary to indicate a well-fitting model. Scores between .05 and .07 are adequate, between .08 and .10 are poor, and any score above .10 indicates that the model is not acceptable. In addition, a 90% confidence interval for the RMSEA score should not exceed .10 on the upper-bound level. The model tested here had excellent RMSEA scores (.039 and .042), and both confidence intervals had an upper bound-level below .05. Scores above .9 on the CFI indicate a good model, and scores above .95 indicate excellent model fit. The CFA of the model tested here and depicted in Figure 5 produced CFI results of .93, indicating that the model is very strong. The final fit statistic, the SRMR, should provide values as close to 0 as possible. The scores for these analyses were .045 and .038, respectively, again indicating excellent fit of the model. The CSSAS instrument was refined and tested over numerous administrations, with excellent statistical results each time. The final instrument consists of 41 items measuring affective dimension factors as well as two items measuring students' response to stress. This instrument is now final and will be administered in its current form for the remainder of the study.

Figure 5: Confirmatory Factor Analysis Model of CSSAS



**Table 3. Fit statistics for Confirmatory Factor Analysis of fall 2011 S-CSSAS (N = 821)**

	RMSEA	RMSEA 90% Confidence Interval	CFI	SRMR
School CSSAS (n = 821)	0.042	0.039 to 0.044	0.948	0.038

To further confirm the validity of the instrument, Cronbach's Alpha reliability scores were calculated along with the EFA and CFA analyses. Cronbach's Alpha is widely used in the research community to determine validity of survey instruments, with .9 indicating excellent fit and scores above .7 indicating adequate fit for a model to be accepted as a reliable indicator of the constructs being measured. The Cronbach's Alpha scores for the overall instrument were .95 and .94, considered excellent. Individual reliability scores were also conducted on each construct and generated scores ranging from .7 to .95, again indicating that each construct is reliable in addition to the survey in its entirety being a reliable measure. Reliability scores are reported along with survey items and factor loadings in Appendix Table 1. Correlations among the latent factors are reported in Appendix Table 2.

### *Analysis of Change in ACE Student Scores on the CSSAS*

For this report, MPR used data collected from ACE students in fall 2010 and spring 2011. Because the study examines change over time, the sample is limited to ACE students who had survey results for all three CSSAS administrations, including Time 1 (pre-test CSSAS), before beginning ACE, Time 2 (post-test CSSAS), after completing the Foundation Course, and Time 3, after the end of the first ACE Bridge Semester (EBS). It is necessary to have a matched sample of students if analysis of change over time is to be valid. The total N for this analysis is 293 students from 7 colleges participating in the ACE program. A breakdown of respondents by college is presented in Table 4. To measure change over time, we created a scale score for each of the affective dimension factors and then calculated what percentage of students scored in the top quartile (a score above 75%) of the scale at each time point. We also tested the change in percentage scores from Time 1 and Time 3 to see if the change in scores was statistically significant. These results are reported in Appendix Table 3.

**Table 4. CSSAS Respondents by College (N = 293)**

College	Number	Percent
Berkeley City College	18	6.1
Cabrillo College	186	63.5
Delaware County Community College	25	8.5
Hartnell College	23	7.8
Las Positas College	11	3.8
Los Medanos College	26	8.9
Southwest Virginia College	4	1.4

### ***Limitations of CSSAS Results***

The school-wide CSSAS (S-CSSAS) results may not be representative of the entire Cabrillo class entering school in fall 2011 because the S-CSSAS was administered to incoming students during new student assessment sessions. Several of these sessions had already occurred before the CSSAS instrument was ready for school-wide administration, so not all students are represented in the data. Future administrations of the S-CSSAS should capture all entering students during each semester of the evaluation.

Demographic data presented for the sample of ACE students included in the change-over-time analysis may not be representative of all ACE students. Demographic data factors are provided in this report only for students included in the change-over-time sample. These data were drawn from the intake applications filled out by all ACE students planning to enroll in the program. Such data are not included in the S-CSSAS because these data will be included in the administrative data collected from participating colleges. These data were not available at the time of this report. To obtain demographic data for this report, the intake application data for the 293 ACE students in the sample were merged with the CSSAS results. Comprehensive demographic data for all ACE students as well as comparison group students from the school-wide CSSAS will be provided in future reports.

The change-over-time survey results may not be representative of the change for all ACE students because of the limited sample size. The sample size for the change analysis is limited to 293 students, though the combined number of ACE students from fall 2010 and spring 2011 is much higher. This sample is 293 students because it needed to include a matched sample of students who had taken the CSSAS at all three time points during the ACE semester. During the piloting phase of the survey in fall 2010 and spring 2011, challenges in administering a new survey to all ACE students at seven colleges and collecting the data were experienced. Not all data were collected at each college. Administration of the CSSAS procedures has been refined over the past two semesters, and collection of data for fall 2011 has been much smoother, with a response rate over 70% for students taking the Pre and Post versions of the CSSAS. Data had not yet been collected for the EBS at the time of this report. Future reports will include more comprehensive CSSAS results for ACE students.

### ***Time 3 CSSAS Results for ACE Students***

The CSSAS is given at the end of the first semester that ACE students complete as a cohort. This semester is called the Bridge Semester and all Time 3 administrations of the CSSAS to ACE students are referred to as End-of-Bridge Semester (EBS) results to distinguish them from other CSSAS administrations, both school-wide and ACE-only. The EBS includes all of the standard CSSAS items to enable measurement of change over time on student scores on the affective dimensions. In addition, the EBS includes items designed to measure the ef-

fectiveness of various aspects of the program and to evaluate the impact of the ACE program on students' academic and personal lives. Additional survey items include questions about the psychosocial skills taught during the program, course evaluations, as well as items about future plans and open-ended questions about the impact of the program on students' lives. The analysis included here was conducted on a sample of 464 students from the fall 2010 and spring 2011 cohorts. A breakdown of students included in the sample by college is provided below in Table 5.

**Table 5. EBS Respondents by College, Fall 2010 and Spring 2011**

College	Number	Percent of Respondents
Berkeley City College	40	8.6
Cabrillo College	236	50.9
Delaware County Community College	45	9.7
Hartnell College	71	15.3
Las Positas College	31	6.7
Los Medanos College	34	7.3
Southwest Virginia Community College	7	1.5
Total	464	100

Descriptive statistical techniques were used to analyze the data from the EBS. Most questions were Likert-type items with five possible responses ranging from low to high. For the purposes of summarizing findings and presenting them in the body of this report, most results are shown as the percentage of students responding, "Agree" or "Strongly agree" to each item. For questions about students' future plans and number taking different types of courses, the percent of the entire sample is recorded for each response item. Open-ended items were coded by major themes and are summarized in the body of the report.

## Classroom Observations and Student Interviews

During the early stages of the evaluation study of ACE, the majority of our time was spent developing instruments, validating the instruments and analyzing the results, and developing procedures for securing institutional data from the colleges. At the same time, we wanted to begin collecting qualitative data on implementation so that we could refine our instruments and begin to develop the context for understanding implementation. One of the most challenging aspects of implementation of ACE programs is integrity with the basic components of the ACE model. As noted in the Introduction, the ACE model is implemented in a Bridge Semester that includes a two-week Foundation Course, a Team Self-management (TSM) Course, a project-based course focused most often on Social Justice, and an intensive, accelerated and integrated set of academic courses. The Social Justice course is often the pivot point around which the other courses cluster, in part because it includes a culminating presentation for the semester, and in part, because it focuses on an in-depth research project. The

Foundation, TSM and Social Justice courses are very tightly structured and are designed to be fast-paced. The curriculum is carefully laid out, and all the necessary materials are provided in kit form. Documenting how colleges and faculty implement the program is an important undertaking for the evaluation, as is the study of how the program develops and matures at a college. The preliminary data we have collected will inform the focus of future areas of study, i.e., elements to discern during observations and questions to pursue in interviews. These data will also help to substantiate findings from the results of the CSSAS administrations and will provide contextual data on students' opinions, beliefs, and experiences.

Data collection protocols were developed in draft format and used in initial visits to ACE programs. The protocols were developed based on a set of constructs derived from background interviews, review of documentations, and meetings with ACE staff. They will be refined as more information is gathered about how implementation varies across sites.

Initial observations were conducted at Cabrillo College at both the Aptos and Watsonville campuses. In addition, at the Watsonville campus, we had the opportunity to interview students who were participating in classes. With approval of the instructors, students in three ACE classes—Computers, Social Justice, and English were asked to volunteer to be interviewed. Evaluators conducted 17 interviews (12 one-on-one and 5 in a focus group, including 8 males and 9 females). These observations and interviews were conducted in March 2011. In addition to the data collection in Aptos and Watsonville, an observation and a small set of interviews was conducted for students who participated in a Foundation Course at Berkeley City College. All of the responses were coded for major themes, and the results are included in the findings reported in the next section.

# Findings

## ACE Participants

ACE serves a varied student population. Almost all students are identified by ACE as either “at risk” or “high risk” (see next paragraph), but vary on other characteristics such as age, race, and gender. Table 6 provides a breakdown of survey respondents by demographic characteristics for students included in the study of CSSAS change over time (N = 293). According to the survey data, ACE serves a higher percentage of male than female students (58% vs. 42%). The majority of ACE students are in the 18-20 year-old age group (54%), but students of all ages participate in the program, including students who are 50 or older (5%). Hispanics comprise the single largest ethnic group served by ACE (43%), followed by white students (26%) and African American students (13%). The demographic profile of ACE students also varies within each college (see Appendix Table 4). For example, Delaware Community College, which primarily serves students from the predominantly African American community of Chester, Pennsylvania, has the highest percentage of African American students (56%), while Cabrillo College and Hartnell College serve larger numbers of Hispanic students (49% and 83%, respectively). Cabrillo College serves the largest number of students over the age of 30 (26%).

ACE identifies students as being at risk based on responses to an intake survey filled out by all prospective ACE students. This survey includes questions about students’ backgrounds, including factors that may identify the students as at risk for not enrolling in or completing a postsecondary program. ACE uses responses to flag students who are either “at risk” or “high risk”. Students who have at least one “high risk” factor (e.g., high school dropout, homeless, involved in a gang, grew up in foster care, or been in jail) are considered to be “high risk” students. Students who do not have any “high risk” factors but have one or more “at-risk” factors (e.g., English Language Learner, first-generation college, works full-time, or has children) are classified as “at risk”. Students with no risk factors are considered “low risk”. The intake survey includes 16 “high risk” factors and 12 “at risk” factors. The distribution of risk scores for the CSSAS students who are part of the analysis for this report range from having no risk factors to having up to 12 high risk factors and up to 9 at risk factors. The majority of ACE students (97%) are classified as “at risk” or “high risk”. (Appendix Table 5 also includes a list of the risk factors in each category and the percentage of survey respondents who identified themselves as having that risk factor by college.)

**Table 6. CSSAS Respondents by Gender, Ethnicity, Age Group, and Risk Level (N=293)**

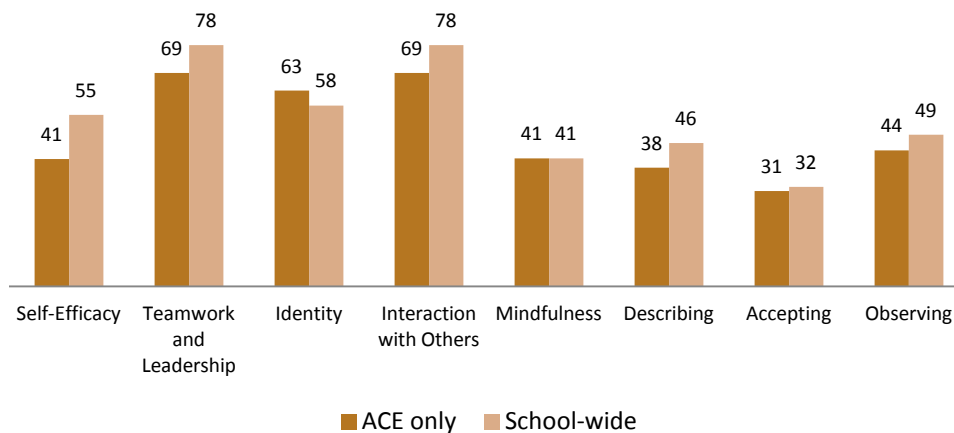
Category	Number	Percent
<b>Gender</b>		
Female	124	42.3
Male	169	57.7
<b>Ethnicity</b>		
African American	39	13.3
Asian/Pacific Islander	12	4.1
Hispanic	126	43
White	75	25.6
Multiracial	14	4.8
Native American	7	2.4
Other	3	1
No Data	17	5.8
<b>Age Group</b>		
18 to 20	155	54.4
21 to 24	43	15.1
25 to 29	29	10.2
30 to 39	30	10.5
40 to 49	15	5.3
50 or above	13	4.6
<b>Risk Level</b>		
Low Risk	3	1
At Risk	87	29.7
High Risk	195	66.6
No Data	8	2.7

### *Comparison of ACE and Non-ACE Students on CSSAS Factors*

To determine if ACE students differ from the general student population on the affective dimension factors measured by the CSSAS, the percentage of students scoring in top quartile of the scale for each factor was calculated for ACE students (391) and non-ACE students (1,017) who took the S-CSASS in fall 2011. Due to risk factors experienced by ACE students, we anticipated that ACE students would score lower on measures of self-efficacy and the other affective dimension factors measured by the CSSAS and the S-CSSAS. The results confirmed this theory (bearing in mind the limitations presented in the methods section).

Deeper exploration of these differences will occur as the evaluation continues and a final CSSAS is administered to all ACE students as well as comparison groups to determine if changes in the factors were similar across the two groups and how the factors were related to student achievement outcomes. Figure 6 below shows the percentage of ACE and non-ACE respondents scoring in the top quartile of each affective dimension factor. With the exception of College Identity and Mindfulness, non-ACE students scored higher on all affective dimension factors measured by the CSSAS. This finding suggests that ACE students face bigger challenges in school because of their lower scores on psychosocial factors that are theorized to be essential components of all students' academic success.

Figure 6. CSSAS scale scores for ACE and non-ACE students, S-CSSAS Fall 2011



The most notable difference between ACE and non-ACE students is seen in the Self-Efficacy Factor. This factor measures the level of confidence students have about their academic ability and their ability to be successful in school. Only 41% of ACE students scored in the top quartile on this scale, compared to 55% of non-ACE students. ACE students begin their college career at a deficit in self-efficacy compared to their peers who may not have the same risk factors or challenging life situations faced by ACE students. Results reported later in this report will show that ACE students make significant gains on the self-efficacy measure over the course of the ACE program. One might conclude that if such a program is effective in showing improvement for students on these factors that it might benefit more of the community college population to be exposed to a program that does address such factors.

Other dimensions where ACE students lag behind their peers include Teamwork and Leadership and Interaction with Others. Although results for both groups are relatively high (compared to others), at 78% for non-ACE students and 69% for ACE students, ACE students still face a deficit of nine percentage points in these areas. In all other areas, results for both ACE and non-ACE students are quite low, e.g., in Self-efficacy, Mindfulness, Describing, Accepting and Observing. These skills may be helpful to all students and the ACE Foundation Course may prove to be a productive strategy for helping all incoming students.

Both ACE and non-ACE students score lower overall as a group on the Mindfulness and Self-Awareness dimensions compared to all other dimensions except Self-Efficacy. The largest gap between the two groups is in the dimension of Describing, which includes items that measure students' ability to describe their inner feelings and beliefs to others.

## Findings by Research Questions

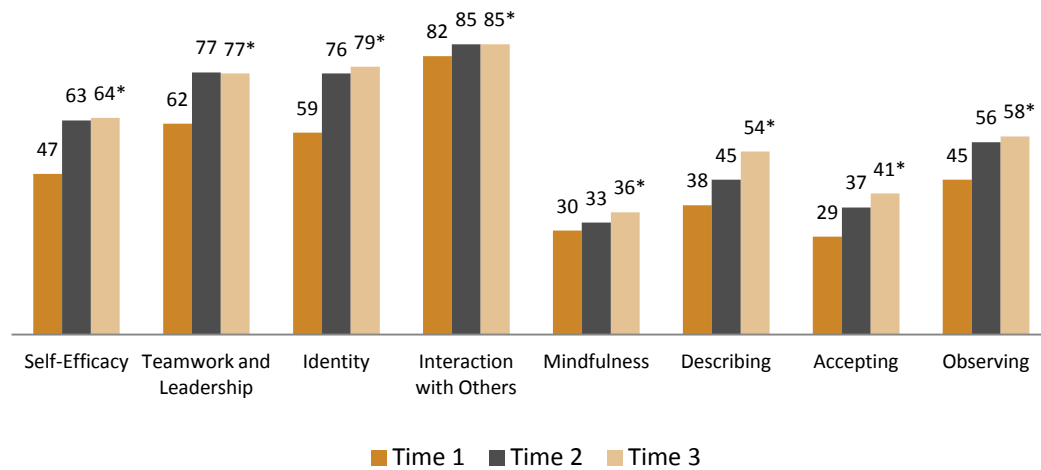
The remainder of this section organizes the CSSAS, interview, and observation findings according to the research questions that framed the study. At this point in the study, data are available to provide answers (partial in some cases) to the first three questions. The remaining questions will be answered as the study progresses and additional data are collected.

### *What are the effects of participation in the ACE program on personal growth outcomes, such as self-efficacy, personal responsibility, and college identity?*

#### **CSSAS Factors**

Analysis of CSSAS results over time show that ACE students improve their scores on all of the affective dimension factors during the course of their ACE experience. Figure 7 shows the change in the percentage of ACE students scoring in the highest quartile of the scale for each affective dimension factor at three time points: Time 1 before they begin the ACE program, Time 2 at the end of the intensive two-week Foundation Course, and Time 3, at the end of their first semester of college as ACE participants. These results are based on an analysis of ACE student CSSAS scores during the fall 2010 and spring 2011 semesters. A total of 293 students are included in the results. The overall pattern reveals steady improvement in each of the affective dimension factors over the course of the program. Correlation of growth in these factors with student achievement factors to be presented in later reports will provide evidence that growth in these affective dimension factors has a positive impact on student achievement.

**Figure 7. Change over time in ACE students' scores on CSSAS scales, Fall 2010 and Spring 2011**



\*Indicates that the change in scale scores between administration of the CSSAS at Time 1 (before beginning ACE) and Time 3 (end of first ACE semester) is statistically significant at the .05 level

The biggest growth is seen between Time 1 and Time 2. The two-week Foundation Course focuses on building students' capacity in each of the affective areas. Results show that this training is particularly effective in the dimensions of Self-Efficacy, Teamwork, Identity, Describing, Accepting, and Observing, with double-digit gains in percentage points between Time 1 and Time 2. The change from Time 2 to Time 3 either remains consistent or improves slightly over the course of the Bridge Semester. This result indicates that students are maintaining the gains they made during the intensive Foundation Course. Future administration of the CSSAS to ACE students one year after completing the Bridge Semester will show if ACE students are able to maintain their higher scores on the affective dimension factors even after the ACE program ends.

Analysis of CSSAS change results among colleges participating in the study show that there is variation in school populations on the affective dimension factors measured by the CSSAS, even within the ACE program. Table 7 shows the Time 1 scores for this first analysis broken out by college. The differences indicate that the CSSAS is able to detect differences among students before the program begins and may suggest the CSSAS will be a useful instrument for evaluating students' need for support programs and the type of program that would be best suited to their needs. The colleges are not identified by name because the sample size for some of the colleges is very small and might compromise the personal privacy of students at those schools or create unfair comparisons between campuses. Also, these results are presented for illustrative purposes to indicate the ability of the CSSAS to distinguish between different student populations but should be taken in the context that some of the sample siz-

es are quite small and may not be representative of the college or the ACE program as a whole. As more data are collected over the course of the study, interpretation of comparisons by college will be more detailed.

**Table 7: Percentage of ACE respondents scoring in the top quartile on CSSAS factor scales, Time 1, by college**

	Mindfulness	Accepting	Describing	Identity	Self-Efficacy	Team-work and Leadership	Interaction with others	Observing
<b>COLLEGE 1</b>	28	32	48	64	89	72	88	40
<b>COLLEGE 2</b>	28	26	34	54	42	58	77	47
<b>COLLEGE 3</b>	35	26	52	61	38	74	78.3	43
<b>COLLEGE 4</b>	28	44	39	72	75	61	83	44
<b>COLLEGE 5</b>	9	9	27	55	0	36	73	18
<b>COLLEGE 6</b>	46	46	50	77	53	81	92	54

Changes in CSSAS scores over the course of the ACE program also vary by campus. Most campuses show similar growth patterns in the affective dimensions to those shown in Figure 7, but some deviate from that pattern. The spread of scores within each campus also remains different when changes over time are compared. Breakout by college at all three time periods is shown in Appendix Table 6.

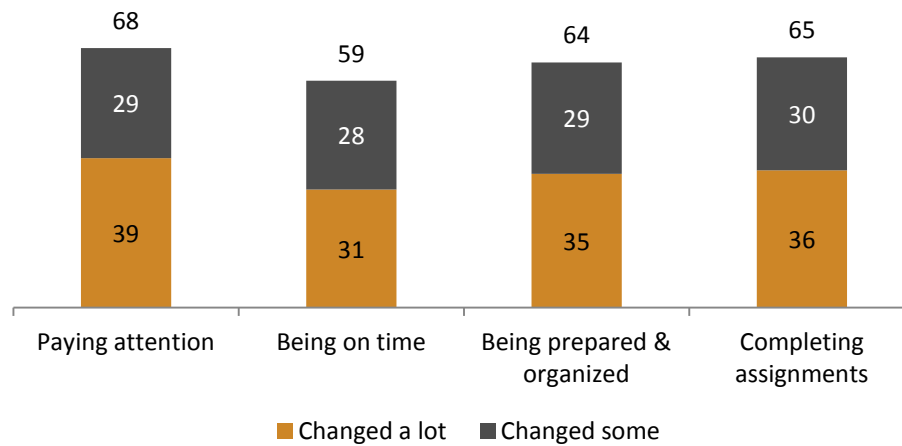
### **End of Bridge Semester Survey (Time 3) Measures of Behavioral and Attitudinal Change**

The ACE program recognizes that academic ability is just one facet of student success. Students, particularly those who have not succeeded in traditional school environments in the past, often need to learn behaviors and attitudes essential to succeeding in college. To measure the impact of the ACE program on developing such behaviors and attitudes, students who took the CSSAS at the end of the Bridge Semester were asked to rate the extent to which they changed in specific areas in ways that improved their college experience. Results from the 464 surveys analyzed are shown in the figures below. Students responded on a five-point scale, from “Did not change at all” to “Changed a lot”. Student responses to the top two categories (“Changed some” and “Changed a lot”) were collapsed and are presented in the bar graphs below.

Students generally reported the largest positive changes in behaviors and interactions with others (Figures 8 and 9). For example, nearly three-quarters of students reported positive changes in being able to pay attention. A similar percentage of students reported positive changes in their ability to be prepared and organized, and in completing assignments. Additionally, more than half of the students felt they had changed for the better in being on time. Aspects of the ACE program are designed to promote student growth in these behaviors.

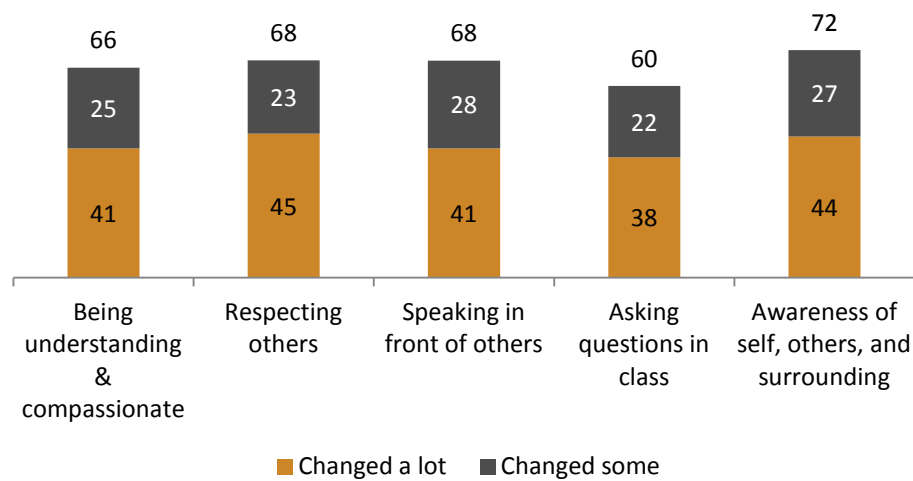
One visible accountability measure in every ACE classroom is an attendance chart. Students make a green or red mark on a wall chart for whether they arrive at a class session on time. Over the course of the semester, the attendance chart increasingly fills with green marks, and students learn to hold themselves accountable for arriving to class on time. These changes in behavior are important indicators of student motivation to succeed. Students reporting changes in their behaviors throughout the Bridge Semester may continue to apply these successful traits and attitudes to their academic and professional careers.

**Figure 8. Percentage of EBS respondents reporting changes in behaviors and attitudes, selected items from EBS, fall 2010 and spring 2011**



Students also reported beneficial changes in their interactions with others (Figure 9). More than two-thirds of students felt they had positively changed in their ability to respect others. Two-thirds of students reported that they had changed in being more understanding and compassionate of others. More than two-thirds of students felt they had positively changed in speaking in front of others and more than half of the students reported changes in their ability to ask questions in class. These results can likely be attributed to the spirit of tolerance and inclusiveness apparent in the cohort model of the ACE program. Students with diverse backgrounds and experiences learn from and about each other during the intensive Foundation Course, and interact regularly with one another throughout the Bridge Semester. Students are taught how to listen attentively to one another's personal stories without judgment.

Figure 9. Percentage of EBS respondents reporting changes in interactions with others



### *Open-ended Responses on EBS*

Responses to open-ended questions on the EBS supported the foregoing findings and provided more detail on the specific effects of participation in the ACE program on students' affective dimension capacities. The responses were coded for themes, and the following were identified as the most common:

***Confidence*** (72 responses): The most frequent response related to the improvement in students' confidence. Illustrative comment: "I've never really been good at school and being in this cohort really changed my views and perceptions on how well I can actually do."

***College Identity*** (56 responses): Students expressed in various ways the fact that they now thought of themselves as a college student with the skills and tools to pursue an education. Illustrative comment: "Most people would not recognize me or believe how good I am doing in college or even being in college would be a surprise for them."

***Better Person*** (33 responses): Students indicated that they had become a better person as a result of participating in the ACE program. Illustrative comment: "I am more confident, more secure with my abilities and more driven to succeed. I have been given tools to let go of past restraints and to move forward in my life in a healthy manner. I can also communicate more effectively and listen better. These lessons were so important to the growth of me personally. I felt that this curriculum was written specifically for me."

***Better Thinker*** (32 responses): Students felt that they had developed ways to approach tasks and to solve problems using improved thinking skills. Much of this was attributed to what

they learned about working styles. Illustrative comment: “I’ve changed in many ways. I think of ways to do things better, and thinking is a big part of the next moves in my life.”

**Communication Skills** (31 responses): Many students commented on their improved ability to communicate with others, whether in personal conversations or presenting in groups. Illustrative comment: “I have become a better person. I understand how to communicate with myself and other people. I also learned not to judge people and work with my learning styles.”

**Responsibility** (29 responses): The behavior system that students learn provided benefits for many students who recognized that they had to take responsibility for their lives and their education. Illustrative comment: “I am more aware of what I want to do and become. I do not rely on others to insure my abilities because I know that my future relies solely on me.”

**Improved Relationships** (28 responses): Working in groups and as a cohort seemed to benefit many of the students. Illustrative comment: “Socially I feel more comfortable with others that I may not know and relying on them for support.”

**Perseverance** (26 responses): Students indicated that they had developed a greater tendency to persevere, to pursue their goals. Illustrative comment: “Coming through this program has clearly shown me areas I need to work on in reaching my goals, by not allowing others to hinder me from that and by allowing me to deal with things instead of pushing them off.”

**Better Life** (25 responses): Students indicated that they felt they had developed skills and acquired tools to make a better life for themselves. Illustrative comment: “I was raised up to be a compassionate and caring person, and I have only changed for the better. The ACE program helped me to confirm the direction I want to go in life, and I’m taking all the tools and skills I have learned with me to reach my dreams.”

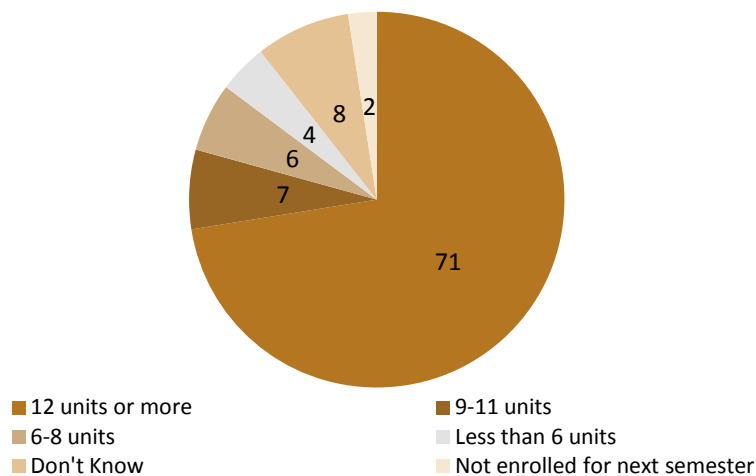
**Manage Time** (9 responses): Students indicated that they had learned about how to manage their time, to be punctual, and to act responsibly. Illustrative comment: “I am more focused, more determined to get my homework done and to show up to class on time.”

**Group Work** (8 responses): Students indicated that they had learned how and felt more comfortable working in groups. Illustrative comment: “I am now more patient and am able to work in a group without quitting.”

### *What are the effects of participation in the ACE program on student achievement indicators?*

While a number of student achievement indicators will be drawn from college MIS data, data from the EBS and student interviews provide insight into how participation in ACE has affected students' academic and career goals. These measures are important indicators for student achievement because they demonstrate students' confidence in their ability to succeed academically and their sense of efficacy in regard to having a successful future. Nearly three-quarters of students planned to enroll in 12 or more units in the term following the Bridge Semester, a course load generally accepted as full-time enrollment. Another 13% of students planned to take between 6-11 units. Students who did not plan to enroll or didn't yet know their enrollment plans made up only 10% of EBS respondents (Figure 10).

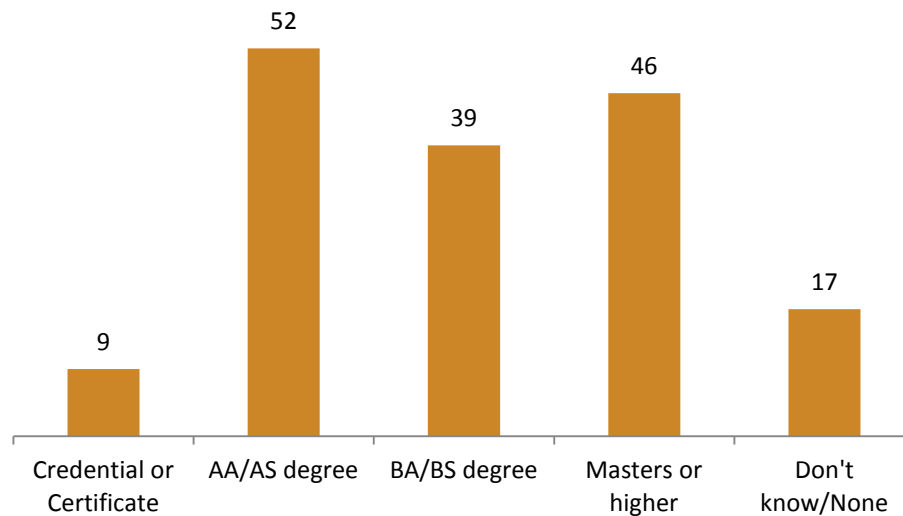
**Figure 10. Next semester enrollment plans for EBS respondents, by percentage of respondents. N=464**



ACE students also reported ambitious long-term academic goals (Figure 11). Over half of the students hoped to earn an Associate's degree. Over one-third hoped to earn a Bachelor's degree, and nearly half hoped to attain a Master's degree or higher.<sup>5</sup>

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<sup>5</sup> Students were able to choose as many categories as applied, so percentages add up to more than 100 in Figure 11.

**Figure 11. Degree goals for EBS respondents, by percentage of respondents. N=464**

For many ACE students, the Bridge Semester is the first semester of academic coursework that they have attended full-time. For students to complete the semester is an accomplishment in itself, but for students to also maintain a positive and ambitious outlook on the remainder of their academic career indicates a level of academic confidence that likely stems from their participation in the ACE program.

The vast majority of ACE students (84%) were more motivated to finish college because of their experience in the ACE program. A similar percentage of students (82%) actually felt that they were more likely to complete a credential, certificate, or degree because of the ACE program. Students also reported that they had made new decisions about their future based on their experience in ACE (Table 8).

**Table 8. EBS responses to future-oriented items**

Percentage who "agreed" or "strongly agreed" with the following items	% (N = 455)
I am more motivated to finish college because of my experience in the program	84
I think I am more likely to graduate from this college with a credential, certificate, or degree because of my experience in the program.	82
Percentage who answered "yes" to the following items	% (N = 464)
Do you think you have changed as a result of being in the program?	79
Have you made any new decisions about your future based on your experience in the program?	50

In addition to the data reported above, the EBS included open-ended questions related to students' future plans. In general, the responses reflected students' newfound confidence and motivation to achieve more in their lives, but by far, the most common response was to continue their education. Many of the students were specific about career choices they had made or changes in career directions that had occurred as a result of their participation. One student stated "I want to continue my education to the fullest...this ACE program helped me out a lot. I wouldn't be interested in school if it wasn't for the ACE program." Another indicated, "I came to Cabrillo to get a minimum of an A.A. Degree... Now not only am I going to pursue my dream of becoming a paramedic, but I plan to get my Master's degree."

### *Interview Results*

In the interviews that were conducted (12 individuals and five in a focus group), students were asked whether participating in the ACE program had affected their aspirations for college or career. Three students were vocal about how the ACE program had changed their career goals. One student explained that before the program he had wanted to become a counselor, but after the ACE program he intended to earn his Ph.D. in psychology. One student characterized the impact of ACE as having "rocked [his] world". He explained, "It changed my career goals, education goals. It has given me something to believe in beyond 'manifest destiny'...Now I realize I have freedom to pursue my goals, to make decisions. Seeing choice, taking action." Other students emphasized that while their career goals hadn't changed, ACE had better equipped them with the necessary tools to be successful in college or in a career.

During the interviews and focus group, students were asked if they thought the program would have long-term benefits and how it had affected them in terms of plans for the future for them as a person. All but one of the students interviewed felt that the ACE program would have long-term benefits in their lives, especially with regard to their academic and career paths. Students appreciated the fact that they now felt more prepared to be a college student. One student explained, "I manage my time better. I show up on time and I'm organized," while another said, "I have a better understanding about how I want to structure classes. If I want to succeed I have to work hard."

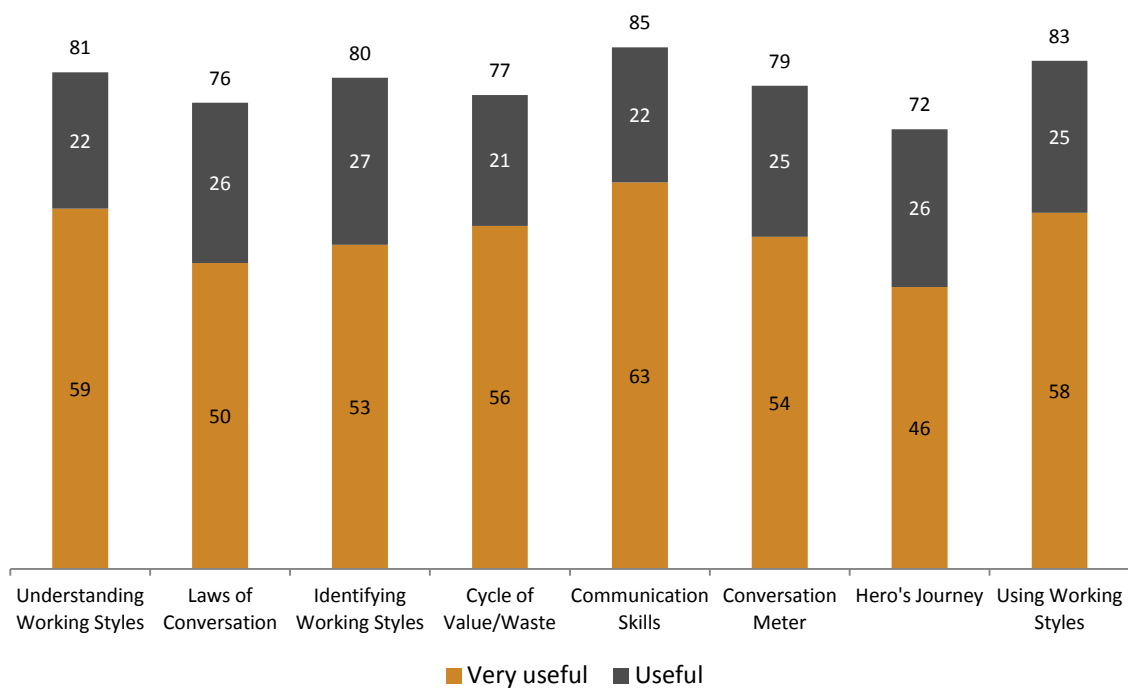
### ***What are the elements of the ACE model that appear to result in the desired outcomes for students in the program?***

#### **ACE Curriculum**

Since the ACE program features academic and behavioral components, we would expect to see the skills and knowledge gained over the semester to apply not only to a student's academic life, but also more broadly to his or her personal life. On the EBS, students were

asked to identify specific features of the ACE curriculum that they found useful in both an academic environment and in their personal lives. Selected findings are presented in Figure 12. Students responded on a five-point scale, from “Not at all useful” to “Very useful”. For purposes of succinct presentation, responses were collapsed to show just the percentage of students responding “useful” or “very useful”. The full distributions of student responses are shown in (Appendix Table 8). A majority of students found the knowledge they gained in communication skills to be useful in their classes (85%). Students also found their knowledge of working styles to be helpful in class (83%). Similar results were found for students’ understanding of their own working styles (81%). This is not a surprising finding, as students become accustomed to applying their working styles in their ACE courses. For example, during several classroom visits, we observed students working together in groups on research projects. As in the work world, students are placed in different types of teams throughout the semester without regard to their styles, and they must adapt their collaboration styles to suit the students with whom they are working in a team. We observed that students would explain their contributions to the projects using the language of working styles. Interestingly, students generally found the ACE curriculum to be as applicable to their personal lives as to their academics (Appendix Table 8).

**Figure 12. Percentage of EBS respondents finding specific aspects of the ACE curriculum useful for their academics**



## Favored Program Elements

During the interviews and focus group, when asked what they liked best about the program, students mentioned a wide range of program components. The Foundation Course was the most frequently mentioned best-liked course in ACE, though two students did say that they appreciated the challenge of the Social Justice course as well. One student had this to say about the Foundation Course: “When you first come, it feels like a friendly environment from the beginning because of icebreakers. Starting out knowing that everyone came from different backgrounds...It was fun because there were a lot of games [and I] learned a lot from scenarios, active listening, ways to communicate.” Another admitted, “I wondered what I had in common with this diversity of students—didn’t know what I’d have in common. Reminded me that from Wall Street to Rodriguez street—it’s all the same thing. Human condition doesn’t change.”

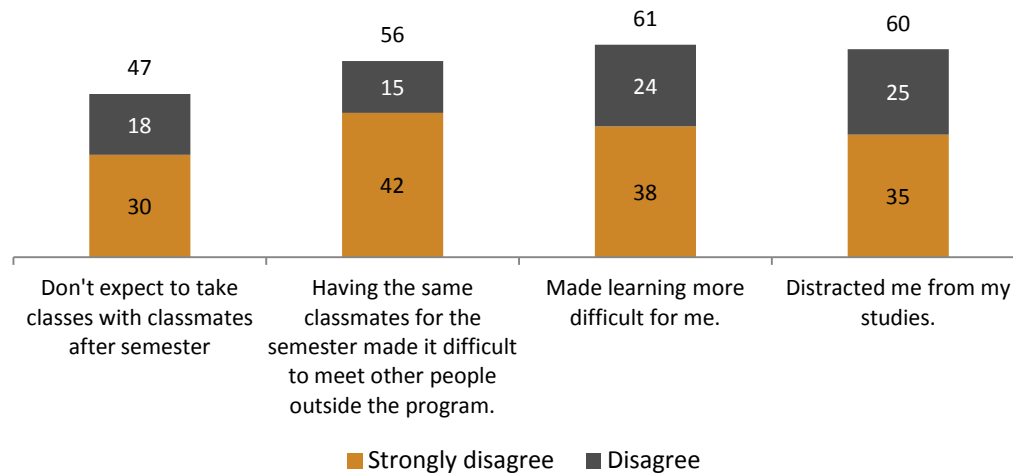
In particular, students seemed to appreciate learning about their own working styles and how to interact with others. One student had always felt as though he was a “bad” student because of the way he approached studying. He explained, “All my classes [were] taught one way, but I never felt like I was getting it...wasn’t the style in which I learn. [I] realized the front of the classroom was not necessarily the best place for me to sit. I’m an interactor, concluder. I will get the materials ready for an assignment, study them for a few days, but the last day I’m up late putting the work together.”

## Cohort Model

Another aspect of the ACE design that is expected to have an effect on student persistence and achievement is the cohort model. As part of the ACE model, students stay together as a cohort through the Foundation Course and Bridge Semester. The Foundation Course and the Team Self-Management courses are designed to facilitate the development and maintenance of a peer-support network in the classroom. This conscious programmatic design allows students to form a supportive network of peers that they can rely on for academic and emotional support. The EBS includes items that assess the impact of classmates on student learning.

On the whole, a majority of students agreed that their ACE classmates were a positive influence during the Bridge Semester (Figure 13). Nearly half (46%) agreed that they could not have succeeded in the Bridge Semester without their classmates. More than two-thirds of students agreed that their classmates were a source of support and motivation for them, and a good percentage of students agreed that they would continue to rely on their ACE classmates after the Bridge Semester.

**Figure 13. Percentage of EBS respondents who “disagree agree or strongly disagree” with statements suggesting potential drawbacks of the program**



The majority of students also tended to disagree with negative statements about their classmates. For example, nearly two-thirds of students disagreed with the statements that their classmates were distracting or made learning more difficult. More than one-third of students strongly disagreed with these statements. Full results are available in Appendix Table 8. These findings suggest that the majority of students did not find their ACE classmates to be a negative influence on their learning during the Bridge Semester. This is a particularly important finding because of the heterogeneous nature of the ACE cohort. Though ACE students are typically classified as at-risk students, a portion of the students served by ACE can be considered severely at-risk – for example, ACE students who are on parole, in drug rehabilitation, or homeless. That such students are not a detriment and may even add value to the learning environment of their more traditional peers is a guiding principle of the ACE program.

In interviews, students described the benefits of going through college with a cohort. When asked how their experience in the ACE program differed from their previous college experience, three students explained that there was an increased sense of connectedness to the school and to others this time around. One student noted, “It’s different because you stay with the same people,” while another said, “This one has [a] more family oriented feeling. I want to complete my classes. This time around I’m more serious.”

In general, students reported feeling a high level of support from both peers and program staff, and emphasized how much this benefited them throughout the semester. One student characterized the support in the following way: “I have the same people in all classes, have all

their phone numbers. There have been times at 2 or 3 in the morning, [and I'll] be struggling with something and I can pick up my phone and send a text to 2-3 people and actually get a text back. I have the support of the instructors. I didn't believe I could do it." A different student emphasized, "The best thing is the unity," while another explained, "It feels like a high school vibe, but in a good way. Everyone knows everyone."

### **Interview Responses to Questions about Beneficial Aspects of ACE**

In interviews, students identified several elements of the ACE program that they believed contributed to their success in school. ACE students clearly emphasized how much they benefited from learning "how to be a college student again." Further, they liked that they felt more comfortable communicating with people from different backgrounds about projects they were working on and also felt they would benefit from the practical skills they were learning in their classes. One student summarized, "I'm better prepared with my writing. I have better computer skills. [I'm] so much better prepared for college. I know my learning styles. I've also learned how to work with others."

When asked whether or not they would recommend the ACE program to someone else, all but one student said they would. When asked what type of person students would recommend the ACE program to, six students felt that the program would be best for someone who had been out of school for a long period of time, while two thought it would be particularly beneficial for individuals who do not like school. For example, one student said, "It's for people having a hard time getting back. But [you] have to have the interest. This program will help with the rest as long as someone has interest. It's a good program. It pinpoints what students need to know and understand about school..." Other students felt that it would be good for anyone, and one noted that it might be beneficial for someone who is struggling with addiction or gang involvement. As one student explained, "It's good for anyone. Even just those people getting out of school. It's a self improvement and learning experience." While the one student who disagreed did not explain why he would not recommend it, he did state that he felt the program would not be suitable for someone who just graduated high school because they would probably be "too young".

## Summary

The Academy for College Excellence (ACE) was founded on a strong theoretical framework based on a broad research base related to such psychosocial factors as self-efficacy, motivation, identity, and hope. It was designed to provide an alternative model to common developmental education programs in community colleges and to meet the needs of underserved students who are considered high-risk because of their life experiences. This study was undertaken to examine the effectiveness of this model in seven community colleges in California and other states. The specific purpose is to assess the impact of the model on the attitudes and behaviors as well as the academic outcomes of those who participate in the program. While the program reflects some variations depending on the college in which it is implemented and the policies that constrain implementation, there are core components that must be included if it is to be implemented with a high enough degree of integrity to enable a reliable study.

This interim report details the work on the study to date and the work that is continuing as part of a longitudinal examination of the model in a range of colleges. To study the effects on psychosocial factors, MPR researchers and ACE staff jointly designed and developed an instrument, the College Student Self-Assessment Survey (CSSAS), to be administered at three points in time: 1) before students begin the semester-long program, 2) after the first two-week Foundation Course, and 3) after completion of the program at the end of the ACE one-semester intervention. In order to conduct a quasi-experimental study, it is necessary to construct comparison groups and to collect performance measures on those in the comparison groups as well. To this end, MPR and ACE staff jointly developed a version of the CSSAS to be administered school-wide (S-CSSAS), and to date, it has been administered at two colleges, with two others planning administration in future semesters. To study the effects of academic indicators, MPR is collaborating with the ACE Center to collect institutional data from each of the participating colleges. To date, we have received data from three semesters from three colleges, and we expect to obtain these data from all of the colleges. The organization of these data, and the use of propensity-score matching to form comparison groups has been highly labor-intensive, and the results of the analyses will be included in a revised version of the report in the first quarter of 2012.

The CSSAS has provided a rich source of outcome data for the initial phase of the study. Exploratory and Confirmatory Factor Analyses were performed using data from several administrations of the instrument, and the results have demonstrated that it is a sound and valid instrument that will be used for the remainder of the study. The results from the analyses of the CSSAS data over time have also demonstrated very positive effects of the program on psychosocial factors for students who participate. While a number of limitations related to

missing data from the school wide CSSAS and a limited sample size, the results provide strong indicative data that ACE students reflect lower levels of performance on psychosocial factors than do students in general and that they show consistent improvement in performance over the three point-in-time measures. The biggest improvement is seen between the first two points in time, i.e., following the Foundation Course. Variations within programs and among colleges suggest that the CSSAS may be a useful instrument for evaluating students' individual needs for support programs and the type of program that would be best suited to their needs.

Results of the End of Bridge Semester Survey (EBS) also show that students report changes in college behaviors such as paying attention, completing assignments, and being prepared and organized. They also reported changes in their interactions with others. These results can likely be attributed to the camaraderie and cohesiveness that is developed and facilitated through the ACE curriculum and model. Students from diverse backgrounds and experiences learn from and about each other and, as shown both in survey responses and interviews, clearly support one another as they become acclimated to a college environment and the requirements of being a student.

Analyses of the open-ended responses on the EBS provide strong evidence that students feel that their participation in the ACE program boosts their confidence, helps them establish an identity as a college student, and generally makes them better people and better thinkers. In addition, they report on improved communication and improved relationships. As would be hoped, many indicate that they feel they develop skills and acquire tools to make a better life for themselves. Almost three-quarters of the students completing the EBS indicated that they planned to enroll in 12 or more units in the term following the Bridge Semester, a course load generally accepted as full-time enrollment. They also reported ambitious long-term academic goals.

When asked about activities or components of the ACE model students liked best, they regularly cite learning about working styles and communication practices. In addition, they almost unanimously perceive the cohort model as an invaluable aspect of the program.

All of the data available from this first phase of the study provide strong evidence that the ACE program has strong positive effects on students' attitudes toward and proclivities for learning. It seems clear that it results in improvements in psychosocial factors that a large body of research suggests are vital for productive learning. The analysis of student achievement indicators to be provided in the next report will be critical for determining the overall effectiveness of the program.

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# Appendix

**Appendix Table 1. Confirmatory Factor Analysis results and Cronbach's Alpha reliability scores for fall 2011 CSSAS (N = 821)**

Overall Reliability Score		<b>0.94</b>
Mindfulness		<b>0.89</b>
	DOING1	0.65
	DOING2	0.80
	DOING3	0.69
Accepting		<b>0.72</b>
	ACCEPT1	0.64
	ACCEPT2	0.84
	ACCEPT3	0.59
Describing		<b>0.77</b>
	DESC1	0.69
	DESC2	0.78
	DESC3	0.73
Identity		<b>0.88</b>
	IDENT1	0.79
	IDENT2	0.82
	IDENT3	0.82
Self-Efficacy		<b>0.92</b>
	SE1	0.74
	SE2	0.71
	SE3	0.75
	SE4	0.75
	SE5	0.69
	SE6	0.68
	SE7	0.65
	SE8	0.87
	SE9	0.74
	SE10	0.74
	SE11	0.74

**Appendix Table 1. Confirmatory Factor Analysis results and Cronbach's Alpha reliability scores for fall 2011 CSSAS (N = 821)—Continued**

Teamwork and Leadership		0.92
	TEAM1	0.84
	TEAM2	0.87
	TEAM3	0.85
	TEAM4	0.80
	TEAM5	0.83
Interaction with Others		0.86
	INTERACT1	0.73
	INTERACT2	0.72
	INTERACT3	0.68
	INTERACT4	0.88
	INTERACT5	0.56
	INTERACT6	0.62
	INTERACT7	0.59
	INTERACT8	0.81
	INTERACT9	0.55
Observing		0.66
	OBSER1	0.73
	OBSER2	0.62
	OBSER3	0.54

**Appendix Table 2. Confirmatory Factor Analysis Factor Correlations**

	1	2	3	4	5	6	7	8
<b>1 Mindfulness</b>	1.00							
<b>2 Accepting</b>	0.21	1.00						
<b>3 Describing</b>	0.24	0.49	1.00					
<b>4 Identity</b>	0.20	0.16	0.27	1.00				
<b>5 Self-Efficacy</b>	0.48	0.45	0.51	0.44	1.00			
<b>6 Teamwork</b>	0.35	0.39	0.58	0.39	0.60	1.00		
<b>7 Interaction</b>	0.33	0.45	0.65	0.39	0.57	0.68	1.00	
<b>8 Observing</b>	0.05	0.50	0.64	0.16	0.37	0.45	0.53	1.00

**Appendix Table 3. Repeated measures t-test for statistical significance of CSSAS scale scores, Time 3 and Time 1 for fall 2010/ Spring 2011 Sample (N = 293)**

		Mean Difference	t	df	Sig. (2- tailed)
Pair 1	Accept Time 3 - Accept Time 1	0.18	4.04	292	0.00
Pair 2	Mindfulness Time 3 - Mindfulness Time 1	0.11	2.31	292	0.02
Pair 3	Observing Time 3 - Observing Time 1	0.19	4.47	292	0.00
Pair 4	Describing Time 3 - Describing Time 1	0.24	5.96	292	0.00
Pair 5	Identity Time 3 - Identity Time 1	0.24	6.48	290	0.00
Pair 6	Teamwork Time 3 - Teamwork Time 1	0.19	5.08	292	0.00
Pair 7	Self-Efficacy Time 3 - Self-Efficacy Time 1	0.24	4.78	292	0.00
Pair 8	Interact Time 3 - Interact Time 1	0.15	3.23	292	0.00

Appendix Table 4. Demographic data for CSSAS respondents. N=293

	Berkeley City College		Cabrillo College		Delaware County Community College		Hartnell College		Las Positas College		Los Medanos College		Southwest Virginia Community College	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
<b>Total Students</b>	18		186		25		23		11		26		4	
<b>Gender</b>														
Female	8	44.4	74	39.8	11	44.0	13	56.5	1	9.1	14	53.8	3	75
Male	10	55.6	112	60.2	14	56.0	10	43.5	10	90.9	12	46.2	1	25
<b>Ethnicity</b>														
African American	6	33.3	9	4.8	14	56.0	1	4.3	1	9.1	8	30.8	0	0
Asian/Pacific Islander	0	0	7	3.8	2	8.0	2	8.7	1	9.1	0	0	4	100
Caucasian	1	5.6	55	29.6	5	20.0	0	0	2	18.2	8	30.8	0	0
Hispanic	4	22.2	91	48.9	1	4.0	19	82.6	5	45.5	6	23.1	0	0
Multiracial	2	11.1	9	4.8	2	8.0	1	4.3	0	0	1	3.8	0	0
Native American	2	11.1	4	2.2	0	0.0	0	0	0	0	1	3.8	0	0
Other	1	5.6	1	0.5	0	0.0	0	0	0	0	0	0	0	0
No Data	2	11.1	10	5.4	1	4	0	0	2	18.2	2	7.7	0	0
<b>Age Group</b>														
18 to 20	9	56.3	91	49.5	15	60	20	87	5	55.6	14	56	1	25
21 to 24	5	31.3	25	13.6	5	20	1	4.3	3	33.3	4	16	2	50
25 to 29	0	0	21	11.4	3	12	1	4.3	1	11.1	3	12	1	25
30 to 39	1	5.6	23	12.5	1	4	1	4.3	0	0	2	8	0	0
40 to 49	0	0	12	6.5	0	0	0	0	0	0	2	8	0	0
50 or above	1	5.6	12	6.5	0	0	0	0	0	0	0	0	0	0
No Data	2	11.1	2	1.1	1	4	0	0	2	18.2	1	3.8	0	0
<b>Risk Level</b>														
Low Risk	0	0	0	0	1	4.0	0	0	1	9.1	1	3.8	0	0
At Risk	6	33.3	45	24.2	10	40.0	12	52.2	3	27.3	10	38.5	1	25
High Risk	10	55.6	139	74.7	13	52.0	11	47.8	5	45.5	14	53.8	3	75
No Data	2	11.1	2	1.1	1	4.0	0	0	2	18.2	1	3.8	0	0

**Appendix Table 5. ACE Risk Factors of CSSAS Respondents (N=241—Missing Application Data for 52)**

"High Risk" Factors	Percent	"At Risk" Factors	Percent
Unstable Home	29%	Foster Care	5%
Arrested	24%	Gang Involvement	5%
High School Dropout	24%	Prison	5%
Gang Association	21%	First Generation College	62%
Jail	20%	Learning Difficulty	48%
Domestic Violence	18%	Government Benefits	41%
Homeless	18%	Parent is Agricultural Worker	32%
Probation Previous	17%	Employed	28%
Substance Abuse	15%	Have Children	20%
Child Abuse	12%	Migrant Education	3%
Took GED	8%	Pregnant	2%
Condition Medical	7%	Conditions Family	2%
Probation Current	7%	Academic Probation	0%
Attended Alternative High School	6%	English not First Language	no data
Condition Mental	6%		

**Appendix Table 6. Change over three time points in percentage of ACE students scoring in the top quartile of CSSAS factor scales, by college (N = 293)**

		Mindfulness	Accepting	Describing	Identity	Self-Efficacy	Teamwork and Leadership	Interaction with Others	Observing
<b>COLLEGE 1</b>	Time 1	28	32	48	64	89	72	88	40
	Time 2	28	36	44	76	67	76	76	44
	Time 3	24	36	48	80	56	88	88	60
<b>COLLEGE 2</b>	Time 1	28	26	34	54	42	58	77	47
	Time 2	33	39	48	79	65	79	87	61
	Time 3	33	45	53	77	67	76	83	63
<b>COLLEGE 3</b>	Time 1	35	26	52	61	38	74	78	43
	Time 2	35	39	35	65	38	70	78	52
	Time 3	48	35	35	70	25	70	87	17
<b>COLLEGE 4</b>	Time 1	28	44	39	72	75	61	83	44
	Time 2	17	39	56	72	67	67	83	50
	Time 3	33	28	67	78	58	56	89	56
<b>COLLEGE 5</b>	Time 1	9	9	27	55	0	36	73	18
	Time 2	9	9	18	64	29	36	64	27
	Time 3	27	18	45	64	29	64	73	18
<b>COLLEGE 6</b>	Time 1	46	46	50	77	53	81	92	54
	Time 2	46	42	42	92	73	81	96	58
	Time 3	58	50	69	92	87	92	96	77

Note: Scores by college are provided for informational purposes, but cell sizes, with the exception of College 2, are quite small, so percentages should be taken in context and not used for comparison purposes. For small cell sizes, a change of even one person into or out of category can result in a seemingly large percentage change.

**Appendix Table 7. CSSAS items by construct and distribution of student responses, frequency and percentage for ACE students, fall 2010 and spring 2011 (N= 293)**

MINDFULNESS			Very often or always true	Often true	Sometimes true	Rarely true	Never/very rarely true	Total
Easily distracted (reverse coded)	Pre	n	37	59	99	64	34	293
		%	12.6	20.1	33.8	21.8	11.6	100
	Post	n	33	66	88	70	36	293
		%	11.3	22.5	30	23.9	12.3	100
	EBS	n	30	62	89	75	37	293
		%	10.2	21.2	30.4	25.6	12.6	100
Difficult stay focused (reverse coded)	Pre	n	26	57	78	74	58	293
		%	8.9	19.5	26.6	25.3	19.8	100
	Post	n	17	44	94	83	55	293
		%	5.8	15	32.1	28.3	18.8	100
	EBS	n	20	48	80	90	55	293
		%	6.8	16.4	27.3	30.7	18.8	100
Don't pay attention (reverse coded)	Pre	n	21	50	70	84	68	293
		%	7.2	17.1	23.9	28.7	23.2	100
	Post	n	15	40	83	86	69	293
		%	5.1	13.7	28.3	29.4	23.5	100
	EBS	n	16	39	61	91	86	293
		%	5.5	13.3	20.8	31.1	29.4	100
Rush, not attentive (reverse coded)	Pre	n	12	36	81	82	82	293
		%	4.1	12.3	27.6	28	28	100
	Post	n	11	30	80	100	72	293
		%	3.8	10.2	27.3	34.1	24.6	100
	EBS	n	12	32	81	81	87	293
		%	4.1	10.9	27.6	27.6	29.7	100
ACCEPTING			Very often or always true	Often true	Sometimes true	Rarely true	Never/very rarely true	Total
Can pause	Pre	n	10	31	108	95	49	293
		%	3.4	10.6	36.9	32.4	16.7	100
	Post	n	6	34	81	105	67	293
		%	2	11.6	27.6	35.8	22.9	100
	EBS	n	6	19	87	110	71	293
		%	2	6.5	29.7	37.5	24.2	100
Watch feelings	Pre	n	7	49	100	88	49	293
		%	2.4	16.7	34.1	30	16.7	100
	Post	n	6	29	99	106	53	293
		%	2	9.9	33.8	36.2	18.1	100
	EBS	n	5	29	83	109	67	293
		%	1.7	9.9	28.3	37.2	22.9	100
Let go of thoughts	Pre	n	20	59	104	71	39	293
		%	6.8	20.1	35.5	24.2	13.3	100
	Post	n	15	42	99	92	45	293
		%	5.1	14.3	33.8	31.4	15.4	100
	EBS	n	12	42	101	81	57	293
		%	4.1	14.3	34.5	27.6	19.5	100
DESCRIBING			Very often or always true	Often true	Sometimes true	Rarely true	Never/very rarely true	Total
Able describe feelings	Pre	n	11	36	90	86	70	293
		%	3.8	12.3	30.7	29.4	23.9	100
	Post	n	2	25	87	107	72	293
		%	0.7	8.5	29.7	36.5	24.6	100
	EBS	n	7	24	55	117	90	293
		%	2.4	8.2	18.8	39.9	30.7	100

**Appendix Table 7. CSSAS items by construct and distribution of student responses, frequency and percentage for ACE students, fall 2010 and spring 2011 (N= 293)—Continued**

<b>Able put needs in words</b>	Pre	n	5	36	106	93	53	293
		%	1.7	12.3	36.2	31.7	18.1	100
	Post	n	4	36	84	97	72	293
		%	1.4	12.3	28.7	33.1	24.6	100
	EBS	n	4	28	70	96	95	293
		%	1.4	9.6	23.9	32.8	32.4	100
<b>Put experiences in words</b>	Pre	n	5	36	109	81	62	293
		%	1.7	12.3	37.2	27.6	21.2	100
	Post	n	1	34	83	94	81	293
		%	0.3	11.6	28.3	32.1	27.6	100
	EBS	n	6	21	80	93	93	293
		%	2	7.2	27.3	31.7	31.7	100
<b>IDENTITY</b>			<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>	<b>Total</b>
<b>Self-image as student</b>	Pre	n	8	16	64	87	116	291
		%	2.7	5.5	22	29.9	39.9	100
	Post	n	7	12	41	68	165	293
		%	2.4	4.1	14	23.2	56.3	100
	EBS	n	5	14	39	82	153	293
		%	1.7	4.8	13.3	28	52.2	100
<b>Reflection of who I am</b>	Pre	n	6	17	72	95	101	291
		%	2.1	5.8	24.7	32.6	34.7	100
	Post	n	4	12	47	73	157	293
		%	1.4	4.1	16	24.9	53.6	100
	EBS	n	5	11	45	78	154	293
		%	1.7	3.8	15.4	26.6	52.6	100
<b>Think of self as student</b>	Pre	n	12	19	69	85	106	291
		%	4.1	6.5	23.7	29.2	36.4	100
	Post	n	6	5	36	77	169	293
		%	2	1.7	12.3	26.3	57.7	100
	EBS	n	3	6	29	69	186	293
		%	1	2	9.9	23.5	63.5	100
<b>SELF-EFFICACY</b>			<b>Strongly disagree</b>	<b>Somewhat disagree</b>	<b>Neutral</b>	<b>Somewhat agree</b>	<b>Strongly agree</b>	<b>Total</b>
<b>Know how to schedule tasks</b>	Pre	n	11	42	113	88	39	293
		%	3.8	14.3	38.6	30	13.3	100
	Post	n	0	19	80	118	76	293
		%	0	6.5	27.3	40.3	25.9	100
	EBS	n	2	21	59	122	89	293
		%	0.7	7.2	20.1	41.6	30.4	100
<b>Finish assignments on time</b>	Pre	n	0	9	32	52	41	134
		%	0	6.7	23.9	38.8	30.6	100
	Post	n	1	2	23	64	44	134
		%	0.7	1.5	17.2	47.8	32.8	100
	EBS	n	1	4	28	50	51	134
		%	0.7	3	20.9	37.3	38.1	100
<b>Study when other things to do</b>	Pre	n	5	20	46	44	19	134
		%	3.7	14.9	34.3	32.8	14.2	100
	Post	n	2	14	34	60	24	134
		%	1.5	10.4	25.4	44.8	17.9	100
	EBS	n	3	12	34	48	37	134
		%	2.2	9	25.4	35.8	27.6	100

**Appendix Table 7. CSSAS items by construct and distribution of student responses, frequency and percentage for ACE students, fall 2010 and spring 2011 (N= 293)—Continued**

<b>Motivate self to study</b>	Pre	n	3	10	36	55	30	134
		%	2.2	7.5	26.9	41	22.4	100
	Post	n	1	4	27	61	41	134
		%	0.7	3	20.1	45.5	30.6	100
	EBS	n	2	3	21	58	50	134
		%	1.5	2.2	15.7	43.3	37.3	100
<b>Make good grades</b>	Pre	n	1	8	42	53	30	134
		%	0.7	6	31.3	39.6	22.4	100
	Post	n	2	3	25	61	43	134
		%	1.5	2.2	18.7	45.5	32.1	100
	EBS	n	0	2	19	48	65	134
		%	0	1.5	14.2	35.8	48.5	100
<b>Succeed in classes</b>	Pre	n	4	11	48	50	21	134
		%	3	8.2	35.8	37.3	15.7	100
	Post	n	1	4	18	60	51	134
		%	0.7	3	13.4	44.8	38.1	100
	EBS	n	0	1	15	56	62	134
		%	0	0.7	11.2	41.8	46.3	100
<b>Strategies to do well</b>	Pre	n	0	11	45	58	20	134
		%	0	8.2	33.6	43.3	14.9	100
	Post	n	0	5	20	60	49	134
		%	0	3.7	14.9	44.8	36.6	100
	EBS	n	0	1	18	57	58	134
		%	0	0.7	13.4	42.5	43.3	100
<b>Study well for tests</b>	Pre	n	15	50	119	76	33	293
		%	5.1	17.1	40.6	25.9	11.3	100
	Post	n	2	27	85	128	51	293
		%	0.7	9.2	29	43.7	17.4	100
	EBS	n	1	21	73	117	81	293
		%	0.3	7.2	24.9	39.9	27.6	100
<b>Good at notes</b>	Pre	n	84	77	51	48	33	293
		%	28.7	26.3	17.4	16.4	11.3	100
	Post	n	42	58	70	75	48	293
		%	14.3	19.8	23.9	25.6	16.4	100
	EBS	n	38	56	92	67	40	293
		%	13	19.1	31.4	22.9	13.7	100
<b>Good at research</b>	Pre	n	8	52	104	85	44	293
		%	2.7	17.7	35.5	29	15	100
	Post	n	2	18	96	127	50	293
		%	0.7	6.1	32.8	43.3	17.1	100
	EBS	n	3	10	75	132	73	293
		%	1	3.4	25.6	45.1	24.9	100
<b>Find place to study</b>	Pre	n	4	10	26	51	43	134
		%	3	7.5	19.4	38.1	32.1	100
	Post	n	1	4	25	48	56	134
		%	0.7	3	18.7	35.8	41.8	100
	EBS	n	1	6	24	49	54	134
		%	0.7	4.5	17.9	36.6	40.3	100

**Appendix Table 7. CSSAS items by construct and distribution of student responses, frequency and percentage for ACE students, fall 2010 and spring 2011 (N= 293)—Continued**

TEAMWORK AND LEADERSHIP			Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Total
Function as part of team	Pre	n	1	13	56	102	121	293
		%	0.3	4.4	19.1	34.8	41.3	100
	Post	n	1	7	35	94	156	293
		%	0.3	2.4	11.9	32.1	53.2	100
	EBS	n	1	4	23	98	167	293
		%	0.3	1.4	7.8	33.4	57	100
Support Team members	Pre	n	3	14	66	100	110	293
		%	1	4.8	22.5	34.1	37.5	100
	Post	n	0	7	32	105	149	293
		%	0	2.4	10.9	35.8	50.9	100
	EBS	n	0	4	29	98	162	293
		%	0	1.4	9.9	33.4	55.3	100
influence team as leader	Pre	n	10	28	77	91	87	293
		%	3.4	9.6	26.3	31.1	29.7	100
	Post	n	1	11	56	105	120	293
		%	0.3	3.8	19.1	35.8	41	100
	EBS	n	2	2	51	87	151	293
		%	0.7	0.7	17.4	29.7	51.5	100
Allow others to contribute	Pre	n	1	12	61	101	118	293
		%	0.3	4.1	20.8	34.5	40.3	100
	Post	n	0	2	34	109	148	293
		%	0	0.7	11.6	37.2	50.5	100
	EBS	n	2	0	34	88	169	293
		%	0.7	0	11.6	30	57.7	100
Encourage team	Pre	n	11	24	70	91	70	266
		%	4.1	9.0	26.3	34.2	26.3	100
	Post	n	9	19	33	97	108	266
		%	3.4	7.1	12.4	36.5	40.6	100
	EBS	n	39.0	34.0	36.0	73.0	111.0	293
		%	13.3	11.6	12.3	24.9	37.9	100
INTERACTION WITH OTHERS			Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree	Total
Control emotions communicate	Pre	n	7	14	42	102	101	266
		%	2.6	5.3	15.8	38.3	38	100
	Post	n	11	16	52	89	98	266
		%	4.1	6	19.5	33.5	36.8	100
	EBS	n	21	26	47	81	118	293
		%	7.2	8.9	16	27.6	40.3	100
Compassionate	Pre	n	1	5	48	91	148	293
		%	0.3	1.7	16.4	31.1	50.5	100
	Post	n	2	0	35	94	162	293
		%	0.7	0	11.9	32.1	55.3	100
	EBS	n	1	5	36	90	161	293
		%	0.3	1.7	12.3	30.7	54.9	100
Think before speaking	Pre	n	3	16	82	92	100	293
		%	1	5.5	28	31.4	34.1	100
	Post	n	2	13	65	99	114	293
		%	0.7	4.4	22.2	33.8	38.9	100
	EBS	n	1	7	59	96	130	293
		%	0.3	2.4	20.1	32.8	44.4	100

**Appendix Table 7. CSSAS items by construct and distribution of student responses, frequency and percentage for ACE students, fall 2010 and spring 2011 (N= 293)—Continued**

<b>Trust</b>	Pre	n	5	6	23	65	167	266
		%	1.9	2.3	8.6	24.4	62.8	100
	Post	n	4	6	26	56	174	266
		%	1.5	2.3	9.8	21.1	65.4	100
	EBS	n	7	9	26	47	204	293
		%	2.4	3.1	8.9	16	69.6	100
<b>Responsible</b>	Pre	n	0	1	20	55	217	293
		%	0	0.3	6.8	18.8	74.1	100
	Post	n	0	3	12	38	240	293
		%	0	1	4.1	13	81.9	100
	EBS	n	0	2	11	41	239	293
		%	0	0.7	3.8	14	81.6	100
<b>Choose behavior</b>	Pre	n	0	3	20	55	215	293
		%	0	1	6.8	18.8	73.4	100
	Post	n	0	1	12	40	240	293
		%	0	0.3	4.1	13.7	81.9	100
	EBS	n	0	1	16	45	231	293
		%	0	0.3	5.5	15.4	78.8	100
<b>Think of consequences</b>	Pre	n	4	18	56	96	119	293
		%	1.4	6.1	19.1	32.8	40.6	100
	Post	n	2	10	52	94	135	293
		%	0.7	3.4	17.7	32.1	46.1	100
	EBS	n	1	11	51	87	143	293
		%	0.3	3.8	17.4	29.7	48.8	100
<b>Choose feelings</b>	Pre	n	4	12	62	82	133	293
		%	1.4	4.1	21.2	28	45.4	100
	Post	n	4	6	43	84	156	293
		%	1.4	2	14.7	28.7	53.2	100
	EBS	n	3	7	43	78	162	293
		%	1	2.4	14.7	26.6	55.3	100
<b>My choice do well</b>	Pre	n	0	5	36	62	190	293
		%	0	1.7	12.3	21.2	64.8	100
	Post	n	1	3	18	42	229	293
		%	0.3	1	6.1	14.3	78.2	100
	EBS	n	0	4	18	56	215	293
		%	0	1.4	6.1	19.1	73.4	100
<b>OBSERVING</b>			<b>Very often or always true</b>	<b>Often true</b>	<b>Sometimes true</b>	<b>Rarely true</b>	<b>Never/very rarely true</b>	<b>Total</b>
<b>Emotions affect thoughts</b>	Pre	n	6	11	70	116	90	293
		%	2	3.8	23.9	39.6	30.7	100
	Post	n	3	7	54	113	116	293
		%	1	2.4	18.4	38.6	39.6	100
	EBS	n	2	5	49	103	134	293
		%	0.7	1.7	16.7	35.2	45.7	100
<b>Food affects mood</b>	Pre	n	29	34	73	82	75	293
		%	9.9	11.6	24.9	28	25.6	100
	Post	n	13	25	56	84	115	293
		%	4.4	8.5	19.1	28.7	39.2	100
	EBS	n	11	27	59	82	114	293
		%	3.8	9.2	20.1	28	38.9	100

**Appendix Table 7. CSSAS items by construct and distribution of student responses, frequency and percentage for ACE students, fall 2010 and spring 2011 (N= 293)—Continued**

<b>Muscle tenseness</b>	Pre	n	19	34	83	90	67	293
		%	6.5	11.6	28.3	30.7	22.9	100
	Post	n	15	26	70	100	82	293
		%	5.1	8.9	23.9	34.1	28	100
	EBS	n	17	28	74	80	94	293
		%	5.8	9.6	25.3	27.3	32.1	100
<b>CHALLENGES</b>			<b>Low</b>	<b>Low-Medium</b>	<b>Medium</b>	<b>Medium-High</b>	<b>High</b>	<b>Total</b>
<b>Expected stress next six months</b>	Pre	n	10	32	96	90	64	292
		%	3.4	11	32.9	30.8	21.9	100
	Post	n	19	39	92	94	49	293
		%	6.5	13.3	31.4	32.1	16.7	100
	EBS	n	22	34	103	73	61	293
		%	7.5	11.6	35.2	24.9	20.8	100
<b>Ability to deal with stress</b>	Pre	n	9	22	81	105	75	292
		%	3.1	7.5	27.7	36	25.7	100
	Post	n	8	21	56	103	105	293
		%	2.7	7.2	19.1	35.2	35.8	100
	EBS	n	7	14	70	98	104	293
		%	2.4	4.8	23.9	33.4	35.5	100

**Appendix Table 8. Distribution of responses to EBS survey items**

How much has your knowledge of the following topics from the Foundation Course been useful to you <i>during your ACE semester courses?</i>		Not at all useful	Somewhat useful	Neutral	Useful	Very useful	Total (N=462)
Understanding my Working Style - Energy Intensity Flows (EIFS): S, I, A, C	%	0.4	2.8	15.6	22.3	58.9	100
	n	2	13	72	103	272	462
Laws of Conversation	%	1.1	2.8	19.9	26.2	50	100
	n	5	13	92	121	231	462
Identifying the Working Styles of Others: S, I, A, C	%	1.3	2.2	16.2	27.3	53	100
	n	6	10	75	126	245	462
Cycle of Value/Cycle of Waste	%	1.3	3.5	17.7	21.4	56.1	100
	n	6	16	82	99	259	462
Communication Skills	%	0.6	2.4	11.7	22.1	63.2	100
	n	3	11	54	102	292	462
Conversation Meter: Pretense (Pretending), Sincerity or Brutal Honesty, Accuracy, Authenticity	%	1.5	3	16.5	24.7	54.3	100
	n	7	14	76	114	251	462
Hero's Journey	%	3.2	4.8	20.1	25.8	46.1	100
	n	15	22	93	119	213	462
Using Working Styles in Relationships and Teams: S, I, A, C	%	0.6	1.1	15.2	24.9	58.2	100
	n	3	5	70	115	269	462
How much has your knowledge of the following from the Foundation Course been useful to you <i>in your personal life?</i>		Not at all useful	Somewhat useful	Neutral	Useful	Very useful	Total (N=464)
Understanding My Working Style - Energy Intensity Flows (EIFS): S, I, A, C	%	0.6	1.3	19.8	20.7	57.5	100
	n	3	6	92	96	267	464
Laws of Conversation	%	1.7	3.2	15.7	25.4	53.9	100
	n	8	15	73	118	250	464
Identifying Working Styles of Others: S, I, A, C	%	1.3	3	18.1	23.5	54.1	100
	n	6	14	84	109	251	464
Cycle of Value/Cycle of Waste	%	1.9	3.7	16.4	21.8	56.3	100
	n	9	17	76	101	261	464
Communication Skills	%	0.9	1.7	13.8	22	61.6	100
	n	4	8	64	102	286	464
Conversation Meter: Pretense (Pretending), Sincerity or Brutal Honesty, Accuracy, Authenticity	%	1.7	3.2	16.6	25.4	53	100
	n	8	15	77	118	246	464
Hero's Journey	%	4.5	4.3	21.8	22.4	47	100
	n	21	20	101	104	218	464
Using Working Styles in Relationships and Teams: S, I, A, C	%	0.6	2.4	16.8	24.1	56	100
	n	3	11	78	112	260	464
How much did you change each of the following behaviors in ways that improved your <i>college experience?</i>		Not changed at all	Changed very little	Neutral	Changed some	Changed a lot	Total (N = 464)
Being on time	%	10.6	7.1	23.1	28.4	30.8	100
	n	49	33	107	132	143	464
Making and keeping agreements	%	6.5	6.7	20.3	34.1	32.5	100
	n	30	31	94	158	151	464
Respecting others	%	9.5	5	17.2	23.1	45.3	100
	n	44	23	80	107	210	464
Being prepared & organized	%	5.2	5	25.9	29.1	34.9	100
	n	24	23	120	135	162	464
Being dependable	%	7.8	5.2	20.3	28.9	37.9	100
	n	36	24	94	134	176	464
Knowing how to focus/Stay present	%	5.2	6.9	21.3	28.2	38.4	100
	n	24	32	99	131	178	464
Paying attention	%	5	6	21.3	28.7	39	100
	n	23	28	99	133	181	464

**Appendix Table 8. Distribution of responses to EBS survey items—Continued**

Completing assignments	%	5.6	7.1	22	29.5	35.8	100	
	n	26	33	102	137	166	464	
Speaking in front of others	%	7.8	6	17.9	27.6	40.7	100	
	n	36	28	83	128	189	464	
Acknowledging others	%	7.5	4.7	18.3	29.3	40.1	100	
	n	35	22	85	136	186	464	
Honoring others	%	7.1	4.1	19.4	30.4	39	100	
	n	33	19	90	141	181	464	
Speaking non-violently	%	12.5	7.8	21.6	23.5	34.7	100	
	n	58	36	100	109	161	464	
Thinking before speaking	%	7.5	8.6	22.8	24.1	36.9	100	
	n	35	40	106	112	171	464	
Asking questions in class	%	9.1	6.3	24.4	22.4	37.9	100	
	n	42	29	113	104	176	464	
Sharing in class	%	8	7.8	22.8	24.6	36.9	100	
	n	37	36	106	114	171	464	
Judging people less	%	11	5.6	21.3	22.8	39.2	100	
	n	51	26	99	106	182	464	
Being ready to learn/Caring about school	%	7.1	4.5	18.5	25	44.8	100	
	n	33	21	86	116	208	464	
More aware of self, others, and surroundings	%	6.9	4.1	17.5	27.2	44.4	100	
	n	32	19	81	126	206	464	
Being organized	%	7.5	6.9	25	26.7	33.8	100	
	n	35	32	116	124	157	464	
Being able to reflect on how I feel	%	5.6	5.2	23.3	26.3	39.7	100	
	n	26	24	108	122	184	464	
Being responsible for life choices	%	6.7	5.2	19	24.4	44.8	100	
	n	31	24	88	113	208	464	
More understanding and compassionate	%	6.5	5.2	22.2	25.4	40.7	100	
	n	30	24	103	118	189	464	
<b>Please indicate the extent to which you agree or disagree with the following statements about the <i>cohort model</i>.</b>			<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>	<b>Total (N=464)</b>
Classmates helped with schoolwork	%	5.2	8.6	22.2	30.2	33.8	100	
	n	24	40	103	140	157	464	
Classmates motivated me to continue	%	7.1	5.8	19.4	27.8	39.9	100	
	n	33	27	90	129	185	464	
Classmates were a source of support	%	3.9	6.7	20.5	26.3	42.7	100	
	n	18	31	95	122	198	464	
Will rely on classmates in future	%	15.9	14.7	26.9	23.5	19	100	
	n	74	68	125	109	88	464	
I could not have succeeded this semester without my classmates.	%	12.7	15.5	26.1	22	23.7	100	
	n	59	72	121	102	110	464	
Classmates made learning more difficult (reverse coded)	%	37.7	23.5	17.9	10.8	10.1	100	
	n	175	109	83	50	47	464	
Classmates distracted me (reverse coded)	%	35.3	24.6	22	11	7.1	100	
	n	164	114	102	51	33	464	
Do not expect to take classes with classmates in future (reverse coded)	%	29.5	17.5	30.8	12.3	9.9	100	
	n	137	81	143	57	46	464	
Having the same classmates for semester made it difficult to meet other people outside the program (reverse coded)	%	41.6	14.9	21.8	10.8	11	100	
	n	193	69	101	50	51	464	

**Appendix Table 8. Distribution of responses to EBS survey items—Continued**

Please indicate the extent to which you agree or disagree with the following statements about your experience in ACE.		Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Total (N=445)
I am more motivated to finish college because of my experience in the program	%	1.8	2.2	11.7	27.9	56.4	100
	n	8	10	52	124	251	445
I think I am more likely to graduate from this college with a credential, certificate, or degree because of my experience in the program.	%	2.2	2.9	13.3	25.6	56	100
	n	10	13	59	114	249	445