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Pathways to Student Success:  
The Impact of Learning Communities on the Success of Academically Under-Prepared  
College Students

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# Executive Summary

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## **Pathways to Student Success: The Impact of Learning Communities on the Success of Academically Under-Prepared College Students**

On the surface, America's public commitment to provide access to any individual who seeks a postsecondary education seems to be working. Our higher educational system enjoys one of the highest participation rates in the world. More than 16.3 million students currently enroll in US public and private two and four-year colleges. In the past twenty years, enrollments have grown over 25 percent; the proportion of high school graduates entering college immediately after high school has increased from about 49 percent in 1980 to 66.7 percent in 2004. As enrollments have grown, so too have the number of economically disadvantaged students. But scratch beneath the surface of this apparent achievement and the news about access and opportunity in American higher education is much more complex and a lot less hopeful. Despite gains in access generally, gaps in four-year degree completion between high and low income students has remained largely unchanged, indeed they may have increased somewhat in the past decade. For too many low-income students, the open door of American higher education has been a revolving door.

This is the case in part because large numbers of students, in particular those from low-income and underserved backgrounds are academically under-prepared for college work and are unable, despite the existence of academic support programs, to acquire needed academic skills while enrolled in college. Consequently a good deal of attention is now being paid to the development of more effective forms of academic assistance. One particularly promising effort, the adaptation of learning communities and the collaborative pedagogy that underlies, is the focus of this study.

Through an extensive review process, we selected nineteen institutions, thirteen two-year and six four-year, that have developed what an advisory board judged to be

particularly effective learning community programs for academically under-prepared students. In each of the nineteen institutions we employed a variant of the Community College of Student Engagement to survey students in the learning community program and a comparison sample of similar students not in the program. We then employed the National Student Clearinghouse data system to ascertain student persistence to the next year of college. We also carried out case studies for a sub-sample of five institutions, three of which were located in California; Cerritos College, DeAnza College, and California State University at East Bay. In addition to observations, we conducted, over a three-year span, approximately 350 interviews, either individually (250) or in focus group sessions (92) with 182 individuals. We did in order to gain important insights about how students made meaning of the learning community experience and navigated the challenges and opportunities in college. Together our methods were designed not only to determine whether the programs were effective in enhancing the persistence of academically under-prepared students, but also why they were.

Our research yielded a number of findings, several of which speak directly to the goals of the project.

- Learning communities and use of collaborative pedagogies that require students to learn together in a coherent interdependent manner leads to higher levels of academic and social engagement, greater rates of course completion, and higher rates of persistence.
- Pedagogy matters. Faculty teaching strategies (active learning pedagogies, high expectations, fluid teacher-learner roles, and student validation) were important to student success and sense of belonging.
- Curricular linkages matter. The linking of basic skill courses to content, general education courses results in deeper, more integrated learning experiences where students learn content while acquiring basic skills. They increased student interest and engagement and were perceived by students to be a more efficient and easier way to learn than is the case for stand-alone classes. This was particularly true of the linking of courses to new student seminars, study groups, and tutoring services as they

enabled students to acquire skills, habits, and competencies critical to navigating college and promoting their ongoing academic success.

- Support matters. The linking up of classroom activities to support services on campus serves as a critical conduit to other support services that students might not otherwise know about or access.
- People matter. Program success lies as much in program culture, that is in the values and norms that inform program operation, as it does in the curriculum and pedagogies the program employs. In this regard, peers proved to be major sources of knowledge, support, and influence in developing routine habits and behaviors important to students' success.

Learning community participation was seen by students as transformative. Many students who had not taken their studies seriously during high school and/or had little confidence in their ability to succeed in college developed a strong sense of purpose and confidence after one term enrolled in a curricular learning community. They blossomed in an environment that recognize their talents and took them seriously as scholars and college students. ESL students as well spoke about how learning communities enhanced their learning. In addition, these programs were critical to their enhanced proficiency in speaking, writing, and reading English, leading to an increased confidence in their ability to succeed in college.

Students described their learning community experience as having laid a solid foundation that set them in the “right” direction. They spoke of having developed a keen understanding of their needs and responsibilities as learners and college students and saw their basic skills classes as laying a solid foundation to build upon in required general education courses. It was noteworthy that they did not perceive themselves as “developmental,” “remedial” or less qualified to handle the demands of college. Rather they felt as if they now belonged in college and were committed to pursue their academic goals and graduate from college.

Nevertheless, while confident of their academic abilities after progressing through the learning community program, they identified other non-academic factors that promoted or impeded their progress and ability to graduate. These areas included:

- **Academic Advising:** Students needed a counselor or advisor who knew them personally and invested in a sustained way to their success. Typically, students got access to a committed advising relationship through formal programs such as EOP, Trio Programs, Excel, and Project Hope. If students did not have an advisor who they felt knew and saw them on a regular basis, they typically did not seek out advising. Instead they used information obtained by peers and websites to advise them about course selection, majors/course of study, degree requirements, and transfer information.
- **Relevant Curricula and Pedagogy:** The learning community experience helped students understand how they learned best. They continued to value active learning pedagogies that emphasized group work, personal connections to faculty, and efforts to link the content with relevant life experiences and were frustrated with and disengaged from “talking head” professors and material and assignments that assumed an American, euro-centric perspective.
- **Immersion into College Life:** Students learned to value the importance of being on campus beyond the required class periods. Steps for getting more involved and engaged on campus varied from gaining an on-campus job, getting involved in co-curricular activities, participating in study groups, and scheduling tutoring sessions. These actions led to greater engagement and increased hours committed to their academic work.
- **Family Support:** Students who had school-aged or older children found their kids to be invaluable supports. The children understood and took pride in their parent’s efforts. The children often helped their parents with their schoolwork. They motivated their parents to pursue their goals and degree. Students who lived at home with their families did not always see their family as supports and even described them as barriers to their persistence and success. Family members - who often did not go

college - were proud of their sons or daughters for attending college but were often frustrated by the hours student engagement required and their changing career plans.

- **Proficiency in Mathematics:** Despite student's commitment to succeed, their lack of math proficiency was perceived by students as a major obstacle to their continued persistence in college. The typical teaching strategies and structures for trying to cover a high school math curriculum (and sometimes the curriculum for grades 4-8) were typically inadequate. Students who participated in math programs that were for extended time and with a professor who employed active learning pedagogies were effective in moving students through a challenging curriculum.
- **Access to Required Classes:** Student progress was often hindered by being closed out of required courses. A key advantage of Cal State East Bay's structured general education learning community program was that students were guaranteed access to required courses in appropriate sequences. Students who could not enroll into needed courses often dropped out (even if temporarily), took a course or two (and sometimes transferred) to another community college, and/or took required courses in the summer. Student performance was often hindered when they took challenging required courses for their intended major or general education requirements in an intensive, shortened summer session.
- **Finances:** Throughout our study, a major concern of students was how they would finance both their courses and required books. Lack of financial resources resulted in some students taking a reduced load, stopping out for a while, and/or borrowing or not using textbooks for the course. Students who were interested in securing financial aid, found the forms cumbersome, difficult to complete, and struggled to understand how to create "complete files" for review. Immigrant students shared their unwillingness to take out loans. They were uneasy with acquiring any debt.
- **Impacted Nursing Programs:** Students entered college confident about their ability to fulfill the pre-requisite nursing requirements and to gain entry into a nursing program. They understood nursing programs were impacted but were naively optimistic that they would be successful in gaining admission. Many students fulfilled the pre-requisite courses quite successfully but still were struggling to get admitted to either two or four-year programs. They had not explored in any purposeful way alternative

majors or fields of study. Currently, many of them are at an educational crossroads as they face a variety of entrance exams, lotteries, and lack of career/ educational advising.

- Reflective Activities. Students shared that involvement in this study was an invaluable reflective tool for them to examine their progress on educational goals, ways in which they had developed, and what they had learned about themselves over the college years. They felt special and empowered to be sought out for input and appreciated the opportunity to share their experiences, particularly knowing that others might benefit from what they learned.

Many students in our study who persisted at the community colleges have recently transferred, are thinking about and have transfer applications in, or are talking about eventually applying to four-year institutions. Some students at Cal State East Bay are looking towards fulfilling a handful of remaining graduation requirements; others are getting immersed in their major and upper division courses or considering a change in major. Further research is warranted to understand how community college students navigate the transfer process and the four-year college/university, particularly in light of the resiliency and academic success they exhibited at their community college(s).

In conclusion our results argue that to address the success of academically under-prepared students who are disproportionately of low-income and underserved backgrounds, colleges and universities must stop tinkering at the margins of institutional life, stop the tendency to take an “add-on” approach to institutional innovation, and adopt efforts that restructure the learning environments in which we ask students to learn. It tells us that must rid ourselves of those values that see academically under-prepared students as somehow deficient. As one student noted “We are not under-developed; we are just not prepared.” At the same time, we must recognize that access without appropriate support is not opportunity and that student success does not arise by chance. It requires institutions to be intentional, structured, and proactive in their support for students.



# Introduction

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Our nation faces a critical challenge. Too many students begin college unprepared for college work and too many fail in their efforts to obtain a college degree. Students who finish high school poorly prepared for college are unlikely to enter college, especially a four-year one, and, if they are able to do so, unlikely to complete a college degree. This is made particularly clear in Cabrera, La Nasa & Burkum’s (2001) recent study of the impact of academic preparation on college entry and completion. Using High School and Beyond data, they showed that only 10.1 percent of poorly prepared high school graduates eventually earn a four-year degree as contrasted to 77.7 percent of highly prepared high school graduates (Figure I).

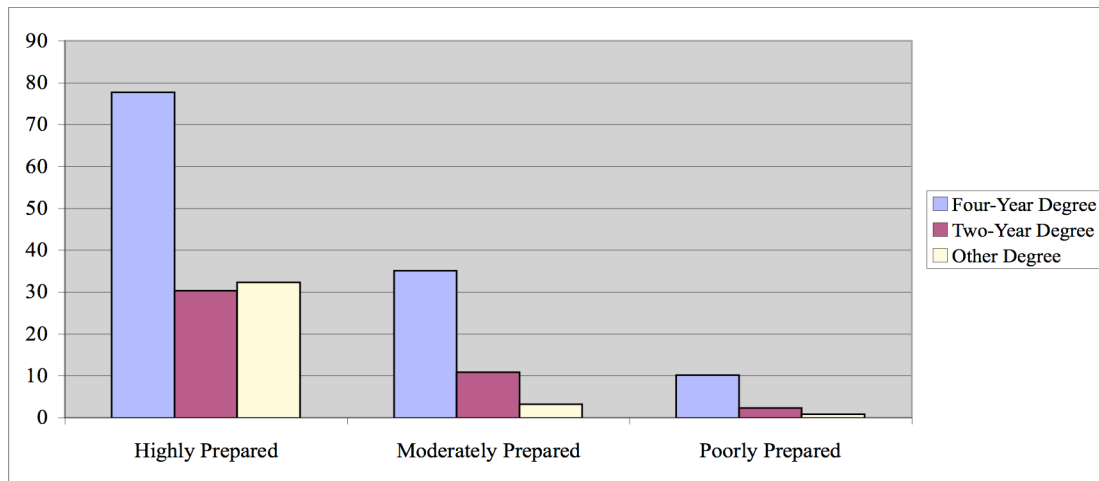


Figure I: Degree Attainment By Level of Academic Preparation

Level of academic preparation is also strongly associated with socio-economic status. Students of lower socio-economic status tend to graduate from high school less well prepared than other students (Figure II). This trend proves especially true among poorer students of color, in particular those from African-American, Hispanic American, and Native American backgrounds. The result is these “at-risk” groups, especially those who

are the first in their families to attend college, are the most likely to graduate from high school poorly prepared for college and the least likely to earn a college degree (Warburton, et al, 2001).

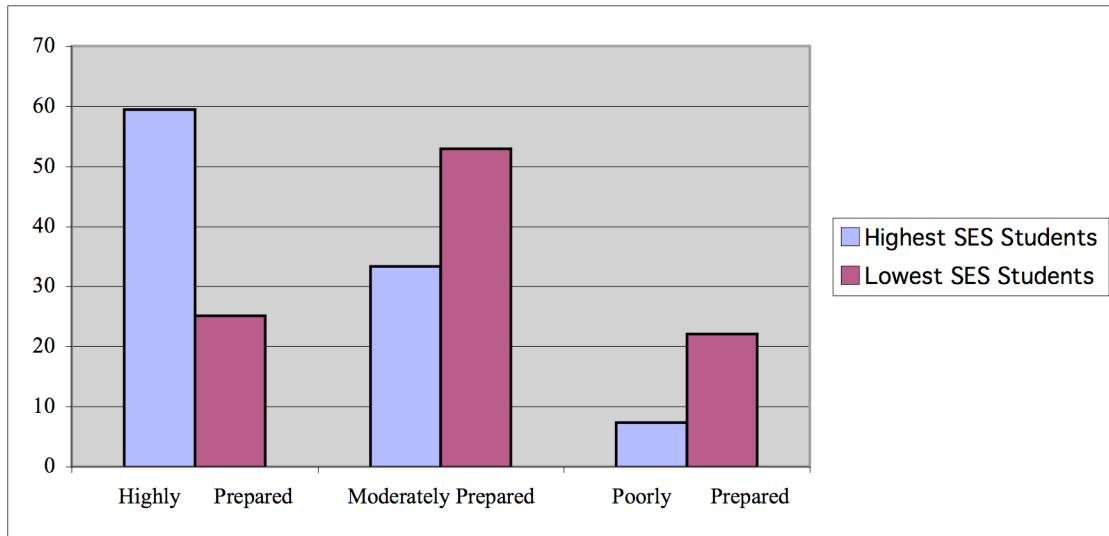


Figure II: Academic Preparation and Social Class

More disturbing is the fact that recent gains in access to college, especially among some underrepresented groups, have not been translated to similar increases in rates of college graduation. Rates of college completion among African-American students have actually declined in the past several years to approximately 37 percent, their lowest point since 1993 (American Council on Education, 2001). And this decline has taken place during a period when so much attention has been paid to remedial education in both two and four-year colleges and universities. Thus the challenge we face as a society, namely how can we address issues of preparation in order to translate gains in access to college into gains in college completion.

The challenge is particularly great in the urban two and four-year colleges that serve large numbers of poor and underrepresented students. In those institutions it is estimated that approximately forty-five percent of beginning students participate in some form of academic remediation (National Center for Education Statistics, 1997). But even these figures may underestimate the need for academic assistance. It is reported that many

more students in those institutions require but do not receive remedial assistance (Boylan, 1995; Boylan & Saxon, 1999).

The challenge we face is exacerbated by the fact that many urban two and four-year colleges are ill prepared to deal with the substantial remedial needs students bring to the classroom. This does not mean that urban two and four-year colleges have been complacent in their efforts to address the academic needs of their students. They have not. Many have allocated a substantial proportion of their resources to remedial coursework for under-prepared students. But they have done so by relying on rather traditional forms of remediation and academic assistance whose track record has been spotty at best (Boylan, 1999; Kulik & Kulik, 1990).

There are, however, alternatives to existing forms of practice, some of which offer the promise of greater success. One alternative that is the focus of this study is the adaptation of learning communities and collaborative learning strategies to the needs of students requiring academic assistance (Tinto, 1998; Malnarich, et al. 2003).

### Learning Communities in Higher Education

In their most basic form learning communities are a kind of co-registration or block scheduling that enables students to take courses together. The same students register for two or more courses, forming a sort of study team. In some cases, typically referred to as “linked courses,” students will enroll together in two courses, most typically a course in writing or math with a course in selected literature or, in the case of math, a course in science (see Figure III). In the larger universities such as the University of Oregon and the University of Washington, students in a learning community may attend two or more lecture classes with 200-300 other students but stay together for a smaller discussion section (Freshman Interest Group) led by a graduate student or upperclassman. In other cases, such as the Learning Cluster at LaGuardia Community College, students take three or more courses in which they are the only members of the class. In this way, they form a “community of learners” whose members are all studying the same material. In Seattle

Central Community College however, students in the Coordinated Studies Program take all their courses together in one block of time so that the community meets two or three times a week for four to six hours at a time.

Typically, learning communities are organized around a central theme or problem that links the courses. The point of doing so is to enable students to make explicit connections between the skills and knowledge learned in the linked courses (e.g. the application of the learning of mathematics in one course to the study of engineering or science in another). In so doing, learning communities provide for a coherent interdisciplinary or cross-subject experience that promotes a deeper type of learning than is possible in stand-alone courses. The themes or problems, of course, can vary, as do the audiences to whom the learning community is directed. At New York's LaGuardia Community College, for instance, learning communities are designed for students studying for a career in business (the Enterprise Center). At Cerritos College in California, they are also for students in science and engineering. In other institutions, such as Brooklyn College, learning communities serve the needs of new students. In those cases, learning communities frequently link the shared courses to a freshman seminar. In other cases, where undecided freshman are the members of the learning community, the linked seminar may be a developmental advising class.

Learning communities require faculty to collaborate in a variety of ways. Faculty in linked courses typically plan their assignments so that the activities of one complement that of the other. In the Coordinated Studies programs at Seattle Central Community College and Skagit Valley Community College, for instance, faculty will collaborate in the very construction of courses, their common themes and content. The point of such collaboration is to ensure that the sharing of courses provides for a coherent educational experience, one that is intentionally structured to promote student education.

Clearly there is no one type of learning community; there are many. But nearly all have two characteristics in common. One characteristic is shared knowledge. By organizing the linked courses around a theme or problem, learning communities seek to

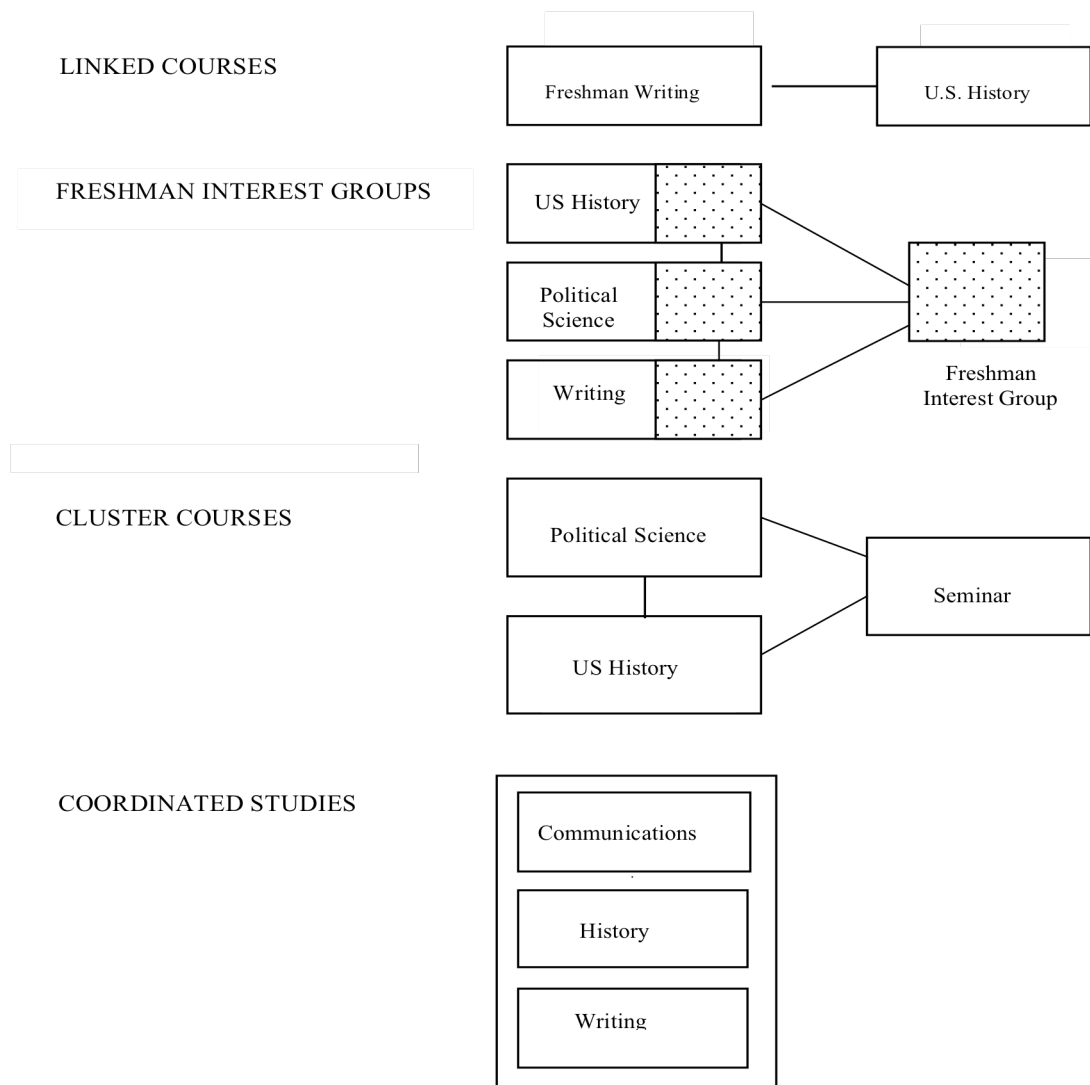


Figure III: Common Types of Learning Communities

construct a coherent educational experience that is not just an unconnected array of courses in, say, composition, calculus, modern history, Spanish, and geology. In this way, students come to share, as a community of learners, a body of knowledge that is itself connected. The other characteristic is shared knowing. By enrolling in several classes together, students come not only to know each other quickly and fairly intimately in a way that is part and parcel of their academic experience, but also to share the experience of trying to learn the material of the shared courses. Indeed, some faculty members

actively promote shared knowing by employing collaborative pedagogies within and between the linked courses. These pedagogies, which stand on their own right, require students to take an active role in the construction of knowledge in ways which require them to learn together as connected learners. Typically students are asked to work together in groups so that the work of the group cannot be accomplished without each and every member of the group does her or his part.

### Learning Communities, Involvement, and Student Success

Interest in learning communities and the collaborative pedagogy that underlies them springs in part from evidence about the importance of involvement to student success. Involvement with others, in particular in active learning activities, provides for a variety of positive outcomes that lead to student learning and persistence (Astin, 1993, 1997; Cabrera, et al., 1998; Carini, Kuh, & Klein, 2006; Pascarella & Terenzini, 2005; Pike, 1999; Tinto, 1993). Involvement, or what is now referred to as engagement, generates positive self-images (Berger & Milem, 1999), enhances motivation and commitment (Hurtado & Carter, 1996; Stage, 1989) and, via the personal affiliations that arise in interaction, in particular in shared learning activities, yields social and academic support that is instrumental to learning and persistence (Endo & Harpel, 1982; Pascarella, Smart & Ethington, 1986; Tinto, 1997). Student engagement has been shown to be important to the success of a wide range of students, white and of color, male and female, traditional and non-traditional (Clewell & Ficklen, 1986; Hernandez, 2000; Kraemer, 1997; Kuh, Kinzie, Schuh, Whitt & Associates, 2005; Nora, 1987; Richardson, 1987; Tinto, 1993) and in a wide variety of settings; two and four year, public and private, large and small (Pascarella, Smart, & Ethington, 1986). By extension, studies of program and institutional effectiveness, as measured by the success of their students, have shown that their effectiveness is highly dependent on their ability to promote high levels of student involvement (Kuh, Shuh, & Whitt, 1991; Kuh, Kinzie, Schuh, Whitt & Associates). Simply put, involvement matters.

The practical issue that most colleges face is how to make involvement matter, in particular for students who require academic assistance. Since most students commute to school and many work while in college, colleges recognize the importance of the classroom to their efforts to promote student success. For most students, especially those who work while in college, the classroom is the one place, perhaps the only place, where students can meet each other and the faculty. If involvement is to occur, it must begin in the classroom. It is for this reason that intervention programs that are centered on the classrooms of the campus, like learning communities, have attracted so much interest among both two and four-year institutions of higher education as a way of enhancing student involvement, learning, and persistence.

This popularity has, in turn, generated an increasing range of research studies that have focused on the effectiveness of learning communities to promote student success in a variety of settings. (Cross, 1998; Pike, 1999; Taylor, Moore, MacGregor, & Lindblad, 2003; Tinto, 1997; Tinto & Russo, 1994; Tinto, Engstrom, Hallock, & Riemer, 2001, Zhao & Kuh, 2004).

#### Learning Communities for Academically Under-Prepared Students

As evidence of the positive impact of learning communities on students has grown, an increasing number of institutions have moved to adapt the learning community model to the needs of academically under-prepared students. They have correctly asked the question “If learning communities can work for other students, why not for our students who need additional academic assistance?”

Understandably, the way they have done so has reflected both the settings in which adaptation has been tried and the academic needs of the students for which the programs are designed. Non-residential colleges serving large numbers of commuting students and part-time students who typically work while in college are more likely to begin their programs by linking two courses, one of which is developmental in character, another which is focused on a content or field of study (e.g. Delta College, Cerritos College,

LaGuardia Community College). Other institutions, which serve larger numbers of full-time students, often begin by asking “remedial” students to enroll in three or more courses together, any one or all of which will be developmental in character (e.g. Skagit Valley Community College and the University of Texas at El Paso). In either instance, the number and nature of those courses will mirror the developmental level of students being served. In those cases where students may have one or perhaps two remedial needs and where their level of need is not great, the learning community invariably involves at least one content course (e.g. Delta College, Brooklyn College, and William Rainey Harper College). In this way, students are able to make degree credit progress while receiving academic assistance. In other cases where student remedial needs are substantial and/or where the skill levels are far below those needed for participation in the regular curriculum, the learning community may consist entirely of developmental courses (e.g. The University of Texas at El Paso).

Though patterns of utilization vary, initial research suggests that developmental learning communities are more effective than stand alone developmental courses that now dominate developmental education. A study of the New Student House at LaGuardia Community College (Tinto, Goodsell, and Russo, 1994) indicated that learning community students not only performed better in their coursework, but they also persisted at a higher rate than did comparison group students. Smoke and Haas’s (1997) study of the linked developmental writing courses at Hunter College found that 90% of the students in the linked courses passed both courses as well as the CUNY Writing Assessment Test (WAT). Students who were not in the linked course passed the WAT at a rate of 40 to 75% over the course of six semesters from Fall 1988 to Spring 1991.

Spokane Falls Community College compared the course grades and completion rates of students in a psychology course that is linked with a study skills course to a freestanding psychology course (MacGregor, 1991). Seventy percent of the students in the linked course category and 46% in the unlinked course tested at the developmental level. At the conclusion of the semester, students in the learning community had a higher completion rate and the developmental students outperformed their counterparts in the



control group on the same tests. A second study at the same institution compared a group of developmental students in a linked biology/study skills course that was taught by the same instructors. The researchers found that a higher completion rate was achieved by students who were in a linked biology / study skills course than those that were only in the biology course (MacGregor, 1991). Equally important, they also found that the grade distributions differed. Compared to the freestanding class, student grades in the linked course were more bell-shaped and fewer students had D's and F's. By contrast, student grades in the unlinked course were more bivariate with more students earning D's and F's.

Skagit Valley Community College compared a learning cluster designed for academically under-prepared students with a control group of students in the content area of psychology (Witmer, 1991). The cluster of courses consisted of a reading course, a psychology course, and an English composition course. The psychology course in the cluster and the freestanding psychology course were taught by the same instructor. Even though students in the learning cluster had significantly lower placement scores, they did just as well as the control group on the objective tests. Moreover, the students demonstrated significant affective and attitudinal changes suggesting positive self-esteem and a joy for learning. Students stated “[the learning community] made me confident in my thinking abilities,” “[I] gained confidence in myself,” and “[I am] proud to be a member of the cluster.” (Witmer, 1991 p. 3). Studies at Hunter College, Sacramento City College, the University of Minnesota Twin Cities, and Spokane Falls Community College revealed similar findings, namely developmental learning communities resulted in superior academic performance than do standalone developmental courses.

Focusing on persistence as well as performance, Seattle Central Community College reported increased retention of remedial students in developmental learning communities (MacGregor, 1991). Jack Bautsch, in the Office of Institutional Research at Seattle Central Community College, compared the retention rates of learning community students in developmental and vocational programs to those of students in unlinked

courses (see MacGregor, 1991). He found that 68% of the students in the fall semester learning communities were still enrolled compared to a campus-wide rate of 49%.

Unfortunately these and other studies of the impact on student success of programs for academically under-prepared students are of limited usefulness. Though their findings suggest increased rates of course completion and persistence to the following semester or term, they are neither conclusive nor systematic. They do not tell us in any rigorous manner whether the effects of learning communities on academically under-prepared students are real and whether they can be generalized to a larger number of institutions. At the same time, they do little to shed little on why such programs enhance student persistence, should they do so. Quite simply, prior research does not provides the sort of carefully constructed systematic comparative data across a set that would enable policy planners and practitioners alike to ascertain not only whether learning communities can be effectively adapted to the needs of academically under-prepared students, but also why they “work” and therefore how they can be made to work on other campuses.

# Methodology

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To address the shortcomings of prior research, we carried out a systematic, multi-institution, longitudinal study of the impact of learning communities upon the success of under-prepared college students. We employed both quantitative longitudinal survey and qualitative case study and interview methods. We utilized the former in order to ascertain to what degree, if at all, participation in a learning community enhanced student success and the latter to shed light on why it is that such communities enhance student success, should they do so. Though methodologically distinct, these methodologies were employed in parallel so as to produce a fuller, richer, and more complex picture not only of the success of students in those communities, but also of the experiences that help shape that success.

## Institution and Program Selection

Our selection of institutions and in turn learning community programs were driven by several considerations. First, institutions had to have a learning community program of some duration for which there was institutional evidence to support the claim that the program was effective for academically under-prepared students. We were specifically interested in those learning communities that situate academic skill development within a broader academic context and are not just a linking of several skills courses that have no referent to broader academic issues (Grubb, 1999). Second, the set of selected programs had to capture the significant variations in how learning communities are being adapted to serve the needs of “remedial” students. The programs selected for study had to enable the study to ascertain, if possible, whether some types of programs may be more effective than other types. Third, the set of institutions selected for study had to serve those segments of the college-going population that captures the full spectrum of the “at-risk” population. In this case, we were especially interested in locating programs that serve underrepresented and non-traditional students who have been largely excluded from

higher education (e.g. under-prepared students of color, first-generation college students, students from working-class backgrounds, recent immigrants, and ESL students).

We solicited applications to participate in the study through a variety of techniques including placing notices on email lists and websites, and making announcements at various regional and national meetings. Institutions were asked to submit institutional data about their programs, the students they served, and evidence of program effectiveness. In addition, we solicited additional nominations from members of a project advisory board whose members represent many of the most knowledgeable and experienced educators in the field (see Appendix A).

We reviewed each of the submission and selected a set of programs in two and four-year institutions that met our criteria. These programs were then shared with our advisory board. In consultation with the Board, we then selected a final list of 19 programs, 13 two-year and six four-year, that in sum enabled us to study varying types of learning communities in various parts of the nation that served varying student populations. Though by no means a nationally representative sample of all learning community programs that serve academically under-prepared students, the sample did capture significant and policy-relevant variations in program location, type, and population served. We contacted those programs and invited them to participate in the study and identify in turn a person who would serve as our campus contact who would work with the research team in a variety of ways during the project. The final list of participating institutions as well as the contact persons is provided in Appendix B.

Six of our sites were in California. They were Cerritos College, DeAnza College, Grossmont College, San Jose City College, and California State University-East Bay formerly known as California State University-Hayward, and California State University-Los Angeles.

## Quantitative Research Design

The quantitative component of the study was designed to ascertain the impact learning communities have upon student behaviors, academic performance, and persistence. In particular, we sought to answer two specific research questions:

- 1) What is the impact of participation in a learning community on student behaviors?
- 2) What is the impact of participation in a learning community on persistence to the next year of college?

To answer these questions, we employed longitudinal survey analysis in a panel design that called for the identification of program and comparison group student samples, the development of a survey questionnaire, and the collection of survey data from the 19 participating institutions and subsequent follow-up data on persistence.

### Student Sample

On each campus, we selected two groups of students, those who participated in learning communities during their first year of college and a comparison sample of similar students who did not participate in the learning communities. To do so, we asked each institutional contact person to identify courses that were similar in content to those that were part of the learning communities and that enrolled students who were similar in their attributes and level of academic preparation to those enrolled in the learning communities. All students in the courses and therefore classrooms so identified comprised the comparison student population.<sup>1</sup>

It should be noted that in some cases all academically under-prepared students were enrolled in the institution's learning communities. As such, comparison group students

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<sup>1</sup> Though it might be claimed that that our sample are not representative, since we did not employ random sampling procedures, experience has taught us that classroom based sampling not only results in higher response rates, but, in the final analysis, also yields a more representative sample. Random sampling techniques typically entail use of the mail and therefore are subject to high non-response rates and non-random response patterns.

were necessarily somewhat better academically prepared and from somewhat more advantaged socio-economic backgrounds than were students in the learning communities. This, as we shall see later, served to reinforce some of the findings of the study.

### Survey Questionnaire and Procedures

To survey students, we employed, with the permission of the Community College Survey of Student Engagement project at the University of Texas at Austin, a modified version of their widely used survey questionnaire (CCSSE) to assess student behaviors.<sup>2</sup> Our modifications were such as to enable the questionnaire to capture detailed information about the types of experiences and behaviors, based on prior research, one would expect to observe in learning community contexts. Our modifications were such as to enable us to better capture the impacts of active-learning pedagogy and peer learning that are embedded in learning communities. A draft version of the modified questionnaire was pilot tested at a local community college and, with the assistance of the advisory board, revised to produce a final version used in the study (see Appendix A).

Students in both learning community and comparison group classrooms were surveyed in Fall 2003 during their first year in college. Out of a possible 9410 students identified as being enrolled in the learning communities (4146) and comparison classrooms (5264), we obtained completed questionnaires from 5,729 students or 60.8 percent, 2,615 or 63.1 percent in learning communities and 3,114 or 59.2 percent in comparison classrooms.<sup>3</sup>

To track students over time we made use of the Enrollment Search services of the National Student Clearinghouse (NSC). The NSC data files, after a good deal of cleaning up, enabled the project to track all individuals to the following academic year to ascertain

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<sup>2</sup> It is our view that CCSSE, suitably modified, is better suited to the largely non-residential four-year institutional settings than the widely used National Survey of Student Engagement (NSSE).

<sup>3</sup> One four-year institution was unable to participate in the study because of problems in the administration of the survey questionnaire.

if and where they were enrolled. Unlike state tracking systems, the NSC data allowed the project to track students even when they transferred out of state.

## Data Analysis

Beyond the use of univariate and bivariate statistical analysis (means, frequencies, and chi-squares) to describe the data, we employed multivariate logistic regression analyses to identify to what degree and in what manner experiences during program participation were related to subsequent educational outcomes including persistence and degree completion (Menard, 2001). Logistic regression is ideally suited to model the effect of independent variables when the dependent variable under consideration is dichotomous (e.g. persistence). Logistic regression not only captures the problematic distribution embedded in dichotomous measures, it also avoids violations to the assumption of homogeneity of variance and functional specification the direct application of Ordinary Least Squares regression models are likely to produce (Cabrera, 1994). SPSS statistical software was utilized in all analyses.

## Qualitative Research Design

### Research Questions and Procedures

Two major research areas framed the qualitative component of this study:

- 1) How do students, typically from under-prepared backgrounds, who participated in learning community programs that incorporated one or more required basic skills classes reflect upon the role and influence of this experience over the college years? In what ways does the LC program influence student identities and knowledge about themselves as learners? What habits, attitudes, and knowledge were gained from these programs and in what ways?

- 2) What challenges and obstacles do students identify that they faced over the college years, how did they negotiate these experiences, what influence did the initial learning community program play, and what role did other institutional or external factors exert in their success (or lack thereof)?

For over two years, we facilitated focus groups and individual interviews with students from two community colleges—Cerritos College (Los Angeles, California), DeAnza College (northern California), and one four-year institution—California State University-East Bay. In identifying these institutions, we sought institutions 1) that offered a variety of well-established, campus-supported learning community offerings and models; 2) where the learning community models included one or more basic-skills courses linked to another basic-skills course and/or credit-bearing course; 3) where the learning communities were based on interdisciplinary, team-taught, collaborative learning perspectives and practices; 3) where the learning communities served first-generation, working-class students from diverse backgrounds, particularly in terms of race/ethnicity/socioeconomic status/national origin; and 4) where on-going faculty development was provided for those involved in learning community initiatives. It is important to note that the above criteria were focused on identifying strong learning community programs that include students taking required basic-skills courses and not on selecting exemplary programs that often go by the label *developmental education* programs. This is, as we shall discuss later, not a trivial point.

Students who were invited for interviews were enrolled in a curricular learning community that included the integration of at least one developmental course (e.g. basic-skills writing, basic-skills reading). Our intent was to talk to students during and after their participation in these programs to learn about ways in which the learning community experience shaped their past and current educational success and pursuits. We wanted to understand more about the nuances of these programs and ways in which students analyzed their prior schooling experiences, particularly in relation to their LC experience, the learning community structure, the role of faculty and peers, their own



involvement/engagement in their educational experience, and ways in which they had changed and developed as learners, individuals, and college students. Almost all of the qualitative and quantitative data about learning community participation have been obtained during or immediately after the courses. The longitudinal interviews, by asking students to analyze retrospectively their college experiences, elicited rich, in-depth data of how the issues, challenges, and identities of under-prepared students from diverse life experiences, cultures, and educational backgrounds *evolve and change* over the college years.

### Data Collection

In order to give readers a context from which to examine students' experiences in these diverse learning community models, a brief description of the learning community programs that our student participants were enrolled in at the three campuses are shared below. We also have provided a link to each institution's learning community website if the reader wishes to gain more specific information.

#### *Cerritos College*

Cerritos College had several models of learning communities, depending on the characteristics of the students. We interviewed students in two models. The first simply linked reading and writing basic skills courses. The other model was a coordinated studies model called the "First Year Experience" and had two different "houses" (A and B) for students who tested into different English and math levels. The FYE students took a full course load together for a semester. Each house contained basic skills math, English, and reading courses, along with a career and guidance course, and a library/research introduction course. For more information, see the Cerritos College website at <http://www.cerritos.edu/lcp/program.html>.

#### *DeAnza College*

DeAnza offered thematically linked learning community courses for both ESL and native-English speakers through their Learning Communities Program (referred to as

“LinC” for Learning in Communities). There were three kinds of linked courses for ESL students. One variety linked ESL (pre-collegiate level) reading and writing courses. Another model linked an ESL reading or writing course with a speech/communications course. A third option for ESL students was enrolling in a writing course that linked with a larger-enrollment, credit-bearing course such as U.S. History. Native English speaking students could enroll in a theme-based (e.g. *Improving Society: Coming to Terms with Self*) linked, reading and writing basic skill courses called LART (Language Arts). These learning communities connected different levels of basic skills English writing and reading, each of which is connected to a laboratory period. Descriptive information also can be found on the DeAnza website (<http://www.deanza.edu/linc/>).

#### *California State University East Bay*

At the time of this study, all students at California State University-East Bay were required to participate in mandatory yearlong learning community clusters in both their freshmen and sophomore years. (Note: Currently, students sign up for a yearlong freshmen cluster only.) Two central goals behind this integrated, two-year program included: 1) students participated in a structured, intentional curriculum to fulfill their general education requirements; and 2) students were provided an integrated, developmental-based first-year experience to transition them successfully to college. Students could choose from over a dozen clusters of thematically linked courses (e.g. *The Individual and Society; Ancient World; How Things Work; Gender in the Arts, Literature, and Theatre*) that met requirements for general education, English composition (basic skills and baccalaureate), oral communication, information literacy, and a three-quarter first year seminar (called General Studies). For example, the theme of the Ancient World cluster was “to go back in time and explore the foundations of the modern world through art, literature, and history, and increase your cultural awareness as we study the commonality and diversity of human experience” (<http://www.csueastbay.edu/ge/firstyearclusters/ancientworldcluster.htm>).

A student who was required to take two basic skills English classes might have the following schedule over the three-quarter year:

Fall	History	Basic skills English	General Studies
Winter	Art	Basic skills English	General Studies
Spring	English literature	English or Communication Information Literacy	General Studies

Typically, this student would be enrolled in all their classes with the same students for the year. The General Studies and English classes would be approximately 12-15 students in size. However, they would also join an estimated 40 or so more students in the larger general education course (e.g. History). The other students were concurrently taking a section of credit-bearing English classes and a section of General Studies with a small cohort. For more information about this program, refer to:

<http://www.csueastbay.edu/ge/clusterdescription.htm>.

#### Data collection and analysis

A research team of two visited each institution once to initially observe the programs and interview a range of people on campus, students, staff, and faculty, to better understand the philosophy, goals, and organizational structures supporting these learning community initiatives and the diverse learning communities offered to students. This team then returned to conduct one-on-one interviews with students participating in these programs either toward the end of that academic term or immediately upon their return the next semester/quarter. In this first round of data collection, students were given a choice to participate in focus groups or individual interviews. We recognized that some of the immigrant students, in particular, might feel more comfortable sharing their perspectives in an individual interview setting where they felt less anxiety about their verbal communication skills. After the first set of interviews, we invited students to participate in individual interviews each term (twice per academic year, for a total of five possible interviews). We continued to invite the same group of students that participated in the initial round, even if they were not currently taking classes at the institution.

The interviewers were diverse in terms of gender and race/ethnicity in recognition that students might feel more comfortable sharing with individuals they perceived as more similar to their own backgrounds/life experiences (Cerritos College and California

State University-East Bay—African American woman and white woman; DeAnza College - white woman and Asian/Pacific Islander man). Over the course of the study, we interviewed 182 students from these three institutions – some several times- with 46 students continuing to participate through three or more interviews. Interviews ranged from 45 minutes to an hour long. Focus groups were one to one and a half hours in length. All interviews were audio recorded (focus group interviews were also videotaped) and transcribed, resulting in approximately 4000 pages of interview transcriptions.

The analysis resulted in a 40-page coded tree and over 450 codes that highlight key aspects of the students' college experiences, retrospective learning and impact of the LC experience, central challenges/anxieties while in college, critical supports while in college, potential/actual reasons for leaving college, ways in which they have changed, and strategies promoting/hindering their academic success. A rich, complex picture emerged of what issues are central in students' negotiation of the college experience and how they addressed these challenges and opportunities. Clearly, their past schooling experiences, family situation, race/ethnicity/social class, and college experiences intersect and shape students' diverse pathways through college.

# Survey Findings: Documenting the Impact of Learning Communities

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The survey findings are presented in three parts. First, we describe the attributes of the students in the learning communities and comparison classrooms. Second, we present the results of the survey, specifically those pertaining to student experiences, perceptions, and goals. Finally we present the results of the analyses that speak to the impact of learning communities on student persistence. In each instance, we present the data for two and four-year institutions separately.

## Students Attributes

Table 1 provides information on the attributes of students enrolled in the learning communities and comparison classrooms for both two and four-year institutions.

Several differences stand out. First, students in the learning communities, in both two and four-year institutions, are younger than those in the comparison groups. This is especially striking in the four-year institutions whose students are younger as a group than students in the two-year colleges. Second, it is apparent in both sets of institutions that there are somewhat higher percentages of students of color (non-white) in the learning communities than in the comparison group. Among two-year institutions, there are a somewhat higher proportion of females in the learning communities than in the comparison groups, while in the four-year institutions students in the learning communities have substantially lower prior educational credentials than do students in

**Table 1: Attributes of Learning Community and Comparison Group Students in Two and Four-Year Institutions\***

STUDENT ATTRIBUTES	Two-Year		Four-Year	
	LC	CG	LC	CG
Age	<b>3.05</b>	3.23	<b>2.27</b>	2.98
Gender (percent female)	<b>64.8</b>	60.5	55.9	59.3
Highest level of father's education	4.17	4.20	4.35	4.20
Highest level of mother's education	3.86	3.88	4.09	3.91
Highest educational credential earned	1.19	1.22	<b>1.08</b>	1.55
U.S. Citizenship (percent citizen)	82.3	82.9	86.6	85.7
English as Native Language	67.0	69.1	64.9	61.4
Ethnicity (Percent Non-White)	<b>62.5</b>	58.6	<b>79.6</b>	76.1

\*Where **bold** denotes significant difference between groups at .001 level

\*See Appendix A for variable codes

the comparison groups. That this is not the case among two-year college students is not surprising since community college students are generally of lower educational backgrounds than are students in four-year institutions. In four-year institutions by contrast, it is clear that the learning communities serve an educationally different population than do the campuses generally.

#### Student Experiences, Perceptions, and Goals

Table 2 presents data, obtained from the survey questionnaire, on student educational experiences, perceptions, and goals for two and four-year colleges separately.

Looking first at educational experiences (Table 2A), it is evident in both two and four-year institutions that students in learning communities were more involved in classroom activities and with their classmates than are comparison group students. It is telling that

**TABLE 2A: Educational Experiences, Perceptions, and Goals of Two and Four-Year Learning Community and Comparison Group Students**

	Two-Year		Four-Year	
	LC	CG	LC	CG
<b>DURING THE CURRENT ACADEMIC YEAR ABOUT HOW OFTEN HAVE YOU DONE EACH OF THE FOLLOWING?</b>				
<b>Classroom Activities:</b>				
Asked questions in class or contributed to class discussions	<b>3.68</b>	3.57	<b>3.46</b>	3.33
Made a class presentation	2.63	2.57	<b>2.70</b>	2.44
Prepared drafts of a paper or assignment before turning it in	<b>4.05</b>	3.88	<b>4.15</b>	3.99
Worked on a paper or project that required integrating ideas, information or skills from different classes	<b>3.33</b>	3.07	<b>3.37</b>	3.21
Put together ideas or concepts from different courses during class	<b>3.19</b>	2.94	<b>3.16</b>	3.01
Come to class without completing readings or assignments	2.37	2.41	2.61	2.62
Missed class	<b>2.16</b>	2.24	<b>2.20</b>	2.32
Used a listserv, chat group, internet, etc. to discuss or complete an assignment	2.44	2.33	<b>2.84</b>	2.52
Participated in a community-based project as part of regular course	1.84	1.77	1.63	1.64
<b>Activities with Classmates</b>				
Worked with classmates during class	<b>3.95</b>	3.72	<b>3.84</b>	3.64
Worked with classmates outside of class to prepare class assignments	2.52	2.43	<b>2.95</b>	2.74
Discussed ideas from your readings or classes with classmates outside of class	<b>2.81</b>	2.62	<b>3.00</b>	2.73
Used email to communicate with other classmates	2.18	2.12	2.79	2.78
Received feedback (written or oral) from your classmates on your Performance	<b>2.86</b>	2.57	<b>2.77</b>	2.59
Worked harder than you thought you could to meet classmates standards or expectations	2.66	2.59	2.55	2.59
Had serious conversations with students of different race, ethnicity, or religious beliefs	<b>3.00</b>	2.81	2.91	2.79
Tutored or taught other students (paid or voluntary)	1.84	1.78	1.88	1.88
<b>Activities with Instructors:</b>				
Discussed grades or assignments with instructor	<b>3.31</b>	3.13	3.06	3.05
Used email to communicate with an instructor	2.37	2.37	3.17	3.13
Talked about academic or career plans with an instructor	<b>2.66</b>	2.49	2.45	2.33
Discussed ideas from your readings or classes with instructor's outside class	<b>2.17</b>	2.05	2.15	2.15
Received feedback (written or oral) from your instructors on our Performance	<b>3.75</b>	3.51	3.54	3.47
Worked harder than you thought you could to meet your instructor's standards or expectations	3.31	3.28	3.32	3.27
Talked about academic or career plans with an advisor or counselor	2.85	2.86	2.70	2.74
<b>Discussion with Others:</b>				
Discussed ideas from readings or classes with others outside class	3.13	3.12	2.94	2.90
Coding: 1=never, 2=rarely, 3=sometimes, 4=often, 5=very often				

Where **bold** indicates significant difference at .01 level

learning community students were more involved in precisely those activities that one would expect them to be if the learning communities were indeed functioning as they should, namely connecting ideas, concepts, and skills between linked classes (items 1d and 1e), being more actively involved in classroom activities (1a), and rewriting the work prior to submission (1c). Nor is it surprising, given the use of collaborative pedagogy, that learning community students were more involved with their classmates during (2a, 2e) and outside class (2b, 2g, and 9b). Given that involvement, it is perhaps not surprising that students in learning communities were less likely to miss class than were students in the comparison group classrooms (1g). Nor is it surprising that learning community students were more positive in their views of their relationships with classmates (8a). From these data alone, one has reason to believe that the learning communities we studied had, on average, been able to construct an educational setting for their students that was different from those experienced by comparison group students.

The experiences of students in programs in two-year institutions were, however, not entirely the same as those of students in programs in the four-year institutions we studied. Though they were similar as regards their experiences with their classmates, their experiences with their instructors were apparently different. While learning community students in the two-year institutions were also more involved with their instructors (3a, 3c, 3d, and 3e) and more positive in their views of their relationships with their instructors (8d) than were their comparison group students, this was not the case among learning community students in the four-year institutions.



**TABLE 2A: Educational Experiences, Perceptions, and Goals of Two and Four-Year Learning Community and Comparison Group Students (continued)**

	Two-Year		Four-Year	
	LC	CG	LC	CG
<b>HOW MUCH HAS OUR COURSEWORK EMPHASIZED THE FOLLOWING MENTAL ACTIVITIES?</b>				
Memorizing facts, ideas or methods from your courses and readings so you can repeat them in pretty much the same form	2.84	2.77	2.79	2.76
Analyzing the basis elements of an idea, experience or theory	<b>2.91</b>	2.77	2.84	2.88
Synthesizing and organizing ideas, information, or experiences in new ways	<b>2.91</b>	2.74	2.80	2.80
Making judgments about the value or soundness of information, arguments or methods	<b>2.68</b>	2.52	2.72	2.68
Applying theories or concepts to practical problems in new Situations	<b>2.70</b>	2.57	2.59	2.65
Using information you have read or heard to perform a new skill	<b>2.86</b>	2.76	2.70	2.70
Integrating ideas, information, or skills from different classes	<b>2.64</b>	2.54	2.63	2.67
<b>HOW MUCH DOES THIS INSTITUTION EMPHASIZE EACH OF THE FOLLOWING?</b>				
Encouraging you to spend significant amounts of time studying	<b>3.15</b>	3.00	3.07	3.01
Providing the support you need to help you succeed at this college	3.09	3.03	2.96	2.90
Encouraging you to make contact with students of different economic, social, racial, or ethnic backgrounds	<b>2.59</b>	2.45	2.57	2.46
Helping you cope with your non-academic responsibilities	<b>2.16</b>	2.05	2.08	2.08
Providing support you need to thrive socially	<b>2.36</b>	2.24	2.34	2.32
Providing financial support you need to afford your education	2.56	2.54	2.42	2.40
Encouraging you to attend class	<b>3.18</b>	3.07	2.83	2.90
Encouraging you to make use of academic support services	<b>3.01</b>	2.89	<b>2.97</b>	2.84
Encouraging you to know your classmates on a personal level	<b>2.72</b>	2.39	<b>2.55</b>	2.29
<b>HOW MUCH HAS EXPERIENCE AT THIS INSTITUTION CONTRIBUTED TO YOUR KNOWLEDGE, SKILLS, AND PERSONAL DEVELOPMENT IN THE FOLLOWING AREAS?</b>				
Acquiring a broad general education	2.97	2.94	2.87	2.95
Acquiring job or work-related knowledge and skills	2.46	2.42	2.31	2.41
Writing clearly and effectively	<b>3.14</b>	3.01	3.01	2.97
Speaking clearly and effectively	<b>2.95</b>	2.83	2.75	2.74
Thinking critically and analytically	<b>3.08</b>	2.98	3.01	3.03
Using computing and information technology	<b>2.74</b>	2.64	<b>2.88</b>	2.75
Working effectively with others	<b>3.03</b>	2.83	<b>2.86</b>	2.75
Learning effectively	<b>3.11</b>	2.95	2.93	2.85
Contributing to the welfare of your community	<b>2.09</b>	1.95	1.92	2.00
Developing clearer career goals	<b>2.76</b>	2.66	2.59	2.57
Developing a sense of confidence in your academic abilities	<b>2.89</b>	2.79	2.71	2.69
Coding 1=very much, 2=quite a bit, 3=some, 4=very little				

Where **bold** indicates significant difference at .01 level

**TABLE 2A: Educational Experiences, Perceptions, and Goals of Two and Four-Year Developmental Education Learning Community and Comparison Group Students (continued)**

	Two-Year		Four-Year	
	LC	CG	LC	CG
<b>ABOUT HOW MANY HOURS DO YOU SPEND ON AVERAGE IN A 7-DAY WEEK DOING EACH OF THE FOLLOWING?</b>				
Preparing for class by yourself (studying, reading, writing, doing homework, etc.)	1.97	1.93	2.00	2.00
Preparing for class with your classmates (studying, reading, writing, doing homework, etc.)	<b>0.82</b>	0.71	0.92	0.84
Preparing for class with the assistance of a tutor	0.40	0.36	0.34	0.36
Working for pay on campus	0.21	0.18	0.28	0.33
Working for pay off campus	2.07	2.17	1.42	1.38
Participating in college-sponsored activities	0.35	0.33	0.66	0.67
Providing care for dependents	1.10	1.14	0.72	0.75
Commuting to and from classes	1.25	1.30	1.19	1.22
Coding 1=none, 2=1-5 hours, 3=6-10; 4=11-20; 5=21-30; 6=more than 30				
<b>RATE THE QUALITY OF YOUR RELATIONSHIPS WITH PEOPLE AT THIS INSTITUTION</b>	<b>LC</b>	<b>CG</b>	<b>LC</b>	<b>CG</b>
Classmates	<b>5.48</b>	5.17	<b>5.43</b>	5.15
Other students	4.27	4.21	4.56	4.60
Instructors	<b>5.43</b>	5.18	5.08	4.99
Academic support staff	4.59	4.44	4.40	4.25
Coding 7=Most positive to 1=least positive				
<b>GOALS FOR ATTENDING THIS INSTITUTION</b>	<b>LC</b>	<b>CG</b>	<b>LC</b>	<b>CG</b>
Complete certification program	0.88	0.86	0.88	0.85
Obtain a degree (associate/bachelors)	1.55	1.55	1.55	1.55
Transfer to a four-year college or university	1.59	1.56	1.60	1.56
Obtain job-related skills	1.34	1.34	1.34	1.33
Update job-related skills	0.83	0.80	0.83	0.80
Change careers	0.46	0.52	0.47	0.52
Take courses for self-improvement	0.97	0.92	0.99	0.92
Obtain knowledge in a specific area	1.34	1.36	1.34	1.34
Coding 2=primary reason, 1=secondary goal; 0=not a goal				

To facilitate subsequent analysis of experiences and perceptions, we collapsed individual items into a series of factor scores that combine into one score the average of the individual scores that make up the individual factor (see Appendix B). These factors pertain to student responses about their involvement in classroom activities, with

classmates and faculty, their perceptions of the support and encouragement they experienced, and their evaluation of their own intellectual gain over time. It should be noted that each of these factors have been shown in prior research to be independently related to both student learning and persistence (Pascarella & Terenzini, 2005). That is to say that students who are more engaged and perceive themselves as being more supported and encouraged are more likely to show greater learning gain and persist at higher rates.

As shown in Table 3, it is evident that community college students in the learning communities were significantly more engaged than students in the comparison groups along all measures of engagement (classroom, classmates, and faculty), were more

**Table 3: Patterns of Engagement Among Two-Year Learning Community and Comparison Group Students**

<b>Factor Score</b>	<b>Learning Community</b>	<b>Comparison Group</b>
Classrooms <sup>a</sup>	<b>3.32</b>	3.15
Classmates <sup>a</sup>	<b>2.85</b>	2.68
Faculty <sup>a</sup>	<b>2.93</b>	2.76
Perceived Encouragement <sup>b</sup>	<b>2.91</b>	2.73
Perceived Support <sup>b</sup>	<b>2.54</b>	2.44

a. scoring ranges from 1=Never to 5=Very Often

b. scoring ranges from 1=Very little to 4=Very much

**bold** indicates significant difference at .05 level

significantly more positive in their perceptions of support the experienced on campus, and their own intellectual gain. Among four-year institutions (Table 4), though students were more engaged in classrooms and with classmates, they were not, as we saw above, more engaged with faculty. And while learning community students in four-year

institutions perceived themselves as having received encouragement more than comparison group students, this was not the case for perceived support.

**Table 4: Patterns of Engagement Among Four-Year Learning Community and Comparison Group Students**

<b>Factor Score</b>	<b>Learning Community</b>	<b>Comparison Group</b>
Classrooms	<b>3.32</b>	3.19
Classmates	<b>2.97</b>	2.83
Faculty	2.95	2.90
Perceived Encouragement	<b>2.80</b>	2.70
Perceived Support	2.45	2.43

Where **bold** indicates significant difference at .05 level

In order to ascertain to what degree differences in engagement between learning community and comparison group students was a reflection of students attributes or participation in the learning community, we ran a series of regression equations on engagement where we first entered student attributes (as shown in Table 1) and then participation in the learning community. In this case, we collapsed the three separate engagement factors (classrooms, classmate, faculty) into one factor that summarized students' engagement in all three domains of activity. We focused on standardized regression coefficients as they permit us to compare the relative influence of different variables on engagement. The results of these regressions are shown in Tables 5 and 6.

Looking first at two-year college students (Table 5), it proves to be the case that being older was associated with higher levels of engagement (.036) while being of minority (non-white) background was associated with lower rates of engagement (-.093). Even after controlling for the influence of individual attributes upon engagement, participation

in a learning community proved to be independently associated with higher rates of engagement (.118). In other words, the influence of a learning community on engagement cannot be attributed to the attributes of the individuals within it.

Findings for four-year college students (Table 6) are not very different. Being of minority background was also associated with lower levels of engagement (.056) and being in a learning community was associated with higher levels of engagement. As in

**Table 5: Results of Multivariate Regressions on Engagement Among Two-Year Learning Community and Comparison Group Students**

Variable	Standardized Beta	Standardized Beta
Highest Credential	.018	.018
Mother's Education	-.010	-.009
Age	.036*	.041*
Gender	.027	.023
English First Language	-.005	-.008
US Citizen	.038	.040
Ethnicity	-.093**	-.088**
Learning Community		.118**

\* indicates a significant difference at .05 level.

\*\* indicates a significant difference at .01 level.

two-year colleges, the influence of learning community participation on engagement was greater than all other variables in the equation. But unlike students in two-year colleges, age was not significantly associated with levels of engagement.

**Table 6: Multivariate Regressions on Engagement Among Four-Year Learning Community and Comparison Group Students**

Variable	Beta	Beta
Highest Credential	.001	.005
Mother's Education	-.025	-.028
Age	.014	.039
Gender	.027	.029
English First Language	.025	.023
US Citizen	.005	.008
Ethnicity	-.056*	-.050*
Learning Community		.101**

\* indicates a significant difference at .05 level.

\*\* indicates a significant difference at .01 level.

### Student Persistence

The question remains whether participation in a learning community increases the persistence of academically under-prepared two and four-year college students. Though the data presented above suggest it may, as engagement has been shown in other studies to be associated with persistence, it has yet to shown that is the case here. To do so we now turn to the data on student persistence.

Table 7 gives the first to second year persistence rates of two and four-year students in learning communities and comparison classrooms. In both cases, learning communities have significantly higher rates of persistence than do the comparison group students. Among two-year colleges the difference is 5.2% (61.8% verses 56.6%), while in four-year institutions the difference is 9.6% (80.6% verses 71.0%).

**Table 7: Persistence to following Fall Among Learning Community and Comparison Group Students**

<b>Persistence</b>	<b>Learning Community</b>	<b>Comparison Group</b>
<b>Two-year colleges</b>	61.8 *	56.6
<b>Four-year colleges</b>	80.6 *	71.0

\* indicates significant difference at .05 level

Among California institutions, persistence to the following fall is shown in Table 8.

**Table 8: Persistence to following Fall Among California Learning Community and Comparison Group Students**

<b>Persistence</b>	<b>Learning Community</b>	<b>Comparison Group</b>
<b>Two-year colleges</b>	67.1 *	61.1
<b>Four-year colleges</b>	83.9 *	57.8

\* indicates significant difference at .05 level

While these data are suggestive, they do not yet tell us whether participation in a learning community is independently associated with increased persistence. To answer that question we employed multivariate regression analysis of persistence to the following fall. First, we regressed student attributes on persistence, then added a variable

indicating whether the students participated in a learning community, that is whether they were in a learning community or comparison group. Finally, we regressed student attributes, participation in a learning community, and engagement on student persistence. We did so in order to ascertain to what degree the possible impact of learning communities upon persistence is a function of the fact that students in such learning communities are more engaged or a reflection of something specific about the learning community. Again, it should be noted that in the final regression we combine the separate factor scores on engagement (classrooms, classmates, and faculty) into one score that summarizes student engagement in those domains of activity. Since the dependent variable, persistence, is a 1,0 variable, we employed logit regression analysis. In this case, one interprets the beta coefficients as indicating how changes in an independent variable (e.g. being in a learning community) influences the probability of persisting to the following year. These results are presented in Tables 9 and 10.

**Table 9: Multivariate Regressions on Persistence to the Following Fall Among Learning Community and Comparison Group Students in Two-Year Institutions**

Variable	Beta	Beta	Beta
Highest Credential	-.006	-.006	-.006
Mother's Education	.028	.028	.028
Age	-.078**	-.075**	-.076**
Gender	.114	.107	.107
English First Language	.062	.055	.056
US Citizen	.517**	.524**	.522**
Ethnicity	.104	.114	.117
Learning Community		.217**	.212**
Engagement			.031

where \*\* indicates a significant relationship at the .001 level.



Turning first to two-year colleges, several findings are clear. First age and citizenship matter. Specifically older students and non-U.S. citizens do not persist as frequently as do younger students and those who are U.S. citizens. Second, participation in a learning community proves to be independently associated with persistence even after controlling for student attributes and differential patterns of engagement. Third, once one takes account of being in a learning community, differences in engagement are not significantly associated with persistence.

Results for four-year institutions are somewhat different. In these institutions, females are more likely to persist than males; U.S. citizens more likely than non-citizens, and students with higher educational credentials more likely than those with lesser credentials. As is the case for two-year colleges, students in learning communities are more likely to persist than comparison group students, even after controlling for student attributes. Differences in engagement, once we control for participation in a learning community, are not associated with the probability of persisting.

**Table 10: Multivariate Regressions on Persistence to the Following Fall among Learning Community and Comparison Group Students in Four-Year Institutions**

Variable	Beta	Beta	Beta
Highest Credential	-.211**	-.202**	-.203**
Mother's Education	.015	.013	.015
Age	-.103	-.064	-.067
Gender (female =1, male=0)	.317**	.326**	.321**
English First Language	.075	.068	.064
US Citizen	.948**	.975**	.975**
Ethnicity	.115	.142	.155
Learning Community		.412**	.393**
Engagement			.171

where \*\* indicates a significant relationship at the .001 level.

These latter findings are telling because it indicates that the impact of participation in a learning community on persistence is not taken up by the fact that students are more engaged in those communities. Rather they suggest that there is something specific about being in the learning communities we studied that promotes the persistence of academically under-prepared community college students. To understand why this might be the case, we now turn to the results of the qualitative case studies.

# Qualitative Findings: Understanding How Students Make Meaning of Learning Communities

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While our quantitative analysis serves to identify the existence of significant relationships between attributes, experiences, perceptions, intention and persistence, our qualitative analyses of student interviews provide important insights about the nuances of those relationships. The analyses of student interviews are organized into three major theme areas. First, we highlight how students described the learning community experience at Cerritos College, DeAnza College, and Cal State East Bay. Specifically we analyze *four* inter-related ways in which learning communities created a positive learning environment for students. Next, we present the benefits students identified that came from participating in these experiences, particularly how they provided a foundation or building blocks for future success and how the learning community fostered students' self-esteem and emerging identities as learners and college students. Finally, we discuss key factors that students emphasized in our interviews over 2-3 years as critical to their sustained, ongoing success (or lack of) at college. While clearly the evidence is strong about the foundational influence of the learning community experience, it was not always enough to help students navigate the diverse set of challenges and obstacles they faced at various points along the college journey. Students offered us important insights about when and how these issues became salient and various ways in which they got negotiated.

## ***The Learning Community Experience: Building a Positive Learning Environment***

Whether students were participating in a learning community that linked ESL Writing and credit-bearing History course (DeAnza), a Reading/Writing linked course (LART) (DeAnza), a House that linked a basic skills math, writing, and counseling/advising seminar (Cerritos), or a quarter long cluster (CSEB), students shared that they were

engaged in safe, stimulating, supportive learning environments due to relationships and sense of communities that emerged. As a result, students felt comfortable actively participating and speaking up in class, behaviors they cited that enhanced their learning. We will describe these environments and how they felt different from other “stand alone” classes or prior schooling experiences. These conditions for learning did not just “happen” because students moved from one class to another. We identified four, major, inter-related factors that created this safe, engaging learning environment. These factors provided students with a solid foundation for future academic success. They included:

1) Faculty employed key teaching strategies (active learning pedagogies, high expectations, fluid teacher-learner roles, and student validation) that promoted student success and a sense of belonging.

2) Peers were major sources of knowledge, support, and influence in developing routine habits and behaviors important to students’ success and immersion into college.

3) Participation in linked, integrated courses promoted deeper learning experiences, increased student interest and engagement, and was perceived to be more efficient and easier than stand-alone classes.

4) The learning community taught skills, habits, and competencies critical to navigating college and promoting their ongoing academic success.

### ***The Learning Community Environment: A Safe Place to Learn***

Our participants provided vivid reminders that many of them enter our college doors not feeling “safe” to learn. They often entered college afraid to speak in class. For native English speaking students, prior high school experiences seemed irrelevant and left them feeling disconnected, invalidated as knowers, and lacking any motivation to learn or excel. They consistently voiced how high school was a waste of time, they learned little from the lecture mode of class delivery, and spent few hours (if at all) studying. Quite simply, they were not engaged in the academic environment. For recent immigrant or non-native English speaking students, their lack of confidence in their academic abilities,

self-esteem, and identity as college students were directly tied to their ability to speak, read, and write English. Even if they came from strong prior educational experiences from their country, their identity as college students in the United States was primarily shaped through their perceived proficiency in the English language. Despite these different perspectives about why students felt uncomfortable entering college classrooms, the learning community experience consistently created a safe, engaging learning environment where students took risks and participated.

What were some of the characteristics that described these learning environments? Students expressed that a key condition for learning was the participation in an environment where students knew and trusted each other. These relationships increased their willingness to speak and learn from their peers. For example, Issac, who participated in a DeAnza LART (Language Arts), shared how “One of our students compared this class as more of a family, a small family. You go into the class and you’re like, ‘oh, Joe’s not here. I hope everything is ok.’ It’s a close-knit classroom...we were really able to share experiences, and I think it improved me a lot.” Sophie added:

The LART classes are really different from what I am used to. I’m not really a person who is interactive in class, but this is totally different compared past experiences. Here, in the circles we form, we hear more from students than the teachers, and I have never done anything like that before. I used to be pretty shy talking in front of people, and it has helped me get used to that and to be more open about participating.

Sue concurred: “Before I took the linked course, I always communicated with the teacher. Maybe it was just the atmosphere but now you spend so much more time with your classmates, and we are sort of a community. In this environment you become more confident, you become more alive, you become more responsible for your own opinions and you aren’t afraid to speak your views, you aren’t afraid to speak up.” Lisa (Cerritos) explained, “It’s like some students I had in other classes or high school will usually say ‘Oh you’re so dumb’ or whatever. But not in House B, they are like ‘Well, let me help you out. Let me show you how.’”

Jasmine's speech communication class at DeAnza gave her a discourse to describe her prior experience in the reading/writing linked learning community:

First of all in LinC it was a very friendly situation in class because we had so many class projects, we worked in a group. And every time our groups were changing. So by the end of class, we almost passed all students and knew everyone. It is like my speech teacher says. You have to create an atmosphere of safety, value, and friendliness in class. There was a very creative atmosphere of safety in my LinC class.

For Roberto, "working with the same people over two classes increased the comfort level where you can just go and ask a question, even if the instructor is not there.

When DeAnza students were asked to compare their LART experiences with their other classes, they consistently highlighted that the learning community was more personal and comfortable for learning. Robert explained: "In LART, it's more friendly. We just trust each other more. We're more glad to see each other." Nemo added, "In my other classes I don't talk to anyone. But in LART I'll talk to the randomest people ever! I'll go around and talk to someone in LART, and everyone is friendly, they will always talk with you." Finally, Elin explained, "It just is a little different in LART. The teachers give you more examples, they teach a little more and get more people involved by getting people to talk with people. For example, like when we did essays we get into little groups, do peer edits, people reading other people's papers and feeling comfortable to give real feedback. That's always helpful." Roberto shared: "It may be a little different. They are just more like they give you more examples, just teaching a little more and just more reading and more having people get involved. They emphasize that a lot in the LART class, just getting people involved and people talking with people." Trinh agreed, adding, "I like being in the learning class because it's so much interaction with other students, my classmates and with the teacher. And we, I think it's closer. We, our relationship is closer yea and with this close relationship is more comfortable for me to ask questions. It's still good to know each other in classes, and that is kind of motivation to go to class." Tiffany explained how the environments in LinC (LART) were different from her other stand-alone classes such as math.

In my math class, usually I just do my own work and there is no friendship involved in math class and outside of class. I won't say "hi" to my math classmates, but in my LinC class, I will talk to them and say "hi" because we are closer to each other and this is important to learn. You don't want to always feel alone and you always want someone who knows you and you can get more help. In my math class, if I have a problem, I will go first and ask the instructor. I will not ask my classmates because I don't know them. But in the LinC class, I will discuss my problems or questions with my classmates.

Several students participating in ESL linked learning communities emphasized how scared they were to begin their college classes mainly to their lack of English language proficiency. Students shared how participation in various learning communities enabled them to gain confidence and provided forums to share their anxieties and insecurities with their peers. The scheduling of back-to-back classes and/or sharing one or more classes with the same students also enabled them to continue their conversations during breaks or after classes. They were given more opportunities to practice their English since English was frequently the only common language they spoke and understood. Christopher highlighted the benefits of being in shared classes with other ESL students:

Being the same classes, it's comforting. You are scared and maybe somebody speaks much better than you and writes better so you feel more comfortable seeing the same faces everyday and you communicate more and more often, little by little. Now I have different friends, different faces every class but I got the confidence from seeing the same faces in the first cluster. I'm not afraid of saying anything now, but I was."

Clearly, students found the learning community classes as safe places to participate, take risks, and to learn. They spoke up, they got involved in classroom discussions, they shared their views. These modes of engagement enabled them to learn "better." They felt as if they belonged to a community of learners. We now turn to the four factors that were prevalent in fostering these comfortable, engaging learning experiences.

### *Learning Community Faculty*

These supportive, friendly, caring environments in a class did not just happen. Faculty provided key leadership in creating the conditions for active student engagement in and out of the class. Essentially, these students identified key behaviors they observed in their LC faculty that defined for them effective teaching. Both faculty members and

peers in the learning community shared important roles in students' learning, academic success, and transition to college. Key roles that faculty played included a) implementing active learning pedagogies; b) engaging in and modeling fluid teacher-learner roles; and c) caring about students and believing in students' ability to be successful (including advocating and having high expectations for students).

### Active learning pedagogies

The LC structure and pedagogical practices encouraged students to get to know each other, thereby increasing students' comfort level and level of trust required to be engaged. Faculty's use of group work was one of the most effective tools to foster student engagement and increased ease in participating. For example, Jasmine, a Black student from Sweden (DeAnza) reflected back about the importance of participating and group work:

I remember sitting in my English class for LART three years ago- I didn't know anybody at all. I didn't know what to expect and one thing that my teachers taught me very early is to value knowledge and don't be afraid to speak. They were very interested to hear my opinions, what I had to bring and at that time I was, I wasn't used to it that much. So, I was very hesitant, but you know, as the year passed by, as the quarter passed by, I noticed that it's very important to just speak up and hear other people's opinions. I also don't think that over 3 years that I've had a teacher who only solely focused on individual work. Some of them, you know, combine individual work as well as group work because they want to hear from different people and they want the students to engage as well. It makes the class more interesting.

Students recognized the power in collaborative learning experiences as opposed to learning in isolation. Song shared, "We were in the clusters together, sometimes we talk about like, 'oh what are we doing in class?' or like, 'I need help on writing my journals.' And we will just like talk about it. Instead of being like an individual thing, it's a group thing." Alana told us that English and the cluster classes got her interested in school and she performs well because of the group work stimulates her to get involved. However, she clarified that "If you look at me in math class, I am just the dope counting the ceiling lights, and it is really hard to focus." Jane shared that her teachers "cared more" in her house because

...in the other two classes, the teachers just lecture. They are talking heads. They get



in front of the class and talk, talk, talk. In the learning community, there is a lot more participation, conversation back and forth, and discussion about what we are doing.

Do we get it? We ask questions. Just a lot more interaction with teachers.

Attila (DeAnza) illustrated some concrete strategies employed by LC faculty that

challenged students to engage in and actively work to understand the material in class:

...instead of them making a point, like read a story or an essay, they don't just tell you the point of the essay. They start asking questions and they make you think and find out on your own, but with your classmates. They are not going to say to you 'this is the point of this class' you know, like a lecture class, 'this is how you have to do it.' No, they are going to make you work for it, you have to find out. And by the time you find out you actually know it and you're not going to forget it.

He added:

LART, what makes it good is the interaction with all the people. You just don't sit in class and have an old guy giving you some speech for an hour or two. In LART you don't fall asleep; you actually talk and that's the best way to learn. Those classes where they lecture—throw them out, fire the teacher, do something else.

Another means faculty employed to engage students was to connect the course content to the lives of faculty or students. Students learned when they thought the curriculum was relevant to real life issues they could identify with. For example,

Lalonnie shared:

This cluster is really interesting because most of the books we are reading and things we talk about in class are so real. It's like real life, things that you can actually talk about with other people outside the gender cluster. This cluster gives me solutions to some of the problems that we're going through nowadays. Here we are at 8 o'clock in the morning all raising our hands to talk. We are talking about important things that go on in life and everyone always has something to say about it. Learning about all this is really interesting. The teacher realizes it is time for her to sit back and listen to what we have to say.

ESL students highlighted some of the nuanced understandings held by ESL learning community faculty that they integrated into their teaching that were critical to student success. Maria, an ESL student from Russia, reflected back and compared her current nursing classes with her ESL learning community classes taken two year ago:

I ask myself the other day "Why is it still so hard for me to ask some questions?" Because the teachers don't want you to... if you have an exam, some teachers do not allow you to ask any question about some word you don't understand, but sometimes

it's very important! And I thought, okay, when I was an ESL student, it was much more easy to communicate because somehow, some teachers understand the issue of what it is to be an ESL student. They understand that you cannot explain your thoughts sometimes. Sometimes that you are ashamed to say something incorrectly, and sometimes you're put into stressful situations already, so why do they need to be more stressful? So they try to be much more supportive, at least they try to help a little bit. And also, some of our teachers in the ESL group, they created so many group activities, so when you talk with other students the same like you, first of all, you help them to understand better, and you kind of become more fluent in your English.

Students' perspectives emphasize that students taking basic skills classes value and are more deeply involved when faculty introduce meaningful group work, push the students to actively "work" with the course material as opposed to just digesting information, and make connections to students' real life experiences. These strategies along with understanding the unique anxieties and issues that ESL students face, promote stimulating learning environments for ESL students. The learning community models embrace these pedagogies and appear to be enacting them in meaningful ways. Another key factor promoting safe, engaging learning environments is the teacher-learning roles that were assumed in the various learning community models.

*Faculty collaboration leads to fluid faculty-student roles*

The students appreciated and provided concrete descriptions about *how* the teachers *worked together* to make the curricular links that enhanced both their learning and relationships with faculty. Jack (DeAnza) described this process in his learning community:

Not only does one teacher go over that material but the next day, the other teacher that I have in that same class, will review that and it's intertwined that way, and the teachers work together as well. They know what has been taught the day before and what they need to go over. Also, one teacher will grade our essay then she'll hand it off to the next teacher. I don't know how they grade after that, take an average or whatever, but you see there are notes on either side of the paper, one on the left side and one on the right side. It's cool not just to get one perspective but two. It improves your writing so much more. So that was a definite plus.

John (DeAnza) highlighted how the learning community structure enabled teachers to learn alongside the students:

What's nice also is that they'll sometimes sit on each other's class. That I found was very cool. Because then you really saw the classes were linked because the other teacher would sit in on the other teachers class on her off day, so and she would not sit there as a teacher, she would sit there as a student. She would take the opportunity to learn. So if they were reading poetry or something, and after all the students had a chance to answer, the other teacher would then take the opportunity to say well you could also look at it like this. And it was very nice, like we were just there to learn, so it made for a nice learning atmosphere. And the vice versa, the other teacher would then sit in the other's class, and it wasn't like we had two teacher at that time, one of the teachers was a student with us. So you really felt like they weren't talking down to you or at you, they were talking with you. I'm very impressed with LART. One hundred percent.

Kauli also thought the learning community cluster gave faculty the chance to be open to learning: "If one teacher like chairs, the other two will be there to listen and learn, just like us. They say that 'we are all here to learn' and I really like that attitude. They don't act like the teacher isn't always right, 'I'm the instructor, I have my PhD, call me doctor, and I'm always right.'" Alex (Cerritos) shared a similar view about the importance of faculty expressing an openness to learn:

All learning community teachers are really nice. They help us instead of the math teach doesn't let us speak. If we challenge him, he always wants to be right. He won't let us talk. The other ones says, "We are wrong." Tell us how we are wrong and how can we learn from you.

Faculty team teaching helped Jose feel "less dumb" and learning was more fun. He explained:

You are focusing on two opinions, two thoughts (team teaching). You are not bored. You are more focused. It's kind of fun. They tell you about their opinions, they want your opinion. They learn from us and we learn from them. They make everyone feel as if they are just as smart as everyone else. No one is dummer than anyone else (Jose, Cerritos)

Students valued observing faculty moving from fluid teacher-learner roles. This modeling sent messages to students that they too can move from expert to learner depending upon their own knowledge and expertise. In addition, teachers who took on the "student" or "learner" mode sent a powerful message to students that "it is ok" to ask questions, to seek out understanding, to take risks and ask for clarification. These behaviors all contributed to creating an environment safe and comfortable to learn.

*Faculty members who care, advocate, and have high expectations*

Danielle emphasized how LC faculty combined active learning strategies with a passion about their students and teaching:

I told my daughter, if I could only go back to Cerritos—it just isn't friendly here. If the instructor would encourage students to please exchange phone numbers, exchange this, do study groups, convince us to participate in class, but maybe the instructor doesn't like that. So the teaching methods here are different—it's all cut and dry, here's here your class, here is your book, here's your assignment. See you and there's no passing. The teaching passion is missing.

She later added, "Our teachers are so passionate about what they are doing...it is much more fun, interesting, and motivational for us as a student to meet a teacher that cares. Judy expanded on how teachers in the House model at Cerritos showed they cared and how those actions contradicted her prior notions about professors:

I thought college would be really cold. From what I had heard, you're just there in class, the teacher gives the lecture and she doesn't care. If you do the homework, she doesn't care. If you even show up or not, the teacher doesn't care. When I took the First Year Experience, I even had two teachers call me at my house when I wasn't showing up for a week. They called me to say are you okay? What's going on? Can we help you? When somebody cares for you, especially when you're just coming out of high school, you really get motivated to do your homework and go to class.

Faculty not only believed in students' success and worked to validate the student, but also held their students to high expectations. Jasmine's (DeAnza) comments reflected the well-understood tenet that high expectations combined with support and encouragement leads to improved academic success. She shared how she felt about that first quarter LART Writing course and the instructor's role:

In the beginning, I was not confident in my writing, but you know, she came up to me and said, "You know, I don't want you to be discouraged. I am here to help you and when you see the results later on, you'll realize that, okay, you know, I can do this!"  
Peer support

In addition to faculty, *fellow classmates* also played a key role in promoting student success. Their peers in the cluster often created a shared sense of purpose and serious atmosphere for studying. However, students consistently emphasized that they had to get to know their peers *before* they would seek them out for support in class. Krystal pointed out that after the second term of the cluster, “We were getting closer and hanging out a lot during breaks. We can talk to each other or plan together to work on a paper.” She added, “The other classes, when I don’t have clusters, I don’t talk to anyone in class. I tried getting a study group together but it didn’t work.” Song said “I have a class by myself without my friends—Computer Science. It is really hard but if I have a question, I hesitate to ask help from other classmates. ‘Should I talk to her? I don’t know her...or should I ask the teacher? I don’t know the teacher!’” Clearly, in her non-learning community class, Krystal and Song felt inhibited to seek out help in the absence of established relationships with faculty and students.

Students also valued being able to share anxieties about college:

Arzucon explained:

In the beginning when I started I was kind of scared but in the GS (General Studies) class and we were all sitting in circles getting to know each other and found out we have a lot in common. Some people in my class they know how hard it is to go to college and what it takes to go to college. In the beginning I was like I probably don’t know anyone, how things work, but everyone was new so we all helped each other out and stuff.

Jasmine described similar experiences:

We all listen to each other and we’re not afraid to like make the suggestions. It all happens ‘cause the teachers helped us and know each other and open up to each other. When I first when I was first coming to school I was like oh, I’m going to fail ‘cause I haven’t been in school forever and but now it’s been good. I’m not afraid to ask anybody for help or what do you think about this? We’ve all been helping each other.

Clearly, the active learning pedagogy employed by the instructors in these various learning community models fostered the friendships described above; these relationships became central vehicles for learning and immersed students in an academic environment. In other words, students believed that learning arose best from social relationships formed during meaningful group work. They created an extended, serious atmosphere for

studying/learning that typically was dramatically different from that of students who attended U.S. high schools. Stan described how at DeAnza, “There are a lot more people in my LinC that are more serious behind what they’re doing. So I mean, that helps out as far as your learning environment. Um, you can set up study groups and everybody there can get stuff accomplished. As far as high school, none of that. Its like, soon as that bell rung, I was out of there. And you don’t want to think about class at all. That isn’t the case here.” Their learning together extended beyond the classroom walls. Their conversations continued into breaks, into study groups, and over the phone. They were taking their studies seriously and were surrounded by a peer group that supported their academic endeavors. They felt part of a family environment that encouraged their participation and engagement.

Learning was not a one-way street. Students also learned from the opportunity to help or teach their peers. In one focus group exchange, Cheryl and Jay described the benefits of the fluid teaching-learning process. Cheryl pointed out, “I found like working the groups, if somebody doesn’t know how to do it you can explain it to somebody else.” Jay concurred: “Once you like, talk to another person and you try to explain it, it stays in your mind.” Juan agreed, “You really don’t know something unless you teach it. So like most people, sometimes they don’t understand it so if I teach it to them, I’ll understand it even better.” Gina, from a CSUB cluster, used peers to help improve her writing: “I would ask one of my peers if my thesis was clear and he would help me out because he was a stronger writer than I am.”

Students also valued the learning that came from listening to peers’ diverse perspectives in class. Rose (Cerritos) shared, “I prefer to work by myself but whenever we had group work, I found that not only do you learn better but you get to hear other people’s perspectives and you know, whatever area you’re working on which is very important, and also there’s always something that you learn from working with other people.”

The learning community structure that encouraged them to get to know each other and to see each other regularly also facilitated student efforts to keep each other

motivated, focused, and “on task.” Jasmine (CSEB) shared, “When you are in the cluster, you will ask ‘Have you done your paper yet?’ and we’re like ‘no’ then we all agree we have to start on it, stop procrastinating, and encourage each other.” Song (CSEB) recounted how she was stressing out about the amount of information she had to learn for Ancient History until her friends made it easier for her. She explained “We would talk about it, not only during class but after or on the phone. If we did go out, we would talk about it again. We helped each other out because we saw each other often, not just in one class but in several.” Max (DeAnza) explained: “We motivate each other and we keep each other on track. Cherry and I are in these classes together so we usually are doing our homework together. We have discussions with ourselves, sometimes heated discussions on a lot of different topics. When we get back to class we know what we want to talk about, ask about, what we want to present. So it helps to have get friends to help you with essays, readings, discussion topics.” Marie, also from DeAnza, shared that “The LART class was the very first class I took. You get phone numbers, you exchange emails ... You used group members to improve your skills and it is a little harsh to get criticism from the teacher as opposed to your peers. So we had our peers look over our papers first which is really cool. We did peer editing. We go into the computer lab and peer edit our friends’ papers.” These examples reflect how learning among peers continued outside the classroom walls and peer involvement in their studies was important to their success. Peers also played an invaluable role in study groups, which is discussed more specifically in a later section.

Students’ appreciation of their peers in the learning process continued after the first term. A year later Amari (CSEB) explained how students in her cluster still take the same classes together because of the benefits gained. “We help each other with the homework, we help each other with corrected papers, we help each other all the time so nobody was lost.” Over time, for some students, these relationships also moved from depending on peers to more interdependent relationships. As Anna (CSEB) shared, “I was so dependent on everyone else to show me a pathway. Now I know I can do it on my own. I just needed my friends here to push me. I feel more happy.”

Based on students' perspectives of their learning community experiences, faculty and students played major roles in helping them feel more confident in their ability to succeed in college, less alone, and more supported in their studies. Clearly, these learning community experiences demonstrated ways in which the teaching-learning roles could be fluid among peers and instructors, leading students to take more responsibility for their learning and considering their peers and themselves as sources of knowledge. Concrete ways in which they accomplished these integrated experiences that students found were more fun, convenient, easier, and efficient are discussed in the next section.

*Faculty fostered interdisciplinary connections and learning experiences*

One of the most important ways in which faculty also promoted deep learning experiences for students was by working together with the other learning community faculty colleagues to provide an integrated, coherent curriculum. These connected experiences were facilitated in concrete ways by teachers working together to link the course content, to coordinate assignments and activities so they complemented and built upon each other, and to provide opportunities for faculty to move seamlessly back and forth from teacher-learner roles. Students used different expressions to describe how the curriculum across the learning communities linked. Stephen (DeAnza) explained that LART was like a "puzzle." He continued, "You get this big picture. Every day, they give us piece by piece and by the end it all connects together. The teachers have us figure out how to put it together. You have time to focus and absorb everything. The teachers take turns and build upon each other's topics and then we get a deeper understanding of everything." Jay also thought of LART as a puzzle and explained why: "It's like a puzzle, each day the teachers would give us a piece of the piece and at the end they would just connect tighter, but we would be the one that would put it together on our own. And then, we would get like an understanding of everything." John (DeAnza) used a different analogy to explain the integration of the reading/writing linked curriculum. He said, "The class is intertwined, like two colors joined into one; they just come together nicely. I actually think that other people who have their classes split up as opposed to us are missing out and not learning as much as we are." Eric laughed when he described that "it



got kind of funny because sometimes I was sitting there in going ‘What class is this now?’”

What learning benefits did students derive from participating in these seamless learning environments? Students shared how courses that linked the curriculum and coordinated assignments led to deeper learning experiences, increased engagement with the course materials, and their motivation to learn was enhanced. Finally students claimed that learning in an integrated fashion was also easier and a more efficient use of their time.

Students provided concrete examples of how teachers worked to develop curricular connections that promoted their learning. Ivy, a student in the Science and Technology cluster at CSEB could identify the curricular links and also explain how these connections enhanced learning and academic success:

We had to do a research paper for the science class but before we turned it in, we had to make a presentation about the material to our GS class. So you would have to know what you’re actually going to write in the paper if you want to be able to present about it. So it was helpful in using the presentation to get us organized and to write a better paper for another class. Also, in the philosophy class, we had to write a paper on the ethical and moral issues we were discussing in the science class.

Vera shared an example from her Healthy Living Cluster about ways in which curricular integration led to richer, “deeper” learning experiences:

In our GS class we had to do a presentation about subjects we were learning in chemistry. So I learned the subject matter better in chemistry in getting ready for the speech. Then my English teacher had us write an essay about the significance of chemistry. We had to persuade students to take chemistry—how it’s necessary and important in everyday life. So in all this you’re developing your writing skills, your speech skills, and you are learning chemistry. It’s like you are developing different skills but you are learning the same thing in a deeper way.

Students voiced that linking the class curriculum enhanced their learning but also led to increased engagement, motivation, and focus. An ESL student taking a linked accounting and ESL writing course shared how “the relationship in classes between accounting and ESL is helping a lot because the accounting professor is teaching us to

answer questions in complete sentences—to write better. And we are more motivated to learn vocabulary because it is accounting vocabulary—something we want to learn about. I am learning accounting better by learning the accounting language.” Kauli (CSEB) shared some of the excitement that came from her enhanced understanding of her class material: “I mean, you’re working on reading in one class which totally helps you in your writing class. Everything works together and I think you’re building your skills so much faster because you’re being able to compare it. One day you are seeing this and the other day you are seeing that and you say yes! That goes together.” Gina added how these links increased her interest level in the subject matter: “At first it all seemed like a lot of information, but because they all connected it worked really well so you don’t just get one topic and get bored after all. Instead you get three different topics connecting into one bigger one—it’s more interesting.” Kayla (CSEB) thought her English/Science cluster encouraged her to concentrate more: “I kind of hear a repeat even though it’s a different teacher. I think that’s good because you have a better understanding of the material when it is taught more. Usually, like high school, you go to History which is a totally different subject from English. Here you are more focused on one topic, you can concentrate more.”

As Kayla suggested, students thought it just made more sense to integrate the courses because they were able to revisit the material more regularly and they had more assignments that built upon the knowledge they had gained or were expected to learn. Their interest level in the subject matter increased and they were excited to learn. In particular, students emphasized the importance and benefits of linking *reading* and *writing* courses. John (DeAnza) explained:

I’ll read in class and not just read and analyze it; we would actually run with it in the writing class, and then actually get to apply what we analyzed in our reading class. It doesn’t feel like you’re taking two completely off the wall classes. You learn to become a well-rounded reader and writer at the same time. And I don’t think, you think you’d get that from the other classes, but I don’t think it flows as smoothly as our class does thanks to how the teachers work together. For example, Julie [instructor], she’d say, “ok we’re going to stop here and you’re going to be doing a little more of this with Nicole [instructor].” So she’ll, they know, they pretty much know each others curriculum, like that they’re doing, so they’ll try to see where they can connect to transition over to each other and make it smooth, which was nice.

Attila (DeAnza) captured the view that linking reading and writing courses was common sense as he shared: “If you write you have to read something to write about. They just go hand and hand. Just like smoking and drinking. If you’re drinking, you know some people have to have a cigarette in their hand to do it.”

Students also thought this integrated approach resulted in less work. Stan (DeAnza) argued, “They try and they try and lessen our work load by conjoining both classes together so usually as, one class will relate to the other one instead of dividing it into separate classes where we read two different books, we read the same book and do the same work for both classes.”

Students who took ESL courses linked with credit bearing courses also experienced similar benefits from curricular integration such as enhanced learning, increased confidence and motivation to learn. This integrated structure also provided a vehicle to address some of the unique learning needs related to English reading, writing, and speech acquisition. For example, Tiffany took an ESL course linked with a history course. The small ESL class (about 20 students) also enrolled together in a larger 40-person History class that included native English speaking students. Tiffany (DeAnza) shared that they had to read a difficult novel in History—*The Last of the Mohicans*. She explained:

*The Last of the Mohicans* and the language is old English and they are about the Indian natives and the sometimes it is confusing because it will jump from one place to another place. And because we had an ESL 5 and actually how we write a better essay for both History and ESL 5, and we shared papers. We know everyone in ESL, we don’t write perfect English, or even though my grammar was not good, they wouldn’t like laugh at me or like make me feel embarrassed. So we just open and sharing our paper and give our opinions. It helps me have more courage and I think I did better in History because of it.

She also described how all the students were responsible for doing a presentation in History and the ESL students actually presented their work in the ESL 5 class, with the History professor in attendance. This format enabled them to feel more comfortable and reduced the anticipated stress they would feel in front of the History class with many

native English speakers. Tiffany chuckled and shared that ironically her ESL teachers and History teacher both agreed that the ESL student presentations were of higher quality than the ones given by their native English-speaking peers. She exclaimed, “That really made us feel great!”

Students also shared how once they completed the cluster experience, they still made efforts analyze ways in which the courses inter-related. They sought to make these interdisciplinary links because it enabled them to learn the required material more deeply and more easily. For example, Ijay (CSEB) shared:

Last quarter in anatomy we focused on the bones and muscles and the heart and things like that. We learned how muscles contracted. But in chemistry we learned about the chemicals and ways that the chemicals were involved in muscles contracting. *The cluster experience encouraged that, making those connections* (emphasis added). When I started the chemistry class, I remembered what we did in the anatomy class so it was a lot easier for me than other people who hadn’t taken that class yet. And in psychology class—Introduction to Psychology and Health—most of the stuff we talked about in anatomy, we’re talking about now—like the brain, how it works. I find myself pulling the information from that class to understand this one.

Several students reported that they would postpone taking English classes until another linked learning community option became available because of the valued they placed on the integrated experience. They wanted to take a LinC course and would drop out a quarter until they could get enrolled. When DeAnza College learned that students were being closed out of the learning community courses because of their low registration priority, they changed the policy to give current LinC or LART students priority in registering for additional learning community classes.

Thanks to the efforts of faculty working together, the learning community experience clearly appeared to foster interdisciplinary links that students described as more relevant, interesting, deep, and “better.” Students argued that these integrated experiences were more efficient, easier, and fostered more understanding and comprehension. These experiences shaped their future efforts to find similar connections and coherence in these coursework, thereby fostering ongoing richer learning opportunities.

*Learning to succeed: Importance of new student seminars, tutoring, and study groups*

The learning community environment emphasized the use of informal (e.g. study groups) and formal (e.g. tutoring, new student seminars) strategies. The learning community initiatives across these campuses provided a conduit to an array of campus support services, typically through the new student seminar or counselor assigned to the learning community. In addition, these programs and learning community professors reinforced critical habits and skills essential to their success, particularly incorporating tutoring and study groups into their weekly schedules and routines. These activities all contributed to engaging students more deeply into their college pursuits, spending more hours studying, and taking their studies more seriously. In this section, we focus on the influence of a) linked new student seminars; and b) tutoring, and study groups on promoting student identities as serious and successful college students.

The LC House A and B programs at Cerritos College offered a credit-bearing new student seminar course (Career and Guidance) linked to math, reading, and writing basic skills courses. In a focus group with Cerritos students, several students commented on what they learned in the Career and Guidance seminar: Maria explained: “We don’t know how college works. We don’t know the difference between grants, loans, scholarships and all that stuff. Also, we don’t know the credits, the grades, the letter grades, and GPA—how all that works. The class [Career and Guidance] is good for letting you know all that.” Elisabeth reflected back to the influence of the course at the end of her 2<sup>nd</sup> year at Cerritos:

My First Year Experience, I really remember it the best because I’m much older and I’m coming back to school and I remember we were taking the CG with math and Writing. Every time we got together with the counselor, she would always tell the whole class you guys can do it, don’t give up because math is always a scary thing. Even though it was a CG, she taught us problem solving that we could use for the math. So it, she did a really good job to combine both of them and um she always had her door open. She always told us if you guys need any help, you know, come and see me and um she was really open. It was, that really helped me especially to just be able to go up to her and still when I see her on campus and I have a question, I run to her and I say you know what’s this or this and she’s really happy to help. So that experience to me was awesome.

Mack reinforced the important validating role that the counselors teaching Career and Guidance course played:

My First Year Experience, it was a very positive one. I learned how I focus and how I go about just starting projects and finishing them or even learning how to stay with it and not give up and say okay, you know, that's enough. I'm wasting my time. Actually, you're not when you're talking about your education and your future. And the teacher, she's a counselor and she was always positive. And I just, it amazed me. I said where does she get her enthusiasm? You know, every day it's the same so I guess it's just a drive, a love of how students learn to grow, to prosper. And it's amazing. It was very positive. And I didn't need this course but I thought maybe I'll learning something. I was surprised that I learned as much as I did.

Megan identified concrete ways in which the course and the integrated House learning community helped her transition to college:

What helped me [transition to college] I think was the First Year Experience. It was great because you're coming to college to and really you don't know where to go, where to start. You want to become something but you don't know what classes to take or who to ask for help and it helped me because it gave me like a foundation of where to go... what classes you can take. Also, since all the classes are connected so if I was having a problem in math, the English teacher would like try to help us um for us improve math so that we're all connected so it really helped us to improve.

Betty did not appreciate the non-credit bearing aspect of the CG class but still recognized its benefits:

It did kind of piss me off too like when I found out like they weren't credit but what I really liked is that the teachers helped you make sure that you picked classes that you needed. Like I mean if you go to some counselors they'll just be like oh yea, if you want to do this just take this and take this and then would assign you all these classes and then you find out that I really didn't need that class. In the CG 200 class they broke down all the requirements. I felt a lot more confident and I would always tell someone that you need to take this class. It doesn't matter, you just take it. I like that my CG 200 teachers were real honest with me. And they helped me feel like confident that like I knew what I was doing, I wasn't just some dumb college student you know taking classes like they made you feel good for like what you were doing. They made you just want to keep coming to school. So that's what I liked.

Elizabeth found the CG section that addressed learning style preferences as instrumental in helping her understand her past and current educational experiences:

I learned that I was a visual person, you know, it's like oh my goodness, that's why I didn't like school the first time around cause everything you had to read. The learning community, they taught us what is the best way you learn and for me it was visual. So with the math class the teacher, when she was doing, that's when it clicked for me. Not when she was explaining, it was when she was doing it. So I had to learn how to um prepare for a test, being more than usual, they taught us to use flash cards, um so just a different style that you're not used to. I also learned time management I'm a mother and I'm a student and I work part-time too, so it was so funny how the math teacher always told us for every hour you're here, you have to study two hours and it's like are you crazy? But it's true; they taught us how to prioritize.

These courses, combined with articulated teacher expectations, pointed out that students had to study, unlike their high school experience. We learned that the number of reported hours that students studied changed over the course of our study. During the first term, during the learning community experience, students shared they were studying “a lot.” When asked, “What is a lot?” they responded between four to six hours per week. By the end of two years, however, many were studying 15 to 20 hours per week.

The new student seminars clearly taught students some of the “cultural capita” required to understand and navigate the college system. They developed strategies and a web of resources for understanding what courses they needed to take and why. The instructors became advisors, confidants, and their biggest cheerleaders. The experience contributed to their sense of validation and college student identity. Finally, these courses taught students critical time management and study skills.

Tutoring was another vehicle for not only enhancing students' understanding of the required course material, but also keeping them on campus, immersed in their studies and spending “time on task”, and developing their college-student identities. For example, Mack at Cerritos described: “I always go to math tutoring. I get as much help as I can. At 11 o'clock I've got the English tutoring—for an hour we go over our papers and support each other, critique papers we've written, and it gives you a chance you know...and you get a different perspective on your ideas and what you've written.”

Our interview data are rich with countless descriptions of the experience and benefits of study group participation. Most students had never participated or even considered

these forums for studying in high school. Faculty used the learning community classes as to reinforce the importance of study groups. Note, it was not enough for students to be *encouraged* to participate in study groups. Students describe that they had to first feel comfortable with one another, and they had to be taught the benefits of and ideas about *how* to set up and facilitate these forums. At Cal State East Bay, many faculty not only emphasized forming study groups but also put in structures and motivations for students to do so. For example, in one GS class at CSEB, the instructor put the study groups continually on the board as various tests and exams were coming up on the schedule. Students did not leave the class until they had their “group” and had set aside time to meet. Other faculty offered extra credit for study group participation. Anna explained how faculty used Blackboard to organize study groups: “They told us to have an open bulletin board on blackboard like ‘study group at this time during class’ and everyone is more than welcome to join.”

The scheduling of study groups was easier at Cal State East Bay since students all were in the same classes together and had similar breaks in the day. As Vera explained, “Clusters are really good because since you have the same classes you can have study groups. Since your schedule is almost the same, it’s easier to find times to get together to study for the test.” Amari added, “...all of our classes are together ‘cause we study together, we help each other with the homework, we help each other with corrected papers, we help each other just like period, all together. So this quarter we decided that we were going to all take the same classes at the same time so nobody was lost, so we were all on the same page.”

Allison (CSEB) shared some concrete ways in which she benefited from study groups:

I have study groups—in my remedial English class where we actually get together and write papers together, or research topics together. And I actually, I have them all in my English class now and I have them all in sociology with me. We will just get together out of knowing each other now, and ok, I have to write this paper, let’s go to the library, or, I haven’t had library class yet, have you had it yet? We’ll teach you how to use it.



Angelica also described how her study group helped her academically:

We all know what our hardest subject is, we all have the same classes. We talk about it, I don't know, and just like, we know that we want to do good 'cause we're in college for a reason, you know. We want to, you know, be successful so we want to do our best. And, I don't know, we just started talking and I just like one of my friends, you know, if she wanted to get together. And she said ok, and all of a sudden, it's like a big group, you know. Everybody is like, 'Oh, I want to study.' We did very well. It's like everyone walked out of there with like at least a B for the midterm. You know, they really work.

Jasmine also experienced the benefits of using study groups for midterms:

One thing that really has been successful is again, working with, having study sessions it's very helpful um, if you're in the same class, get together with your peers and study together. I remember in one class, we had a study session for our midterm. And it worked really great, because a lot of times, uh I thought that if I didn't understand something, that I was the only one who didn't get it then you find out that there are more people who are in the same path as you are, so just getting together and study and study some more.

Jasmine used the study groups as a mechanism to increase the time dedicated to studying.

Michelle (CSEB) pointed out how she attributed her involvement in study groups as one of the reasons she was doing better academically in college than in high school:

I am most proud that in high school I only got a 3.0 but here I have a 3.5, and I think the difference is here we study together and most of my friends are in all my classes. So I can concentrate more. There are about five or six of us that meet in the library, and there are private rooms for us to study, and we talk about what will be in the midterm and explain things to each other that we don't understand.

Peers involved in study groups were considered sources of support and knowledge.

Maria participated in study groups in her ESL learning community classes and gained an appreciation of the benefits of learning together with her peers. These lessons came in handy when two years later she was in what she considered a hostile nursing curriculum. However, she explained that she knew she could count on her peers and together they developed quite elaborate interventions to see that each other succeeded in the absence of faculty support. She explained:

We survived second quarter, and then third quarter it became much, much worse, and people just started to disappear from our program. Then we started to think, “Okay, what can we do?” And we decided to make support for each other. We decided to do some lecture together, we have some people who can type so we give some additional information, and we have a website for our group, and also we decided that, for example, if you go into some clinical facility, and the hospital didn’t provide you with information, but we’re supposed to have this information, so the students have some tips about it, and then again we put it on a website... we have a website, and a database, and we created a group, and if somebody has some information about... the code for the supply room, or where to find syringes, or this and that, everybody puts the information on this website, and we print it and have hard copy to put in our binders and take it with you.

The interviewer asked who initiated this group. Maria explained:

We came up together, when we became stressful, we thought “Okay, what can we do?” Because we have to survive, so if nobody cares about us, we have to care about ourselves somehow. So, what we can do? So this is how we came up with the idea to come up with the website, the lecture stuff. Everyone takes turns typing up the lecture, so everyone can use it, and you can put your own notes on the addition pages. Sometimes we’ll tape the lectures, and if someone has a tape recorder, they will type it... We have five people with tape recorders, and some of the girls have very good writing skills, and will write the lecture, scan it, and give it to our group. But, sometimes we still don’t have time to put everything together, so some people will do what they have time for. To have some part of it. There are about 20 or 22 people in our class and everybody participated a little bit. When you have some support group, it’s much more... helpful. Why put yourself in stressful situations when you don’t have to. So this is very helpful.

The collaborative work of students to contribute to one another’s success, particularly absent faculty support, is impressive. Maria asserted that her value of peers in enhancing her educational experiences was fostered in her initial ESL learning community. She has demonstrated the strength of peer learning and support, particularly in a hostile, “survival of the fittest” learning environment.

The student perspectives highlight concrete ways in which study groups enabled students to learn material more thoroughly and to stay focused and engaged in their academic work. These students faced endless “distractions” in their lives (e.g. work, family responsibilities). They also identified how they struggled with time management and organization of their studies. The study group provided a vehicle to address these

areas of development. Many students, as shared, also continued these groups into future courses.

### ***Benefits Gained from Learning Community Participation***

The learning communities at the various institutions studied clearly were successful in developing safe, meaningful, engaging learning environments in which students felt validated and that they could succeed. Faculty, learning community peers, an integrated curriculum, and formalized programs to foster study skills, time on task, and time management skills also contributed to fostering a community of learners where it was safe, fun, and motivating to learn. We now turn to examining what overall benefits, *particularly over time*, students recognized from participation in these learning community experiences. What did students learn about themselves? In what ways did the learning community shape their identities as learners and college students? How did their involvement shape their academic progress and success?

Two central themes emerged in response to these issues. First, many students expressed ways in which their learning community involvement and learning community structure laid a solid foundation for their college experience. The foundation set them in the “right” direction; what they learned from the learning community served them well in navigating many challenges that would unfold in the year(s) ahead. Second, the experience shaped their identities as learners and college students. As a result, they were able to better understand their needs and interests as learners and how to respond to these needs. They also felt as if they “belonged” at the institution *and* in college. They shared they were more committed to pursue their goals, particularly to continue their studies and graduate.

#### *Learning community involvement establishes the foundation for academic success*

Over two years of interviews, students shared continually that their learning community involvement was instrumental to their initiation to college, setting them on

track, and providing *structures* and experiences to help them be successful. They recognized and appreciated the structures in place *for* them, because they probably would not have understood their importance or value when they arrived. Many of the native English-speaking students actually resented being placed into basic skills classes; however, it did not take them long to share how important these experiences were.

The most frequently cited reasons why students enrolled in learning communities were: a) they thought it might be “less” work; b) the course schedule was convenient; and c) a counselor advised them to take it. They had no real understanding of the underlying assumptions or goals of the learning community program. Therefore, their expectations for the learning community experience were rather low or non-existent.

For students at CSEB who were required to take clusters, many of them initially resented the fixed set of classes and schedules over two years. However, students came to value the many benefits from the cluster system, benefits they did not recognize when we first interviewed. For example, students talked about how the cluster system exposed them to courses they would not have chosen on their own, opening up their mind and gaining knowledge in areas that were new and interesting to them. As Shari described: “My cluster, I didn’t choose it, I actually had to take it um kind of by default and I, it helped me be more open-minded ‘cause it wouldn’t have been a cluster I would have chosen. It was Gender in the Arts and I didn’t think I would like it. It just wasn’t something I would take. But now the information I learned is stuff I think about every day.” Anna was rather direct in her assessment:

I remember hating the idea of the clusters when I first started because I thought the courses were so ridiculous, and like why do I need to learn about ancient art? What does it have to do with me? But now I’m slowly learning to accept it, and that these classes can help you improve in life and may help you. Last quarter I took geology—it’s all about rocks and it was interesting. It was talking about earthquakes, how you know, there’s a fault in Hayward and that geologists predict will cause a big earthquake. I mean I never knew that geology could be that interesting, so the clusters have given me another perspective. I mean it grew on me.

Arzucon added: “I think it [clustered classes] opened my eyes up to a lot of new things that I never would have known. I never would have taken those classes. But it was

interesting and maybe later on if I decide to do something besides criminal justice, I know other areas to pursue that interest me.”

Students also gained a richer appreciation over time about how the CSEB cluster system moved them through the general education requirements in a timely way, particularly after learning more about their friends’ experiences at other colleges. As Kayla shared: “The reason why they put you in these clusters so that they can keep you on track, so that you won’t be confused and you can help and ask your other peers.” Jasmine complained that she didn’t like the timing of her cluster classes but the cluster system “will let you catch up and actually help you finish your GE. You don’t waste any time, which is good. It helps you focus. And some of the courses actually count for GE and your major.” Jose pointed out:

Without the clusters, honestly, I would have been lost because I wouldn’t have known what to take. My girlfriend [who attends another college], she supposed to take this class but the class is already full. So she ends up taking a class she doesn’t need so she can keep her financial aid. With the clusters, there are the same people so you know your space is there. In my girlfriend’s case, she can’t even plan what she is going to take next quarter but in my case, I know exactly what I am taking.

Amari’s experiences were similar:

I think the cluster is helpful because there are a lot of people I know at other universities that have taken classes that don’t even pertain to them, they are going an extra year because they didn’t know what they were doing. They didn’t have counselors to talk to like we did in our GS either. So it is a good system to help you get the basics out and at least you know you have accomplished your Associates and now you are working toward your Bachelor’s. So it is set up to help you.

Allison really appreciated that the cluster system helped her take her basic skills classes and enabled her to still develop a schedule that did not put her behind. She explained, “The cluster system helped me take those two remedial courses but I’m not losing anything by having taken them.” The clusters worked to move students through the college requirements in a systematic, intentional way so students have access to key courses (and are not closed out), even when initially students did not recognize these nuances. This approach is particularly beneficial to first-generation students who often do

not know how to organize general education class requirements, major requirements, or basic skills classes so they can stay on track to graduate in four years.

The learning community experience also was foundational for many students participating in the Houses at Cerritos College and LARTs at DeAnza. Maria (Cerritos) shared a year after participating in House A: “This experience in House A, like I said, is like the foundation of a building. It’s teaching me to overcome obstacles in school. That’s something I like. They are teaching us how to prepare ourselves for what is to come, how to see it in a positive way, not a negative way, and that’s a good way to learn.” When John was asked after a year at DeAnza, “What experiences have been the most important to your success and feeling as if you belong?” John shared:

Taking LART 100 was one stepping stone for me, ‘cause before I was just taking German classes. When I took the LART, you got sense, the feeling that they really wanted to get you off on the right foot for your college life. So they really offered you a lot of resources, not just within reading and writing and English, but they would bring in the counselors and bring in outside people. That showed us that people are interested in the students, like they brought you guys in. It was really showing us that there are resources out there helping us, and really supporting students.

Mack at Cerritos cited the following ways in which his House experience provided a solid transition to college. In response an interviewer’s question about the benefits of the LC experience he participated in two years ago, he explained:

...The learning community program, they give you an opportunity to work more with your classmates where in other classes you don’t get that chance. In English, they always want you to get into study groups, talk about ideas but in other classes they don’t promote making you do it. Once you know how to do it, you get comfortable with you; you just continue on initiating study groups in other classes even if the professor won’t. In learning communities they say you have to go meet with people outside of class. So you know you go okay, okay, I’ll give up this time and do this and you’re used to it and you make the sacrifice....

We also asked students about the benefits of the required basic skills classes. Many native English-speaking students initially were frustrated to be placed in courses that “didn’t count” for graduation requirements. Note, ESL students were open and actively

seeking classes that would increase their confidence in speaking, reading, and writing English. We had one student who insisted she tested “too high” and wanted to be in a lower level English course so she didn’t “miss” anything.

However, quickly over the first term and over time, the perspectives of native, English-speaking students changed. For example, Stan explained:

I am told LART 100 is going to help you get into English 1A that’s going to teach you how to write like a better person—to be a better reader, writer, and thinker. And it gives us a strong foundation to go into our next class. And you know if you don’t have the skills required to, you can’t start running before you can walk, right?

Note, we heard repeatedly from students at various institutions that the faculty teaching these basic skills courses framed their course as a wonderful opportunity to develop skills and knowledge that would serve them well in college. We did not have one interview in which students described themselves as part of a “developmental,” “remedial” or “basic skills” *program*. Rather, they described how they took required basic skills or developmental or remedial classes because they didn’t do well on the placement test and/or missed some “stuff” in high school. They framed their classes as part of a learning community or cluster or LinC or LART but not as a developmental education program or developmental education program. As one student explained, “I didn’t come here under-developed. I was just under-prepared. I didn’t have the opportunity to learn how to write in my high school and appreciate I have the chance now.” Students did not perceive these courses as tests to see if students belonged or to focus on deficiencies that students had. They did not feel as if they had something to prove to the institutions. These experiences were empowering, and as explained in the next theme area, integral to shaping their college student identities. Some students, such as Anna from CSEB, perceived that the basic skills classes enabled them to be more successful in baccalaureate English classes than their peers who did not place into basic skills courses. Anna shared:

My peers gave me a hard time about the remedial classes. I don’t know if they were teasing or just saying that because they started off higher. I remember my teachers saying in remedial classes they teach us more. We know the basics and

when you take English 1000, they assume you have the basics. But in high school, you don't really remember and those who didn't take the remedial classes, I found they really struggled with English. They didn't know the structure that I learned in remedial classes. I have taken all my English and done great. I know the basics from doing a year of remedial. I think all people should start off with remedial. You benefit and learn more.

*Learning communities promoted student identities as learners and college students*

Students' views highlighted how students' sense of self as learners and confidence in their abilities to succeed and to belong at college were intricately tied to their learning community experiences. When we asked students what they had learned from the learning community, they clearly had become more aware of their needs and responsibilities as learners and as college students. They felt that they belonged IN college, and particularly to that institution. As Mack highlighted: "When I went through the FYE program, it changed the whole perspective because I wasn't an individual in a class. I was part of a class, I was part of a college."

Students reported that their commitment and motivation to pursue their studies increased because of their greater attachment to the institution, the validation they had received, and the knowledge they had gained to navigate college. For example, Diego at Cerritos College shared:

The learning community—the instructors, how they worked with me and my peers, getting into groups—it all gave me the confidence I needed. . . . Before, I would have just got frustrated, rolled it up and said okay, I'm out of here. I can't go any further. But now I knew I could still talk to the instructor and say I'm going through this, he can work with me on this. The FYE taught me that you can talk to us when you need to. You know so I did and it worked out.

Michelle at DeAnza voiced, "I am not shy anymore. I am more confident than freshman year because then I didn't know anything; I was just a baby so now I learn and know the way to do things and how things work." Danielle responded to the question "What did the LC experience at Cerritos provide you?" by sharing: "Based on the FYE, it was a feeling we want you, we want you to come here, we want you to go to this school and we want you to graduate. We know how important it is and that our teachers be passionate about what they are doing."



Several of the students' comments reflected how over time, their increased sense of confidence to participate and belief in their abilities were tied to their self-esteem.

Elizabeth shared two years after her learning community experience at Cerritos College:

What I really appreciate is that the teachers at the community class that I had, they really made you feel so comfortable that your self-esteem, I think having a good self-esteem makes you succeed in anything you want to do. Anything. So I really appreciate that about the learning communities.

Audrey, a participant in one of DeAnza's LARTs, shared: "When I came to college, I didn't know who exactly I was, and how do I feel, and what do I like. And before I was afraid of saying what I thought or what my feelings were, now I'm not afraid. I am like 'I think this.'" Tasha (Cerritos) shared, "I think I have gotten smarter since I have been here. I can feel it."

When we asked the Cerritos students why they continued to participate in the study for two years, Betty's response gives insight into the influence of the learning community experience on her college student identity:

I think it's so important for faculty and staff across the world to know what a difference these classes can make. There are so many college students who were in my shoes—they come to college lost. That's the first thing everyone admits, "I'm lost, and I don't know what to do. I don't know what classes to take." So it's so important for them to get the opportunities because it's going to affect their whole life. I think because the learning community had such a great, positive impact on my life, you can't help but want to share that with people.

Two years after Gwen's involvement in Cerritos' House learning community, she shared similar feelings about the importance of this experience in shaping her college success:

They have every single thing you need. They bend backwards to make these programs. I hold the learning community at a higher level because I know what a dramatic impact it's been to me. It has turned my life around. You know and making me feel so comfortable in college and making me want to do better.

As previously mentioned, ESL students shared that language proficiency was the key measure of their success in college, and in turn, motivation to continue to pursue their studies and development of their self-esteem. Several ESL students proudly shared stories of their progress in mastering the English language (written and oral), and or passing writing/reading mandated state tests. This area of learning was central to how they felt about themselves. Julia explained how she had changed: “I understand more. I feel more confident and before I was ashamed. Now I feel really good.” In response to “How have you changed?” she shared, “How I write. How I speak. I speak more. I understand more, a lot. I feel more confidence in talking and don’t feel more, before I was ashamed, but now I feel very good.” Students’ gained a sense of pride in their accomplishments and learning that came with improved English proficiency. Paolo’s comments illustrate the interplay between critical thinking, listening, speaking, learning and self-esteem:

I had a hard time understanding what everyone was saying. And I wasn’t sure to say what I was thinking because I wasn’t sure of my speaking skills. I wanted to say something, I was afraid of saying something ‘cause I knew that maybe I was going to say something wrong and everybody was going to laugh at me and make fun of me...So, I prefer to stay quiet...So now, now, I’m participating. I don’t feel afraid of nothing. I feel, what’s the word? Confident.

The reflections shared throughout this section demonstrate tangible ways in which learning community involvement contributed to developing students’ sense of belonging, increased confidence level in their abilities, and belief that they had been on the “right track.” They were not afraid to learn and were embracing their identities as serious, successful college students who felt connected to the institution. In addition, not one student identified him or herself as a “developmental education” student. They described themselves as having to take some non-credit-bearing courses that they came to understand and value as foundational to their future college success. The courses embedded in curricular learning communities helped create feelings that they belonged in college and teachers and the school believed in their ability to succeed. These stories were consistent across diverse learning community models, thanks to a responsive teaching-learning pedagogy, caring, involved faculty, advisors, *and* peers who fostered a serious, involved intellectual community.

### ***Factors Influencing Continued Success and Persistence***

Students that we interviewed over a two to three year period were able to identify the changing, diverse issues, opportunities, and challenges they faced and ways in which they were negotiated. There were many areas that students highlighted about their college experience; however, in this section, we discuss those that students perceived to be salient (positively and negatively) to the ongoing persistence, success, and self-esteem. These areas include: a) advising b) relevant curricula and pedagogy c) immersion into the college environment; d) finances; e) family support and understanding; f) math; g) availability of required classes; h) impacted nursing programs; and i) participation in the research study.

#### ***Sustained, ongoing advising relationships***

For many students, one of the perceived strengths of the learning community experience was the structured, intentional advising that was part of the LC programs, particularly at Cerritos and CSEB. The advising enabled students to make informed choices about their courses, gain information and encouragement to access important campus resources (e.g., tutoring), to validate students' abilities, and to affirm the institution's commitment to their success. However, as our interviews continued into the second year, the importance of advising, students' expectations regarding advising relationships and conditions upon which they would access these services become central issues of our participants. Advising clearly became a key influence in students' continued success (or lack of). Students identified the advising and support programs such as Equal Opportunity Program (EOP)(found at both community colleges), Exel (at CSUEB), Student Success and Retention Service Center (DeAnza), and Project Hope (Cerritos) as central to their *continued* success. The interview data were flooded with testimonials about the importance of student engagement in sustained relationships with one or two assigned advisors throughout their college years. As the following quotes suggest, a key factor to students' choice to valuing and accessing advising was if the advisor knew them personally. These programs required contact with advisors at least twice per term, and more often if necessary. The advisors not only reinforced the habits

and strategies shared in their learning community experience, but also were their cheerleaders and advocates during more challenging times. The advisors pushed them to apply to scholarships and financial aid, advised them on criteria to consider for dropping courses, and coached them to select courses that counted for both general education and majors. They were also effective career counselors, advising students about alternative majors or careers if it appeared they might not gain entrance into a competitive program (e.g. nursing) or really did not enjoy their current major or career direction. They offered invaluable, timely alternatives. In the different interviews over three years, Alana shared highlighted the various roles and benefits she gained from her EOP counselor over time at CSUEB:

I went to her and she pulls up the possible class schedule for me. Like, she made all these different schedules for me, but she wouldn't give me the section numbers. She was like, no I want you to go home and do it yourself so you don't need me every time. She's just...I love her. She's a sweetheart. She helped me, but she wouldn't give the answer all the way. She was like, 'no, you need to get on the computer and do it yourself so you can know.' I know how to do it myself now, and I registered for classes because of her. (1<sup>st</sup> term)

She is my EOP counselor. Like she has given me so much good advice like on everything and she's just so open. She'll be like look, I'm gonna tell you this. Like, she's just so real with you. I need her...like my roommates, I feel bad for them, because especially my roommate in my room, like, she's so doggone lost...and I'll always be like go to a counselor, go to a counselor, and she will not go. She'll be like, no because you're in EOP, so it's easier for you. And I was like, but you, they still have counselors, but they need to know 'cause, and it is easier for me 'cause *we are close and she knows me*. (Spring, first year) \* *italics added for emphasis*

Diana, my EOP Counselor, she wrote me, this week. She is always on me, which is good. I have to make 2 revisions of my electives of my GE and she gave me a list of courses to look at. (Spring, 2<sup>nd</sup> year)

When my counselor said "Your almost done" I wish you could have seen me that day. I was just like flying. I was so happy. Because you know, you set a goal, you realize that you're going to do it! To actually see it now, like damn, I really did it! And especially coming from my background, who would have ever thought that I could've done everything. That's why I can't wait until tomorrow for that African American thing [Admissions recruitment event]. It's going to be all minorities and Black people and I'm like all into that. It will be good to talk to them. (Spring, 3<sup>rd</sup> year)

Clearly, Alana benefited from the ongoing, personal advising relationship with Diana. Diana provided her important strategies and information for navigating the “system” over the college years while also giving Alana the tools and support to be self-reliant. Her counselor’s belief in her motivated Alana to persist. The counselor *knew her*.

Students highlighted additional concrete benefits gained when students develop authentic relationships with their advisors in these academic support programs. Julius highlighted the importance of expedient feedback from an advisor: “The EOP counselor is to have someone that the student can go talk to, that's the main focus. So if so the student really has a question he can go and not have to wait a long time, like have to wait two weeks before talking to that person just for a simple question. I really don't have time to go set an appointment and wait a week.” Mary appreciated the mentoring from her EOP counselor: They (EOP advisors) motivate you. They tell you to do this for right and wrong, to know and to make it just, keep you on task and just tell you if you don't do this, this is will be your consequences. So they're kind of like my mentor in a way.” Hai (DeAnza) captured how important it was to have a personal relationship with his advisors:

They’re always good to me. They help me out with the books, help me out with counseling, help me out with scheduling my own educational plans for the last two years...I mean I really try and stay consistent with that one counselor”...and they’re willing to, to make you come to them, like three times a quarter to just check in on how you doing...I know its there for me if anytime I need it. To me, getting to know people on a personal level is real important to develop relationships so I think it is important that the counselors try to know what goes on in our life.

Michelle’s CSUEB EOP advisor played several important roles. She was instrumental in pushing her to consider alternative majors in case she was denied admission to her major of choice and to pursue scholarships to finance her education. Finally, the EOP advisor pushed her to get involved in valuable co-curricular experiences:

She has been asking me what will I do if I don’t get into nursing even though I don’t want to talk about it. She’s been pushing me to do scholarships for schools; she sets up workshops about how to write personal statements for the scholarships. She’s also

pushed me to get involved and go to the leadership conference held here where we learn about leadership skills and stuff and how to lead.

Mack, at Cerritos, pointed out how the EOP advisors helped the students develop an efficient, quality plan of study along with connected them to campus programs that related to their career interests:

I'm very focused on what I do, I understand where I need to go, it's all clear with all the help I got from everybody; they gave me counselors to set my curriculum cause it's a big mystery. Okay I want to do this, how do I do it? And you know some of the general counselors, well they say you don't have a catalog, it says what you have to do in the catalog. It's up to you. But I see these special counselors in EOP and Project Hope and they say you should sit down and think about the order and they recommend taking certain classes together, structuring your education and taking classes in sequential order so you take the easier ones first, like you should take medical terminology then anatomy and then physiology. You can't get that from a catalog. And it was EOP who when I told them I wanted to go into the medical field asked me if I had joined Project Hope or do I know about it? I said no. They said they are right in the middle of academics and enrollment and took me over there to talk to them. I don't think I could ever pay Project Hope back for as much as they have given me.

He explained that Project Hope not only provided him advising but also access to invaluable support services: "They offer you a lot of tutoring, chemistry. They offer a lot of programs and they only ask you to help out- they want you to volunteer somewhere in one of their programs."

Advisors at Excel, a program for first generation students at UCUEB, also provided critical, timely advising services along with access to tutoring. For example, an administrative assistant in the CSUEB General Studies Office learned that Jasprit was struggling with what courses to take and connected her to the Excel program. Jasprit shared how the advisor helped her sort out her career interests and build a relevant academic plan: She explained:

Susan [General Studies Advisor] sent me to Excel because my parents make too much money for me to go to EOP. Excel is for first generation college students. They are great. They give you special like one counselor. You go to her, she is personal, really friendly to you. I told them I am kind of lost and knew I didn't want

nursing but I like my science classes. They said you are in health classes now so why don't you go to Health Science. You also could be like a counselor if you take this option and continue here with a master's. I was so lost when I saw you last. But now I feel confident again and I'm okay and will be graduating next year.

Sally also benefited from her Excel advisor who kept her on course and take classes in an efficient manner:

What's good about Excel is they cover your major and your GE classes and they help you combine it- they lay out your whole four years and how many years and they tell you if you take this for your major it could actually overlap for your GE so it double counts. Because everywhere it's so split up because in GE you go to one building and for your major you go to another building.

Students at other campuses also recognized the differences between EOP advisors and advisors from general advising services. Jasmine, a DeAnza student, compared her advising experiences with the general campus advisors and her EOP advisor. Again, students emphasized how a personal relationship with the advisor was a motivator to seek out continued advising throughout the college experience.

Before I joined the EOP program I um just going to the regular counselor office, I found that you had to wait in a long line. You know sometimes schedule is so um tight you don't have that much time to wait around. So I just, usually I would go in the morning like before they open I just I go there, make sure I don't have a wait and sometimes I feel a little bit rushed, that compares to my EOP Counselor because I don't know them like personally and um but my EOP counselor I keep seeing her and spend time with her so yea, I think its better.

Paul concurred: "The first few that I seen, you know, they were in the seemed rushed because you know you got see a lot of other students but when I moved to EOP I seem the same um counselor you know the whole way through the last two years and you know we got to know each other right on a personal level and it really you know helped a lot. She also gave me advice of like how or what instructor I should take for what classes." Mary explained that she went to EOP for advice for her first few years but then ran into problems when she had to move to liberal studies for advising:

I have to do it on my own because I have this counselor in my major who is bad news. He is never in his office. When I did see him for a minute or so he just gave me a piece of paper and told me to look at and it "just take the classes on the list."

He never explained what the stuff meant on the list and I landed up in the wrong classes. He just gets mad and irritated when I ask him questions and tell him I don't understand.

On the other hand, we heard countless stories from students who were not enrolled in formal advising programs that although they knew about the advising services on campus and its benefits, they often would not access these services. As Raymond shared: "Personally, I'm actually scared of those advising services. I don't like to ask for help." Mark added, "To use the advisors is the last resort like I'm really, really in deep trouble in like my academics and I'll probably go. Right now I use my peers and my brother's friend for advice."

Students often found the advisors rushed, which minimize the opportunity for the advisor to get to know the students. The use of peers and websites as "advisors" were frequent, easier default options in lieu of waiting, feeling rushed, or not personally attached to an advisor. They rarely complained about the advise they got but rather found the conditions and setting not conducive to the type of personalism they sought in an advising relationship. By default, they often reached out to the friends. For example, Anna, from CSUEB, explained why she used her peers for advising:

I didn't go to advising. I didn't know about it. I just stuck with my cluster people. I stuck to people who were in my major and took whatever classes they took. I followed. I didn't really know what I was going to take, if I needed it or not. I stuck with Crystal. I am still stuck with her. She knows what to take, so I take what she takes. She has a counselor in Excel and they help her with advising and what courses to take.

Interestingly, her peers continue to be good advisors. One friend pushed her to consider how unhappy she was in economics and to switch majors. The impact of this advice was profound:

When asked how she was different from a year ago, she responded, "I'm more into school than I was. Before I was really slacking off, I had no motivation or I'm stupid. But now that I'm interested in doing well, it's like, I could do this. It's just, I guess, I needed the motivation. Just something I'm interested in, I'll do it. I now enjoy school because of my new major. I like going to class just to learn. Before, I didn't and I just slacked off."



Max and Nemo (DeAnza) self-advised themselves by using various websites. Max explained: “I went to Orgdot.com to figure out transfer requirements. Some students also helped along the way.” Nemo described why she no longer used the advising services on campus and relied on websites:

They could be more helpful by not rushing. I know they have a time limit but you don't really have much time to go into depth about how you need to do things or for later on when you want to apply for other schools or what you are doing for your major, what kind of grade you need to get. You don't have much time to talk to them about it and they will give you short answers. I tend to look on websites and talk to friends.

Nemo shared in a recent interview about the concrete implications of lack of ongoing advising. She shared how she finally found a “cool” advisor and the advisor pointed out to her at the end of her 3<sup>rd</sup> year at DeAnza that she had earned enough credits for an associate's degree. She shared that she did not even know what an associates degree was before that time; her efforts had been totally dedicated to taking all the required courses required to apply to nursing programs. Max who recently transferred to San Francisco State also shared how she did not know she was eligible for an associate's degree.

Students consistently shared the need for more extended, in-depth conversations that they believe cannot be accommodated in typical advising systems. They recognized the stresses on the advisor but they opt not to return. Students also were aware of some of the pitfalls of not seeking out advising. Sonya explained how her self-advising strategy resulted in her taking too many demanding classes at once. “ I did it [advised] by myself...Sometimes it hard like last semester I was taking all those Human Anatomy class and Chem class and all those hardest classes. So it was a hard time for me last semester.”

Finally, we had two students enrolled in a community college two-year nursing program (after completing ESL courses and other general education requirements at the same institution) who shared their frustration with the nursing program faculty. Both these students had strong GPAs and were seriously considering transferring to a four-year baccalaureate nursing program. They had been consistently discouraged from

doing this by the community college nursing advisors. Both students were insulted by this lack of support. They were both 30 years or older with dependent children and believed that if they did not pursue the baccalaureate degree now, they never would. They self- advised themselves, figured out the transfer requirements, and one student applied and was accepted. The other student was still deciding whether or not to pursue the baccalaureate. Although she was accepted into the four-year institution, she was not yet admitted to the nursing program. She was struggling to sort out what were feasible options with her 3.0 GPA.

In conclusion, the learning community structures we studied often nicely integrated advising services. As long as students were in these programs, they obtained ongoing, reliable, personal advising services. However, when these programs ended, unless students were in a sustained, advising relationship through other campus programs (e.g., EOP), they tended not to seek out advisors in general advising centers. They sought out their peers, websites, or self-advised themselves. As our interviews were coming to an end, students were finishing up their general education requirements. They shared anxieties about the next steps, realized they should seek out an advisor, but hesitated. They were anxious and almost paralyzed on what to do next, particularly if it looked as if they would not get into their desired major plan of study. As might be expected, our students also identified some ineffective advisors or individuals who they felt minimize their potential or failed to support what they perceived as realistic dreams or goals.

#### *Importance of relevant curricula and pedagogy*

Students were quite articulate about teaching-learning strategies that facilitated their learning and those that were not effective. They were quite descriptive about pedagogy that responded to their learning styles and those practices that were inhibiting. Due to the Counseling/Guidance and/or University seminars that often linked to these learning communities (e.g., Cal State East Bay, Cerritos), students have gained a discourse about talking about pedagogy that was sophisticated and insightful. They have gained keen insight into how they learn best (often need small classes and activities that connect theory to real life experiences and enable them to get actively engaged). Section I is

filled with insightful, descriptive quotes of how students learned. Their wisdom and articulate nature are particularly striking considering how many of these students described themselves as individuals who had been disengaged from school and their academics throughout secondary schools.

Themes emerged regarding their preference for connecting the knowledge to direct, real-life experiences and active learning strategies such as participation in group activities and meaningful discussions. These preferences were modeled after their LC experiences. They continued to build upon their knowledge of their learning style preferences in the years that followed. For example, Maria (Cerritos) shared:

Since I was in Math 20 with a learning community, it helped because I remember back then the teacher and counselor, they would say that you know math is just solving problems and it's about what you know, try to relate it to your daily life and you are going to find math everywhere. So that's one of the things I still have with me. I try to make those connections in class if the teacher won't do it for us.

Students' appreciation and preference for opportunities to apply what they learned in class, to connect their life experiences with their courses, or to explore their career interests through hands-on experiences such as service-learning and internships continued to keep students engaged and dedicated to their educational goals. These experiences helped students clarify their goals and /or provided forums for re-examination of their career interests. For example, Arzucon (CSEB) found her required service learning component as a great way to connect her life experiences and culture to her academic work. She felt fulfilled and validated by the experience. She planned to continue involved in her work once the official assignment was completed:

In our GS class we're doing service learning where we go into the community and we do some volunteer work and stuff and that is supposed to help our communication skills and get the experience. I signed up to do six months volunteer work at a Refugee Transition Action Coalition group. So it teaches English and help the refugee students that come here. They are like the families then they have kids that come here from different countries and they don't know how to speak English. Their parents are kind of in traditional in their culture. Really between the parents I think they really don't have communication because kids, the kids were brought up to not talk to parents about certain things. And so we're right now I went to the training and we talked about how you can build their confidence being in the new country. And how

to talk to your parents but still be respectful. I think I'm going to continue this more than six months.

Max desires to be a high school English teacher. Therefore, she is motivated to pursue this profession when she is taking a class with faculty who demonstrate active pedagogy and enthusiasm for their work. "I really like my professors' methods of teaching and I feel like my God, I really want to teach. I just look at my professors and they're so organized, they are having fun, they're knowledgeable about what they're doing and I figure I could do that." She gives an example of one professor who plays the lyrics of African music that is in the assigned book. The teacher explains that hearing the music gives the students more of a "feel" for the book. Max also loved her Shakespeare professor who is "really into it." He read from the text in a Shakespeare voice so we will "better understand it. And he is so enthusiastic and he gets us excited about the material." Students also became harsh critics of faculty who failed to create these conditions for active learning and failed to validate their knowledge. Terry argued:

I don't like it when teachers lecture...I have a teacher now and he lectures but it's not related to the novel we are required to read and write a response paper. He doesn't talk about the book at all and I wish he would let us ask questions because he doesn't like that. And that makes it hard to learn, it makes it hard to participate in lectures.

Students at all campuses made references to "talking heads" (teachers who only lecture) or people who just get up there and lecture and do not engage the students. Students were frustrated by lectures and did not feel this approach was conducive to learning, particularly if students never connected or related with the professor. They compared these experiences to the teaching in their learning communities. Shauna shared an experience that was all too common for our students as they continued their college experience:

I had this one math teacher, this is what I can absolutely not learn under. Won't let you ask any questions while he's doing the problem. He'll do three examples and then he'll say any questions and you totally, even if you wrote it down, you won't even remember what it's about anymore. That's just horrible.

Clearly, students gravitated toward and appreciated classes that promoted small group discussions, connections with faculty, and environments in which their views matter.

They learned from assignments that enabled them to apply in concrete ways the concepts and knowledge learned in the classroom. They were less engaged and often frustrated by large classes, particularly if they never got to know their peers or faculty. They resented environments where they felt they were invited to participate or ask questions.

Finally, a characteristic of responsive pedagogy is being cultural inclusive. Anna shared the frustration she was having in a nutrition course that required her to use a computer program to analyze her food intake over a five day period. The computer program was totally based on American, westernized foods. She shared with her faculty member her concerns with finding her Asian foods on the list and was instructed to “customize” her food with like-items on the computer food list. It took her 3 hours to just customize two food items. She shared: “I finally gave up. I feel so unsupported. I decided it was just easier to eat American food for 5 days. But it doesn’t make me feel good about the course.”

Students in our study benefited from active learning pedagogies that translated to practice in concrete ways. Many of them fared adequately, and some even very well in lectures but they did not find this style conducive to their learning or engaging. They also shared disappointment when faculty members were not responsive to potential cultural biases in their teaching/assignments. Students valued teachers who showed enthusiasm, creativity, and engagement in the subject material.

#### *Immersion in the college environment*

Over time, many students came to recognize the benefits from using various strategies for immersing themselves in the college environment. Some of these steps included just being around campus for longer periods of time and making use of any breaks they had, taking an on-campus job, getting involved in co-curricular activities, participating in study groups, and taking advantage of available tutoring and academic support services. These actions led to greater engagement to the campus, a sense of belonging, and increased hours “on-task.”

Akida explained how he learned to maximize his breaks while on-campus for getting his work done:

If I have my homework or class assignments, I do them right away. I don't waste no time because once you have, once you waste time, it's like homework start building up. So each break I have I make sure I go to the library cause you're in school, what are you going to do? You can't come and come chill, I could chill outside, know what I'm saying? But you come here, you have like a plan that you came in, a plan that you want to complete so you just do that. Constant work, work, work, this is school, that's what you're supposed to do here.

Students were also quite eloquent that their success was directly tied to the hours they spend on campus. To leave campus meant to go home to distractions. At home, although their families might *say* they supported the college pursuits of their children, the families often had no understanding of the time required or academic responsibilities. The students reported how they were expected to help with family responsibilities or became distracted by TV, the internet, and other sources. However, if they were at school, they got longer periods of uninterrupted studying time and were protected from competing priorities. Cal State East Bay students discussed the negative impact that a reduction of the library hours (from 10pm closing to 8pm) had on their studies. The more time they spent ON campus, particularly in the library, the more engaged, focused, and productive they became. Raymond and Shari explained:

Raymond: What I'm learning this year is as a commuter, you won't see the school as something you're going to stay at for a while. You just want to get in, get out. But if you actually stay here more, you'll probably end up doing more work because you'll, it'll be more integrated into your life. And from, coming from like high school, I used to wait until 8 o'clock at night to get picked up from my mom cause I lived kind of far away from where my school was and I, lot of days have school because I either was playing basketball, doing something or doing my homework or there was time in the whole school into me, like I was there so with here, it's just, I don't feel the same thing because I rather come in, get it done, then get out but I'm slowly like starting, like this couple terms I've been trying to stay in school for a longer period time and take advantage of library or getting.....computer lab or just simply just sitting here and reading.

Shari: I actually agree with Raymond. Since they cut the hours of the library, it's actually bad cause I want to go home and pick up some stuff and when I get home of

course I have the other things that distract me but I always want to come back but by the time I'm thinking about coming back, they're closing.

Students shared how those hours on campus, in the library, make them “feel more like a college student” (Jose) and that they belonged at *that* college. These opportunities kept them from distractions at home and focused on their academics.

Another major way that students got immersed into the college environment and spent more time on their studies was through accessing tutoring services. At some schools, the tutoring services were part of the formal advising programs they were a part of (e.g., Excel (CSEB), EOP, Student Support and Retention Services). Anna explained how invaluable tutoring was for her statistics class:

I was stressing so bad; I was in tutoring every single week. I was at Excel. It was great! They helped me understand all my homework, all the test and quizzes were based on homework. It was so worth going to tutoring every week... They're always there. Might as well use it to your advantage. It's a big help.

Finally, students reported powerful benefits of on-campus jobs for contributing to their sense of belonging on campus, helping with finances, and providing powerful learning opportunities. Work-study positions or other jobs in the library were highly prized. ESL students really valued the opportunities that came with the job to practice their English.

Most students described their first year as a time to focus on their basic skills classes and “just making it” through the initial academic requirements. They were focused on how to handle their academic demands, competing work and family responsibilities, and financial strain. Even though they reported that their counseling or new freshmen seminars introduced them to campus organizations and leadership opportunities, they were not ready to explore these opportunities. However, once they made progress on their academics and felt more confident in their abilities, they were interested in participating but did not know or feel confident to do so. For example, a student from Cal State East Bay explained, “I would like to get involved, the only thing is that I'm scared to just go join a club because I don't know anyone there and don't know what to

expect. I guess if I knew some people or if a friend went with me, I would join clubs because I know I would enjoy them and learn a lot.” Those students who did get involved had been encouraged by a friend, faculty member, or advisor. They did not respond to flyers or college fairs. The personal touch was an important motivator.

For those students who did get involved in co-curricular activities, their participation was educational and empowering. Students who we interviewed over the past few years were selected as resident advisor and orientation advisor positions at UTEP and Cal State East Bay and elected as a student government president at a community college (he now is a student at UC Berkeley), and initiated new student groups such as the Black Student Organization at DeAnza College. One student who took his liberal arts core at DeAnza College also took architecture courses at a nearby community college. At this community college, he participated in an architectural student organization. As a group, this organization participated in nearby, regional, and national contests. This student is currently applying to transfer to baccalaureate programs in Architecture, including to Syracuse University. Faculty members often were responsible for encouraging students to participate in these activities and supporting and mentoring them through the experiences. Their interpersonal skills, self-confidence, and sense of belonging to the campus all increased from participation in these leadership roles. Several students had been nominated and encouraged to apply for these positions by their new student seminar instructor or EOP advisors (i.e. someone they knew as opposed to responding to a flyer or announcement).

Finally, students typically found that they increased their time studying in dramatic ways over two years. In our first interviews students commented that they learned from faculty and counselors that they would have to study hard. For the most part, students stated that they were studying much more than they ever did in high school (which usually was minimal, if at all). When we asked them concretely how many hours they studied, they typically said that they studied 4-6 hours /week. By the 4<sup>th</sup> interview, many students reflected that their past grades in college would have been better if they had studied more and been more focused in their first few terms. They had made adjustments and were now reportedly studying 15-20 hours/week. They were also studying in smarter



ways—intentional use of study groups, planners, studying in quiet spaces and being in the library and on campus more hours (rather than at home with distractions). Our conclusion from these conversations is that advisors and professors need to be more concrete and talk in specific number of hours that are required per course per week. Otherwise students make their own judgments about what “studying hard” is, based upon their past experiences. These experiences are not good reference points.

### Family

When our study first commenced, students consistently shared that that their family expressed great pride in their pursuit of a college degree. The students typically were the first person in their family to go to college. Sometimes they had an older sibling or cousin who obtained a college degree but typically these students were carving out new territory in their family. Many family members were working extra jobs to support their efforts. Students expressed how their degree would bring pride to their family and offer the student and their family a better quality of life. For example, Akida described her supports: “My main support right now, I would say is my grandmother, my mother and my sister, my older sister and I see how they work hard, I have a lot of people not doing what they're not supposed to be doing in this family, I see their influence every day.” Throughout the study, DW shared numerous stories about the concrete ways in which her family got involved and supported her:

My brother my sisters and my mother are all the time asking me “how I am, how comfortable, if I'm learning.” My brother and my sister they told me that I'm improving in my English especially I was not speaking so well, and my brother liked to read my essays. I like to write, and I put some passion on it. So my brother said “I never thought you could write like this.”

One of the most consistent and powerful family member supports came from the *children* of our adult, working class students. Students expressed how their children were their advocates, teachers, and even advisors during their educational journey. Maria from Cerritos shared:

My middle son, he is my teacher's aide. He's my teacher. He's really good in math and if I have a problem, I ask him and he explains it to me. Even for punctuation on my essays, I give him my papers and he'll say okay mom, this is... if I'm struggling

with a subject, I always tell him. They might give me tips on what to do and sometimes they just hear me out. I was supposed to start all the way in the bottom in a reading class in the summer and I went to class and it was so easy on the first day. I was like I don't know what's going on here and my daughter said "Mom, why don't you go take the test, maybe you'll jump to another class, a higher class" and I was like you think? She says "Mom, just try it." I said okay and I passed, I was exempt from taking the reading and I was like "wow." You know you can learn things from your kids. And I've got her taking some learning community classes too.

Anna, an ESL immigrant from South Vietnam (DeAnza) shared how her seventh grade daughter provided assistance and encouragement:

She (daughter) is really excited and is willing to share with me whatever I don't understand in microbiology like spontaneous generation. I didn't understand it even though I looked up translations in the dictionary Vietnamese to English and she explained to me. She gets really serious and concentrates to explain it to me and she is very excited. Mom any questions? Do you get it? She tells me you have to continue in school mom, you cannot quit school.

Julina, mother of three from El Salvador, added "My fourteen years old daughter she say, 'Wow Mommy, you are writing good.' And I like it. That makes me feel like I want to continue."

Sons or daughters of older adult participants were identified as invaluable supports; however, for younger students who often lived at home or with relatives who had not attended college, they found, *over time*, that their families were barriers to their success. Students required more time on their studies and were not available to help with family responsibilities and needs as they had been in the past.

Family members tried to be supportive but their support was limited by the lack of understanding of the college experience. Anna from CSEB shared how tensions with her parents had evolved over the college years. She responded:

At first they were but now they have their own problems; home life is stressful. I am paying my own way now and at first I was mad but you know I don't want to have to depend on anybody, and I can do it myself. And it's like, they don't even know that I work full-time or go to school full-time. And then, what makes me mad is afterwards I just want to hang out with my friends for a few hours and they think that I'm out all day long. I'm just like you don't know what I am doing. You don't know how stressful it is.

Students struggled with their inability to communicate how college worked and lack of success in helping their parents understanding their responsibilities and challenges.

Crystal experienced some of the same stresses as Anna:

With my parents, it's more like they don't understand what's going on in school these days and they've never been there so it's kind of tough talking to them at one point or another. I mean they kind of yell at you. Why are you changing this and changing that? Just keep one single major and after a while, they will call back and be more calm. They don't understand that it isn't like high school where I get straight A's. Why aren't you doing as well in college? I've been telling them that things change and this major is tougher than in high school. But they don't understand.

Students shared feeling alone and frustrated by their inability to explain why college was so demanding. Parents' understanding of college was often limited to questions about students' schedules, grades, and major. Some students felt pressure from parents to identify majors that led to jobs and secure careers (e.g., nursing, accounting) even if they were struggling or not enjoying these areas of study. The students recognized why their parents valued these careers and appreciated the significant sacrifices parents made (and continue to make) so they could gain a college education. However, some students felt "stuck" and were struggling in academic programs that did not interest them or tapped their strengths. Students whose families came from Asian and Middle Eastern countries more frequently shared these conflicted tensions.

### Mathematics

Lack of success in math often got in the way of student progress and retention. Cerritos College made a concerted effort through their coordinated studies model to include math, along with provide direct connections to an array of math tutoring services. One semester House experience was targeted at math covering elementary and middle school curricula. The other House included a math course that addressed high school math. Math appeared to be a struggle in one House because of the quantity of content required over one semester and the teacher's style. We heard frequent complaints that this professor talked down to the students, he did not want to be teaching *them*." They felt he would be better at a research institution not at a community college; they were disengaged from the material. We learned of other students who were avoiding math

classes as long as possible; they perceived math courses as obstacles they might not overcome. Diego from Cerritos College shared a sentiment that was expressed by several students: “Math- I’ve got to deal with it. You know it’s a given. If I want to get this AA, I have to have certain classes of math to get there. There’s no way around it...I will pass that hump and when I do I will be a happy man. The last hump in my life. Everything else I am confident in, but not math.”

On the other hand, through our continued interviews, we did learn of an intensive math program-Math Performance Success- at DeAnza College that appeared to both give students the necessary time and support required to get through the pre-college required math curriculum and enable them to work through their math anxiety. This program integrated ongoing counseling and advising services, a tutoring program, and a significant peer group work component. Students must make a significant time commitment to the program (10 hours per week for 3 quarters) but three students in our study raved about how they worked through elementary algebra to college mathematics in a painless, supportive learning environment. Jasmine described the benefits of have extended time to work on math and group work.

I joined a program called MPS Program, which stands for Math Program Success, and it’s for those who have difficulties with math. And even though we have two hours of math every single week, I think it was worth it because my teacher Mr. Lopez is an awesome teacher. He’s very helpful and in his teaching of it he makes sure the students feel comfortable in asking questions. We have group work, and that’s one of the, you know, keys in success, to succeed in your math because I think the difference between the MPS and the regular math courses is that the teachers in the regular math courses, they didn’t have enough time to work with students who have questions. They have to basically, you know, mostly wrap it up and make sure that if you don’t understand, you can always go to tutoring. But over here, we have more time, we have math every single day for two hours.

Steve added:

You have like two instructors, then you have like three different counselors and you have as much help as you want through this program. And, its for like one year straight. Um, and it’s a pretty good program because you know you get to really know the teachers and the teachers really get to know you... And the same counselor so they know your background and they know what you’re capable of and everything else. And that was a good program. You also had as much tutoring as you needed in

math class. And you know everything is free. We also had study groups together. It was kind of like a family thing. And if one needed help with one subject they would, they would all pitch in and try and pull you up with them. So it was a decent program.

The collaborative, active learning pedagogies and validation of the MSP instructors, tutors and counselors were invaluable at moving them through a math curriculum that they feared would block their future progress. Currently, DeAnza is developing a yearlong learning community that would incorporate basis skills courses in math and language arts. Students would have the same professors and cohort over a year long, integrated curriculum. This structure would incorporate many of the elements described by Jasmine and Steve, along with support their reading and writing needs.

#### Access to required classes

Students participating in CSEB clusters emphasized the advantages of getting access to required courses for general education requirements and major courses of study. However, students at other institutions we studied were not as fortunate. Several students shared that they left or were contemplating leaving that institution for another community college only because they could get required courses that they had tried to access repeatedly. The science courses were particularly difficult to get into at DeAnza College and students headed at times to a nearby community college, even though they had made important personal connections with faculty, advisors, and peers. Max shared with us after five quarters at DeAnza that “It is so hard to get into Bio 40A and another course I need- I’m still on the waiting list and it really sucks because so many people want to get into the program but they are held back many quarters trying to get the required courses.” Students constantly were pushed back from their intended timetable due to lack of availability of classes, which obviously delayed their progress. They also were delayed as they waited to find out if they got into popular majors. For example, the nursing program at DeAnza College selected students through a lottery system. Students took elective courses while waiting sometimes several quarters to find out if they were admitted.

On the positive side, we also had one student who strategically took his general education courses at DeAnza and a set of architecture courses at a nearby institution. He

tried to build upon the strength of both institutions to build upon his interests. He worked with his EOP advisor at DeAnza to make sure he had secured the appropriate courses across the two campuses to transfer into a five year Architecture program at a baccalaureate degree institution.

### Finances

Students shared continual concerns about financing their education; no matter what campus we were visiting. The stories and hardships students experienced to finance their education were affecting both the students and their families. Arzucon's story was a common one: "My dad works two jobs. I can't expect him to keep doing that. And my sister is starting college and I don't know how they will pay for her. Because they're only paying for one hopefully financial aid will help out a little." Individuals who were responsible for families were confronting spouses who were pushing them to finish and get a job.

Financial concerns were an ongoing reality that often led students to part-time status so they could manage full-time jobs and family responsibilities. These decisions resulted in a longer period of time to get through major and degree requirements. On the other hand, some students took a full load of 12 or more classes to secure greater loans than would be available if they took 9 or fewer. They assumed these loads in the summer and it negatively affected their academic success since they really did not have the time to handle three or more classes. Students at the community colleges also shared worries about the increased financial burdens that would come with transferring to a four-year institution. While some students were recipients of financial aid, others were ineligible due to their immigrant status or assumed they would not be eligible for monies due to their part-time nature. One concrete way that students tried to save money was not to buy the required textbooks, often trying to borrow books from their peers. Students also compensated for lack of funds by taking less courses per term, thereby hindering their progress. In addition, several immigrant students, particularly from Southeast Asian countries shared their unwillingness to take out loans and be in debt.

We also heard stories of students submitting what they thought were the correct forms and being told they did not have complete files. Anthony shared: “You don’t know how many times I’ve applied to that and they just said ‘oh we, we don’t have a file on you.’ And then I finally get things here and they’re like well we need tax forms and I got all that for them and I gave it to them and they’re like ‘oh we don’t have your file,’ or ‘this does not match up with the file we have.’ I have given up. Other students felt overwhelmed or unsure about what they needed to complete to be eligible.

Maria, ESL student at DeAnza shared her frustration about a scholarship award for her exemplary academic record (a 3.8 GPA) actually hurt her financial aid package. She shared how proud she was when an administrator came into her class to make a surprise announcement that she had obtained this competitive scholarship. However, when she learned this prestigious award resulted only in more stress and financial burden in her life, her feelings of enthusiasm shifted to feelings of stress.

I got a President’s Award scholarship in the winter quarter. It was established by Kaiser Foundation and only one student can be awarded it. I believe I already told you before, but because I had some immigration problems, so I’m still applying for the green card. You cannot be legible for most scholarships... you’re supposed to be citizen. And then, because I was in a very stressful situation with finances, I tried. I wrote my essay and did everything for the scholarship to apply. And you know, it was surprising for me when I got it. They came to the class, and I was kind of stressed, I was crying because I didn’t believe it. What happened then, because I was already awarded financial aid, they awarded me with the scholarship and cut my loans. I thought it wasn’t possible. I told them, I live without a husband, I’m only working part-time. I’m making only \$700.00 in a month, but my expenses are something like \$3500 in a month, “what can I do to survive?” I want to go to university, but the only... I have to think ahead a little bit. Because these loans put me more and more in debt, and I have to think, okay, do I pay off a little bit and work a little bit and then go back to university.

Clearly, finances were not only an immediate hardship for Maria but also a stumbling block to her securing a four-year nursing degree.

However, for those students who do receive adequate financial aid, the money not only helped them pay for their classes and books, but also sent a validating message that

our country supported in their endeavors to pursue higher education, despite one's socioeconomic level. Gwen explained:

I think, it's you know you can have whatever you want in this country. You know what I mean, if you really think about it, I'm poor, like I'm a convicted felon I've got the stripes and you know what, I got a tutor for me. And you know, in 10 Minutes, I can have a tutor; I'm getting A's in every class. If you want success in your life, it's available. At no charge. If you are poor, so there's no excuse that you're poor, you can't go because they, for me, I found that they, they embrace poor people. They giving me \$4000 just to come to school for a year. Know what I mean? Sending me checks to come to school. You know it may not be a lot but you know what, in this country, or this state, no it's a federal grant, this country is paying me to come here and this school is giving me every support that I need and bending over backwards.

Students also reported taking fewer classes because they did not feel out applications for financial aid; they were overwhelmed with the process for securing funds so they took how many courses they could afford. We will be interested to learn how these issues get negotiated when they transfer to four-year institutions.

### *Impacted Nursing Programs*

We had several students in our study who entered a community college with an interest in pursuing either a two year nursing degree or transferring to a four year nursing program. In addition, over the past few years we interviewed students at Cal State East Bay who were interested in the baccalaureate nursing degree, typically starting in the Healthy Living learning community cluster. Through this project, we have learned a great deal about the unique challenges faced by these students. These challenges revolve around pre-requisite courses, getting into impacted nursing programs, and the implications for continued persistence and college degree attainment.

Students typically spent the three years taking pre-requisite courses. They often learned about the requirements from information they accessed through the web. We were struck with the passion and conviction in which these students moved through the science core courses, empowered by their dream to become a nurse. Some of these students were immigrants whose interest in nursing stemmed from taking care of



children, family, or even soldiers in the war-ravaged, poor countries. Restrictions on who could provide medical care or prescription drugs were quite minimal in countries such as South Vietnam or Russia. Other students were influenced by their parents. Their parents saw nursing as a viable profession that offered good salaries, opportunities for promotion, and stability. During the time that students were enrolled in these pre-requisite courses, they recognized the need to do well in their studies because they knew it was difficult to get into impacted programs. They engaged in little examination of alternatives.

Currently, we learned that some of the students did get into nursing programs at Cal State East Bay while other did not get in but continued to pursue their health related interests in a health science major. At DeAnza, the situation is more complex and fragile as it relates to student retention and attainment. The hurdles these students have and will continue to face are significant. First, entry into DeAnza's nursing program is based on a lottery system that occurs at the end of each term. Last term there was over 200 students applying for between 20-30 slots. If students did not get in, they are given "two lottery tickets" for the next term; three for the third term. Some of our students were taking additional courses they did not necessarily need or looking into nearby respiratory programs at nearby Foothills College. These students had GPAs in the low to high 3 range. Nemo shared that at the last lottery three of her friends had 4.0 GPAs and were thinking of giving up their pursuit of a college degree.

Students who took longer to progress because of financial, work, and/or family responsibilities and ESL students also faced some additional hurdles. They were more vulnerable in facing changing in the pre-requisite courses. For example, Anna was taking an additional nutrition course because the nutrition course she took previously was no longer adequate and had been replaced with this requirement. Students interested in transferring to a four-year nursing program may also have to pass tests to measure their proficiencies in the sciences and math. These requirements become more challenging for students who take a longer period of time to complete their coursework because the length of time between the course and the exam. ESL students shared the frustrations associated with the diverse expectations around passing the WST test. Some state

schools require that the test be passed before they can be admitted; other programs required the test be passed before they graduate.

For the most part, students were negotiating these experiences among their friends, with little counsel from faculty or advisors, unless they were enrolled in EOP or some other formal advising support programs. They struggled with how to go about studying for these required exams, felt overwhelmed by the logistics associated with keeping track of and fulfilling requirements that varied by state school, and committed little energy to laying out alternative, contingency plans. Evidently, based on the perspectives of students in our study, good numbers of talented students who have succeeded in a rigorous science pre-requisite curriculum are “stuck” and unaware of possible options or resources to tap that are not web-based.

#### *Participation in the research project*

At the end of two years of interviews, we asked students to share the benefits of participating in ongoing interviews. We were struck at the tangible benefits that students gained from participation in this study. We identify ways in which students experienced these interviews so that administrators and faculty can recognize the powerful of giving students a forum to express their stories in an ongoing manner with people who are genuinely interested in their success.

Concretely, students valued and *learned* from the opportunity to reflect upon their college experience. Through the interview process, they came to understand aspects of the college experience (and themselves) better. As Hai explained:

Initially, when I first you know heard about this study I was thinking to myself you know what a great opportunity to you know to document how I've been doing for the last, or how the last two years I'm in college. So I really took this opportunity to see how I have been progressing for the last two years so it really helped me out.

ESL students identified these experiences as an important opportunity to improve their English (oral communication skills). Maria explained: “The interviews were another way to express myself. I mean it was a way to let people know how other people

who have lived somewhere else and how they could come to the United States and study, especially when you never knew English before.” Jasmine agreed: “When this started, I can’t speak English very well. Then I learn and I improve. I want to show people that we keep trying and they will learn to speak English.”

The interviews also were forums of validation. Through their self-reflections, students learned more about themselves. Students also felt listened to, important, and recognized as important sources of knowledge for educators across the country. One student participant has been incarcerated since the beginning of our study. Her mother contacted us to see if the person who interviewed her daughter on two different occasions would be willing to contact her. She shared that her daughter felt validated and special in the interview sessions and would respond well to any encouragement we could provide. Anna noted:

Meeting one-on-one with you or one of the advisors, it’s basically a self-disclosure speech. You’re breaking down what you’ve done, what you want to learn about. It’s not only beneficial for you and gives information for the college, but also beneficial for me and my ideas of myself, how I view myself. So basically, you’re boosting up my self-esteem a little.

Audrey valued the opportunity to have her accomplishments recognized: “It’s nice to have someone that’s interested in our achievements because sometimes not even our families pay attention to our achievements.”

Finally, students shared that the interviews kept students “on track.” For Diego, the interviews were a very concrete tool he used to be on campus.

When this came up, it was a chance to hold me accountable for being there in the sense that well, if I’m in school, then I have to go to the meeting. If I’m not in school, I don’t have to go to the meeting [interview]. So for me, it was just another way of keeping myself in school. But it also was another way of keeping on track, being active, focused and committed.

Nemo also used the interviews as motivators to keep “on course.” She explained:

The interview, I gave myself personal feedback. It was a time to think about what I was doing over two years. I was so appreciative of how you tried to keep track of

me; you gave me attention and motivated me to come back. I was also motivated to do well because I knew you would come back and ask me.

Students' views demonstrate that self-reflection and sharing to those who listen about their educational experiences are empowering learning opportunities. Students felt as if they mattered; they were motivated to pursue their educational goals.

In this section of the report- Factors Influencing Student Success and Persistence- we have highlighted several factors that became critical issues for student success as they continued to pursue their education in higher education. Students needed access to a counselor/advisor who knew them personally and invested in their success. They learned more effectively when they were in classes taught by faculty who continued to practice the active learning strategies they embraced during their learning community experience. Students came to appreciate the importance of immersing themselves on campus either studying, or working on campus, or participating in co-curricular opportunities. They continued to struggle with finding money to support their education. The tension between working, family responsibilities and courses only increased as their progressed through their college studies. Fulfilling math requirements was a major area of anxiety and concrete hurdle to continued student progress. The amount of math students perceived they had to know to get through the basic skills courses seemed overwhelming to the students. Students interested in nursing programs but could not get admitted struggled with if and how to continue their undergraduate studies. Finally, student involvement in this research project validated the importance of giving students continual opportunities to reflect and make meaning of their educational experiences and how they fit with their short and long-term goals. Students felt validated, affirmed, and challenged by these reflection activities.

# Conclusions and Implications

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The quantitative data of this study provides evidence that there are significant differences in the experiences, perceptions, and, in turn persistence of academically under-prepared students who participate in a learning community versus those who do not. The qualitative analyses provide insight into why these differences unfold and how students make meaning of their integrated, linked learning community curricula. Continued interviews with students after their participation in the learning community program elicited important findings that have implications for higher education administrators, faculty, and policy makers at the local, state, and national levels. We highlight a few major recommendations that emerge from the data analyses.

- 1. Increase the number and variety of learning community programs for students taking basic skills and/or ESL non-credit bearing courses, particularly at community colleges.**

Learning communities work for students taking basic skills and ESL classes. It took less than twelve weeks for many students who had not taken their academics seriously during their high school years to turn into serious, committed college students. They still had many important habits and skills to develop, but they were motivated to try. The type of learning community model is not as important as including the key conditions outlined in Section I of this report. Faculty must introduce active learning pedagogies, activities must be structured to position peers to be sources of knowledge and support, the curriculum across classes should be intentionally linked, and the model employed should integrate critical resources INTO the program experience (e.g. advising, tutoring, study groups). Efforts should be made to link ESL courses with credit-bearing general education courses. In addition, reading and writing learning communities should be the norm, not the exception.

**2. Develop learning community initiatives that include math, reading, and writing and extend beyond a semester or quarter long experience. Efforts should be made to assign the same professors through the sequence of linked courses.**

Math is a key obstacle to student progress. More intentional efforts are needed to engage students and teach them in ways responsive to students' learning styles. Students at CSEB argued that they learned more in basic skills classes when there was continuity with the professor across English classes. In addition, we learned from students' experiences in DeAnza's Math Success Program about the benefits of extended time, active learning pedagogies (that includes group work, relevant, real-life math problems), and connected relationships with the professor and peers. Learning community models should be encouraged to include math and the above conditions.

**3. Expand formalized advising and academic support service programs.**

We argue that any student who enters college with a requirement to take one or more basic skills course and is a first generation college student should have access and be encouraged to participate in a formal academic support program with an assigned advisor. Ideally, it is an advisor connected to a learning community experience. If not feasible, minimally, they should be assigned an advisor for their first and third year. The first year can address critical transitional issues to college and set students up to take the correct courses in appropriate sequencing. This time also can be dedicated to do initial career/ major exploration. The third year is another critical crossroad for students at both the four-year institutions and community college. They are making decisions about their major, next steps in their educational journey and need supportive, realistic advising from someone they trust and seek out.

**4. Introduce a series of interventions, including dedicated advisors, to work with prospective nursing students at the *beginning* of their college years.**

Talented students who are primarily interested in nursing but may not gain access to the impacted nursing programs are being lost in the college pathway. They need to be

identified, advised, and supported to develop alternative, viable educational plans. All the students we talked to who were interested in nursing were first generation college students from underrepresented backgrounds in the STEM disciplines. Early interventions need to be made to reach out to these students to educate and mentor them into alternative science and perhaps engineering fields.

**5. Faculty development programs on college campuses must focus on teaching active learning pedagogies and strategies for introducing and rewarding student participation in study groups and tutoring services.**

Students in our study were diverse in terms of ethnicity, race, national origin, and were primarily first generation college students and working class. They represented the new wave of students entering college, primarily through community college doors. Despite the diversity of backgrounds, they clearly learn best from active learning pedagogies that promote peer group discussions, relevant curricula to their personal lives and interests, and fluid teacher-student learner roles. Faculty members need ongoing faculty development to learn how to teach in ways that engage and motivate students who typically have been disengaged from their schooling experiences for some time. They also need to learn concrete strategies for influencing student behaviors that keep them on-task outside the classroom such as the use of study groups and tutoring services.

**6. Aggressively market the work-study or on-campus jobs available with ESL students and students taking basis skills courses. Consider using learning community classes to talk about the benefits of on-campus work and how to apply. Push co-curricular involvement as they finish their first year (as opposed to the beginning of their college experience).**

Student employment on campus was a key vehicle for student engagement and connection to the campus. Students are too focused on getting through basic skills courses and adjusting to college to consider the benefits or possibilities of getting involved in co-curricular activities in their first few terms in college. However, freshmen composition classes would be an excellent time to push these opportunities.

**7. Study the impact of financial aid policies and availability of classes in terms of student persistence and graduation.**

More careful examination is needed about the impact of available financial aid (or perceived availability), the type of financial aid packages, and communication/advising vehicles for student about how to secure financial aid on student persistence and attainment. These effects should be analyzed over the college career, not just during the first year. In addition, more vigilant examination of why students drop out (e.g. finances, lack of available required classes) should be pursued so appropriate interventions can occur. These data are critical to have, particularly considering recent policy discussions in California about limiting the length of time in which students have to obtain a degree and still secure financial aid. These discussions assume the fault for lack of academic progress lies with the students' motivations and actions as opposed to institutional obstacles.

**8. Access without support is not opportunity**

Finally we have relearned an important lesson that access without support is not opportunity. For too many students, especially those from low-income backgrounds and who are academically under-prepared, the open door to higher education is a revolving door. Without appropriate support too many are unsuccessful. Support requires more than the mere provision of tutoring, basic skills course, and learning centers. It calls for the establishment of conditions in which we place students that are themselves conducive of student success. Although learning communities are not the only possible vehicle to establish those conditions, our project documents that they are surely a viable one. The creation of such communities requires, however, intentional institutional action and the collaborative efforts of faculty, staff, and administrators across campus. Simply put student success does not arise by chance. Nor do effective learning communities for academically under-prepared students.



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# Appendix A: Advisory Board

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Norena Badway, University of the Pacific, California.

Peter Bahr, University of California, Davis.

Barbara Bonham, Appalachian State University, North Carolina.

Barbara Cambridge, American Association of Higher Education.

Rochelle De LaCruz, Seattle Central Community College, Washington.

Lynn Dunlap, Skagit Valley Community College, Washington.

Pam Dusenberry, Shoreline Community College, Washington.

Norton Grubb, University of California, Berkeley.

Jodi Levine Laufgraben, Temple University, Philadelphia.

Jean MacGregor, The Evergreen State University, Washington.

Gillies Malnarich, The Washington Center for Improving the Quality of Undergraduate Education, The Evergreen State University.

Roberta Matthews, Brooklyn College, New York.

Bob McCabe, League for Innovation in the Community College.

Kay McClenney, The Community College Survey of Student Engagement, The University of Texas-Austin.

Bill Moore, Washington State Board for Community & Technical Colleges

Rita Smilkstein, North Seattle Community College, Washington.

Barbara Leigh Smith, The Evergreen State University, Washington.

Jan Swinton, Spokane Falls Community College, Washington.

Phylis Van Slyck, LaGuardia Community College, New York.

# Appendix B: Participating Institutions

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## Two-Year Institutions:

Camden County College, New Jersey.

Cerritos College, California.

Community College of Baltimore County

DeAnza College, California.

Grossmont College, California.

Holyoke Community College, Massachusetts.

LaGuardia Community College, New York.

San Jose City College, California.

Sandhills Community College, North Carolina.

Santa Fe Community College, Florida.

Seattle Central Community College, Washington.

Shoreline Community College, Washington.

Spokane Falls Community College, Washington.

## Four-Year Institutions:

California State University – East Bay

California State University – Los Angeles

Temple University

Tennessee State University

Texas State University – San Marcos

University of Texas – El Paso

# Appendix C: Survey Questionnaire

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# Pathways to College Success

To ensure that your responses to the attached questionnaire are confidential, we ask you to complete this page before you begin, tear it off, and hand it in separately. The survey number on the bottom of this page and on the attached questionnaire will be used by the research staff to connect you to your responses. ONLY the research staff will have access to this information. In no case we will release any data that can connect you to any of your responses.

We greatly appreciate your participation in this study.

Name: \_\_\_\_\_  
Last Name First Name Middle Initial

What is your Student Identification Number? \_\_\_\_\_

OR

What is your Social Security Number? \_\_\_\_\_

What is your birthday? \_\_\_\_\_  
Month Day Year

Should we need to contact you, can you please provide the following information:

What is your email address? \_\_\_\_\_

What is a contact phone number? \_\_\_\_\_  
Area Code Phone Number

What is your mailing address?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ City State Zip Code

**Participation in this study is voluntary.  
Completing the survey indicates your consent to participate.**







# Appendix D: Study Variables

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## Variable Descriptions and Codes:

1) During the current academic year at this institution, about how often have you done each of the following?

Item	Variable Name	Item Description
1a	CLQUEST	Asked questions in class or contributed to class discussions
1b	CLPRESEN	Made a class presentation
1c	REWROPAP	Prepared drafts of a paper or assignment before turning it in
1d	INTEGRAT	Worked on a paper or project that required integrating ideas, information, or skills <u>from different classes</u>
1e	PUTTOGE	Put together ideas or concepts from different courses during class
1f	CLUNPREP	Come to class without completing readings or assignments
1g	CLASSGRP	Worked with classmates <u>during class</u>
1h	OCCGRP	Worked with classmates <i>outside of class</i> to prepare class assignments
1i	TUTOR	Tutored or taught other students (paid or voluntary)
1j	COMMPROJ	Participated in a community-based project as a part of a regular course
1k	ITACADEM	Used an list-serv, chat group, Internet, etc. to discuss or complete an assignment
1l	EMAIL	Used email to communicate with an instructor
1m	EMAILCLA	Used email to communicate with <u>other classmates</u>
1n	FACGRADE	Discussed grades or assignments with an instructor
1o	FACPLANS	Talked about academic or career plans with an instructor
1p	ADVPLANS	Talked about academic or career plans with an advisor or counselor
1q	FACIDEAS	Discussed ideas from your readings or classes with <u>instructors outside class</u>
1r	CLAIDEAS	Discussed ideas from your readings or classes with <u>classmates outside class</u>
1s	OTHIDEAS	Discussed ideas from your readings or classes with <u>others outside class</u> (family members, co-workers, etc.)
1t	FACFEED	Received feedback (written or oral) from <u>your instructors</u> on your performance
1u	CLAFEED	Received prompt feedback (written or oral) from <u>your classmates</u> on your performance
1v	MISCLASS	Missed class
1w	WORKHARD	Worked harder than you thought you could to meet <u>an instructor's</u> standards or expectations
1x	WORKCLAS	Worked harder than you thought you could to meet <u>an classmates</u> standards or expectations
1y	DIFFCONV	Had serious conversations with students of different race, ethnicity, or religious beliefs

Where 1=Never; 2=Rarely; 3=Sometimes; 4=Often; 5=Very often

2) During the current school year, how much has your coursework at this institution emphasized the following mental activities?

Item	Variable Name	Item Description
2a	MEMORIZE	Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form
2b	ANALYZE	Analyzing the basic elements of an idea, experience, or theory
2c	SYNTHESZ	Synthesizing and organizing ideas, information, or experiences in new ways
2d	EVALUATE	Making judgments about the value or soundness of information, arguments, or methods
2e	APPLYING	Applying theories or concepts to practical problems or in new situations
2f	PERFORM	Using information you have read or heard to perform a new skill.
2g	COMBINE	Integrating ideas, information, or skills from different classes

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

3) How much does this institution emphasize each of the following?

Item	Variable Name	Item Description
3a	ENVSCHOL	Encouraging you to spend significant amounts of time studying
3b	ENVSUPRT	Providing the support you need to help you succeed at this college
3c	ENVDIVRS	Encouraging you to make contact with students of different economic, social, and racial or ethnic backgrounds
3d	ENVNACAD	Helping you cope with your non-academic responsibilities (work, family, etc.)
3e	ENVSOCAL	Providing the support you need to thrive socially
3f	FINSUPP	Providing the financial support you need to afford your education
3g	ENCATTEN	Encouraging you to attend class
3h	ENCSUPRT	Encouraging you to make use of academic support services
3i	ENCCLASS	Encouraging you to know your classmates on a personal level (name, background, interests, etc.)

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

4) How much has your experience at this institution contributed to your knowledge, skills, and personal development in the following areas?

Item	Variable Name	Item Description
4a	GNGENLED	Acquiring a broad general education
4b	GNWORK	Acquiring job or work-related knowledge and skills
4c	GNWRITE	Writing clearly and effectively
4d	GNSPEAK	Speaking clearly and effectively
4e	GNANALY	Thinking critically and analytically
4F	GNCMPTS	Using computing and information technology
4g	GNOTHERS	Working effectively with others
4h	GNINQ	Learning effectively
4i	GNCOMMUN	Contributing to the welfare of your community
4j	CARGOAL	Developing clearer career goals
4k	GNSENSE	Developing a sense of confidence in your academic abilities

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

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

Item	Variable Name	Item Description
5a	ACADPR01	Preparing for class <u>by yourself</u> (studying, reading, writing, doing homework, rehearsing or other activities related to your program)
5b	ACADPR02	Preparing for class <u>with your classmates</u> (studying, reading, writing, rehearsing or other activities related to your program)
5c	ACADPR03	Preparing for class with the assistance of a tutor
5d	WORKON01	Working for pay <u>on</u> campus
5e	WORKOF01	Working for pay <u>off</u> campus
5f	COCURR01	Participating in college-sponsored activities (organizations, campus publications, student government, sports, etc.)
5g	CAREDE01	Providing care for dependents (parents, children, spouse, etc.)
5h	COMMUTE	Commuting to and from classes

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

Item	Variable Name	Item Description	Coding
6	ENRCLASS	In how many classes are you presently enrolled <u>at this institution</u> ?	1=1 class 2=2 classes 3=3 classes 4=4 classes or more
7	BRIDGE	Did you participate in a summer academic program (e.g. summer bridge) prior to the current academic term?	1=yes 0=no
8	EMPLOY	Are you employed during the current term?	0=no 1=yes, less than 20 hours per week 2=yes, more than 20 hours per week

9) Mark the box that best represents the quality of your relationships with people at this institution. Your relationship with:

Item	Variable Name	Item Description	Coding
9a	ENVCLASS	Classmates	Responses range from 1 to 7, with scale anchors described as: (0) NA (1) Unfriendly, unsupportive (7) Friendly, supportive
9b	ENVSTU	Other Students (not classmates)	Responses range from 1 to 7, with scale anchors described as: (0) NA (1) Unfriendly, unsupportive (7) Friendly, supportive

9c	ENVFAC	Instructors	Responses range from 1 to 7, with scale anchors described as: (0) NA (1) Unavailable, unhelpful, unsympathetic (7) Available, helpful, sympathetic
9d	ENVADM	Academic Support Staff (e.g. counselors, advisors, tutors)	Responses range from 1 to 7, with scale anchors described as: (0) NA (1) Unhelpful, inconsiderate, rigid (7) Helpful, considerate, flexible

10.1) Indicate how often you use the following services.

Item	Variable Name	Item Description
10a1	USEACAD	Frequency: Academic advising/planning
10b1	USECACOU	Frequency: Career counseling
10c1	USEJOBPL	Frequency: Job placement assistance
10d1	SETUTOR	Frequency: Tutoring (peer, group, etc.)
10e1	USELAB	Frequency: Academic support (writing, math, study skills, etc.)
10f1	USECHLD	Frequency: Child care
10g1	USEFAADV	Frequency: Financial aid advising
10h1	USECOMLB	Frequency: Computer lab
10i1	SETRCRD	Frequency: Transfer credit assistance
10j1	USEDISAB	Frequency: Services for people with disabilities
10k1	USELIFE	Frequency: Residential life
10l1	USEPARK	Frequency: Parking
10m1	SESTRANS	Frequency: Transportation

Where 0=NA; 1=Rarely/never; 2=Sometimes; 3=Often

10.2) Indicate how satisfied you are with the services.

Item	Variable Name	Item Description
10a2	SATACAD	Satisfaction: Academic advising/planning
10b2	SATCACOU	Satisfaction: Career Counseling
10c2	SATJOBPL	Satisfaction: Job placement assistance
10d2	SATTUTOR	Satisfaction: Tutoring (peer, group, etc.)
10e2	SATLAB	Satisfaction: Academic support (writing, math, study skills, etc.)
10f2	SATCHLD	Satisfaction: Child care
10g2	SATFAADV	Satisfaction: Financial aid advising
10h2	SATCOMLB	Satisfaction: Computer lab
10i2	SATTRCRD	Satisfaction: Transfer credit assistance
10j2	SATDISAB	Satisfaction: Services for people with disabilities
10k2	SATLIFE	Satisfaction: Residential life
10l2	SATPARK	Satisfaction: Parking
10m2	SATTRANS	Satisfaction: Transportation

Where 0=NA; 1=Not at all; 2=Somewhat; 3=Very often.

11) Indicate which of the following are your reasons/goals for attending this institution

Item	Variable Name	Item Description
11a	CERTPRGM	To complete a certificate program
11b	OBTAIDEG	To obtain a degree (associate or bachelors)
11c	TR4YR	To transfer to a 4-year college or university
11d	OBJBSKIL	To obtain job-related skills
11e	UPJBSKIL	To update job-related skills
11f	CARCHNG	To change careers
11g	SLFIMP	To take courses for self-improvement
11h	SPECAREA	To obtain knowledge in a specific area
11i	GOALOTHR	Other (exploration, try it out, no other plans, etc.)

Where 0=Not a goal; 1=Secondary goal; 2=Primary goal

Item	Variable Name	Item Description	Coding
12	FRNDSUPP	Are your friends supportive of your going to college?	0=No 1=Yes 2=NA (Unable to judge or does not apply)
13	FAMSUPP	Is your family supportive of your going to college?	0=No 1=Yes 2=NA (Unable to judge or does not apply)
14	TAKCLASS	When do you plan to take classes at this institution again?	1=Uncertain about my plans 2=I will return next term or academic year 3=I will not be returning <u>because I accomplished my goal(s) during this term</u> 4=I will not be returning for other reasons

15) How likely is it that the following issues would force you to withdraw from class or from this institution?

Item	Variable Name	Item Description
15a	WRKFULL	Working full-time
15b	CAREDEP	Caring for dependents
15c	ACADUNP	Academically unprepared
15d	LACKFIN	Lack of finances
15e	GOALCHNG	Educational goals changed
15f	CHNGCAR	Change in career plans
15g	MOVE	Moving/relocating
15h	LACKINST	Lack of institutional support
15i	LACKFAM	Lack of family support
15j	ISOLATE	Sense of isolation
15k	NOTFIT	Sense of not fitting in
15l	QUALTEAC	Quality of teaching
15m	WITHOTHR	Other (health, military, etc.)

Where 1=Not Likely; 2=Somewhat Likely; 3=Likely; 4=Very Likely

Item	Variable Name	Item Description	Coding
16	RESIDE	Where do you currently reside?	1=Alone 2=At home with family 3=In an off-campus apartment or house 4=In a campus residence hall 5=Other
17	TERMXP	How would you evaluate your educational experience at this institution THIS TERM?	1=Poor 2=Fair 3=Good 4=Very Good 5=Excellent
18	ENTIREXP	Overall, how would you evaluate your educational experience at this institution?	1=Poor 2=Fair 3=Good 4=Very Good 5=Excellent
19	RECOMMEN	Would you recommend this institution to a friend or family member?	1=Yes 0=No
20	AGE	Mark your age group	1=17 or younger 2=18 3=19 to 22 4=23 to 25 5=26 to 29 6=30 to 39 7=40 to 49 8=50 to 59 9=60 plus
21	GENDER	Your gender	1=Male 2=Female 3=Transgendered
22	ENGFIRST	Is English your native (first) language?	1=Yes 0=No
23	INTERNAT	What is your citizenship status?	1=US Citizen 2=International 3=Other

24) What is your racial identification?

Item	Variable Name	Item Description
24a	REAMIND	American Indian or Other Native American
24b	REASIAN	Asian, Asian American or Pacific Islander
24c	REHAW	Native Hawaiian
24d	REAFRAM	Black or African American
24e	REWHITE	White, Non-Hispanic
24f	REHISPAN	Hispanic, Latino, Spanish
24g	REOTHR1	Other

Where Blank=no response; 1=response



Item	Variable Name	Item Description	Coding
25	HIACCRED	What is the highest academic credential you have earned?	0=None 1=High school diploma 2=GED 3=Vocational/technical certificate 4= Associate degree 5= Bachelor's degree 6= Master's/doctoral/professional degree 7=Other
26m	FATHED	Highest level of education: father	1=Not a high school graduate 2=High school diploma or GED 3=Vocational or trade school 4=Some college did not complete degree 5=Associate degree 6=Bachelor's degree 7=Master's/1 <sup>st</sup> professional degree 8=Doctorate degree 9=Unknown
26f	MOTHEd	Highest level of education: mother	1=Not a high school graduate 2=High school diploma or GED 3=Vocational or trade school 4=Some college did not complete degree 5=Associate degree 6=Bachelor's degree 7=Master's/1 <sup>st</sup> professional degree 8=Doctorate degree 9=Unknown

## Factor Construction and Coding:

### 1. Involvement in Class / Class work (INVCLASS)

$$\text{INVCLASS} = \text{CLQUEST} + \text{CLPRESEN} + \text{REWROPAP} + \text{INTEGRAT} + \text{PTTOGE}$$

### 2. Involvement with Classmates (INVCLMATE)

$$\text{INVCLMATE} = \text{CLASSGRP} + \text{OCCGRP} + \text{EMAILCLA} + \text{CLAIDEAS} + \text{CLAFEED}$$

### 3. Involvement with Faculty (INVFAC)

$$\text{INVFAC} = \text{EMAIL} + \text{FACGRADE} + \text{FACPLANS} + \text{FACIDEAS} + \text{FACFEED}$$

### 4. Perceived Encouragement (PENCOUR)

$$\text{PENCOUR} = \text{ENVSCHOL} + \text{ENVDIVRS} + \text{ENCATTEN} + \text{ENCSUPURT} + \text{ENCCLASS}$$

### 5. Perceived Support (PSUPPORT)

$$\text{PSUPPORT} = \text{ENVSUPRT} + \text{ENVNACAD} + \text{ENVSOCAL} + \text{FINSUPP}$$

### 6. Preparation (PREPARE)

$$\text{PREPARE} = \text{ACADPRO1} + \text{ACADPRO2} + \text{ACADPRO3}$$

### 7. Engagement (ENGAGE)

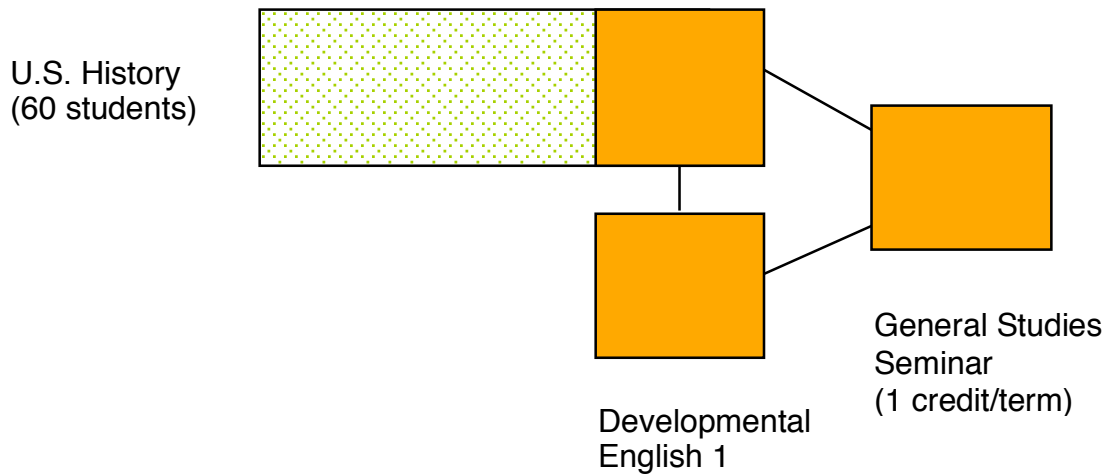
$$\text{ENGAGE} = \text{INVCLASS} + \text{INVCLMATE} + \text{INVFAC}$$

# Appendix E: Learning Community Models

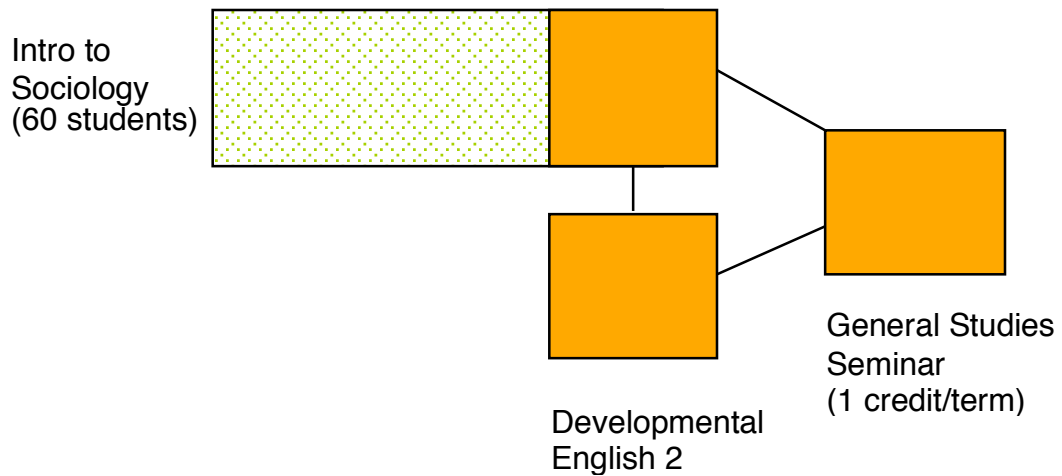
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## Cal State East Bay Clusters (Year-long)

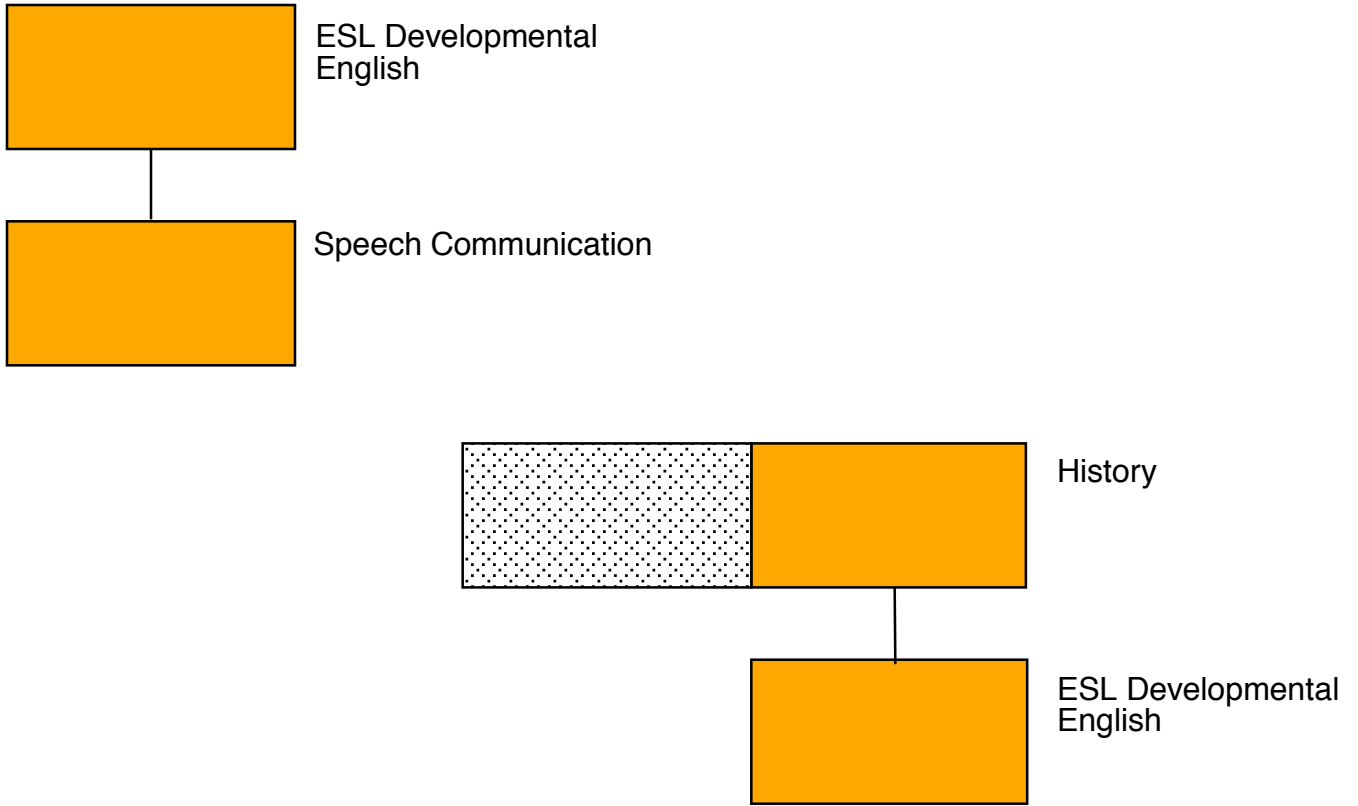
### Ancient World—Fall



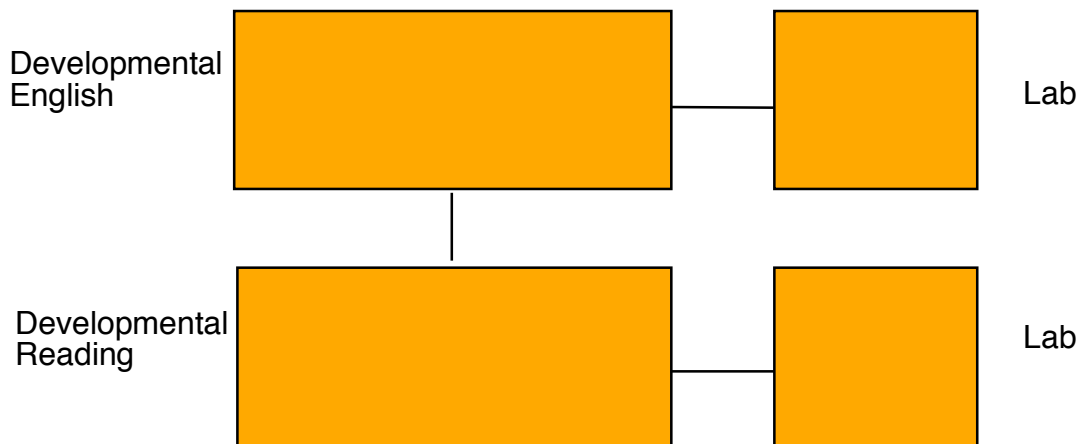
### Ancient World—Winter



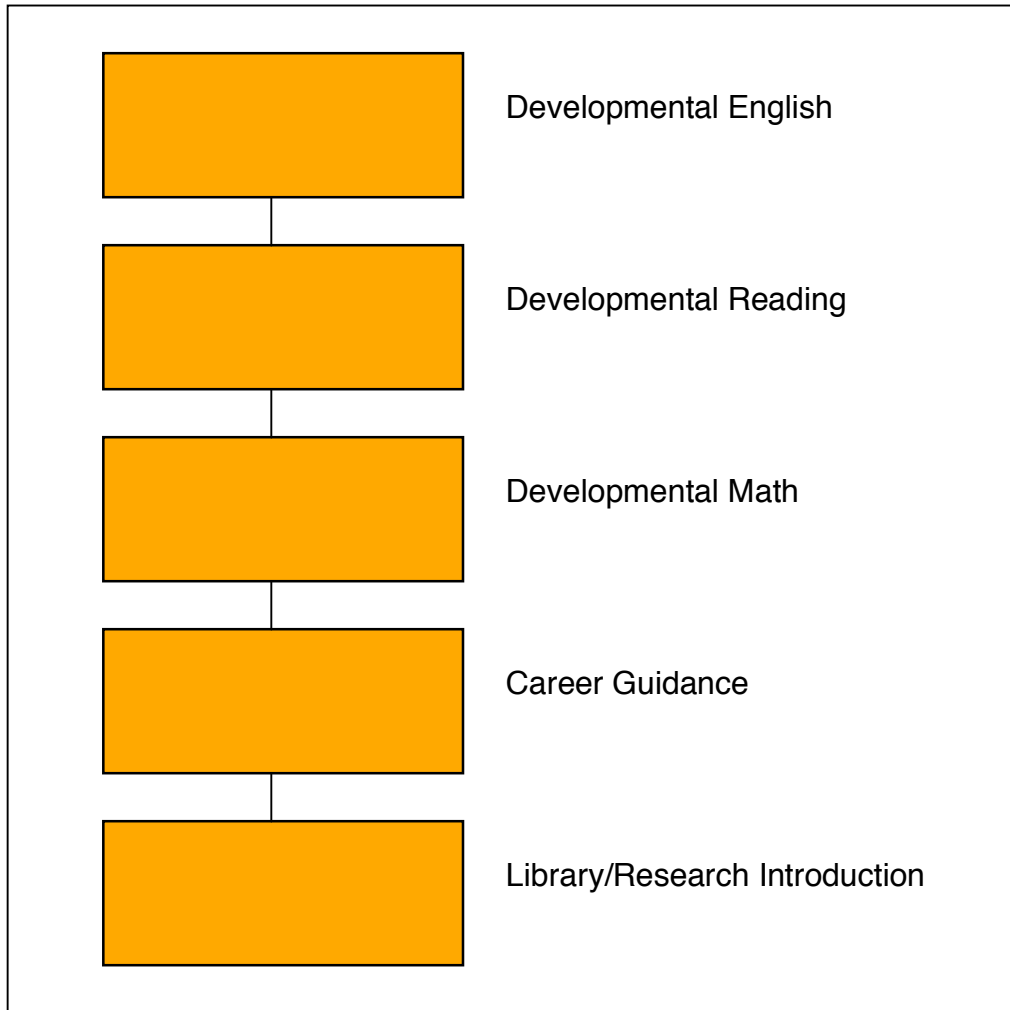
# DeAnza College: ESL



# DeAnza College: LART 100/200



# Cerritos College: House A & B



# Appendix F: Student Interviewees

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## Student Demographics

Institution	Interview Round	Number	Gender		Race/ Ethnicity							ESL	
			Male	Female	AA/A	A/PI	HI	ME	MU	NA	UN		W
Cal State East Bay	1	53	16	37	7	23	5	1	5	0	10	2	1
	2	30	9	21	5	14	3	0	2	0	5	1	0
	3	16	5	11	2	6	3	0	1	0	3	1	0
	4	18	3	15	4	8	1	0	2	0	3	0	0
	5	12	2	10	3	6	1	0	2	0	0	0	0
Cerritos College	1	61	23	38	3	5	27	0	10	1	8	7	1
	2	26	12	14	1	1	12	0	5	1	2	4	0
	3	9	4	5	0	1	4	0	2	1	0	1	0
	4	11	5	6	0	0	6	0	4	1	0	0	0
	5	7	4	3	0	0	3	0	2	1	1	0	0
DeAnza College	1	38	17	21	5	19	3	2	1	0	1	7	6
	2	25	10	15	3	13	1	1	1	0	0	6	5
	3	17	7	10	2	9	0	1	1	0	0	4	5
	4	15	5	10	2	7	0	1	1	0	0	4	5
	5	10	1	9	1	6	0	0	0	0	0	3	4
	6	7	1	6	0	5	0	0	0	0	0	2	4

**AA/A** = African American / African  
**A/PI** = Asian / Pacific Islander  
**HI** = Hispanic  
**ME** = Middle Eastern

**MU** = Multi-ethnic  
**NA** = Native American  
**UN** = Unknown  
**W** = White