

Building Learning Communities for New College Students

**A summary of research findings of the
Collaborative Learning Project**

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Preface

The study was carried out under the auspices of the National Center on Postsecondary Teaching, Learning and Assessment, a national research center funded by the U.S. Department of Education's Office of Educational Research and Improvement. All the views expressed here, however, are solely those of the authors and should not be attributed to the U.S. Department of Education or any of its staff.

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Introduction

We know that the more students are involved in college, the more they gain from the college experience (Astin, 1993; Tinto, 1987; and Pascarella and Terenzini, 1991). What we do not yet know, however, is how one achieves that involvement. Though we know of the practices of some "involving colleges" (Kuh, et al., 1991), these schools are invariably small and private and serve a largely well-to-do residential student population for whom involvement is "expected." What we need to know is how institutions that serve the great bulk of college students--namely, the less-affluent students in public settings--can achieve that involvement in situations that normally constrain student involvement. This is especially important for policy purposes since most students commute to college and an increasingly large proportion work, have substantial family obligations, and/or attend college part time. These are the students future educators will be working with.

Fortunately, a number of institutions have begun addressing the need for student involvement by reshaping their educational programs (Gahlenick, MacGregor, Matthews, and Smith, 1990; Goodsell, Maher, and Tinto, 1992). This project focuses on one such effort--the development of learning communities for beginning college students. Specifically, it examines the experiences of new college students in three learning community programs set in three different public institutions of higher education: the Freshman Interest Group Program at the University of Washington, the learning community clusters at LaGuardia Community College, and the Coordinated Studies Program at Seattle Central Community College.

Freshman Interest Groups at the University of Washington

The Freshman Interest Group (FIG) program at the University of Washington, modeled after a similar program at the University of Oregon, enrolls groups of approximately twenty students in a cluster of courses that are linked by a common theme. Although students enroll as a group in each of the courses, they are typically not the only students in those courses. With the exception of several Writing Link FIGs (which connect composition to the topics of the other courses in the FIG), course content and process follow traditional guidelines. FIG members also participate in an additional one-credit FIG group meeting facilitated by an upperclass peer

advisor. The meeting gives students the opportunity to discuss class activities as well as other practical matters of attending college. Equally important, it provides each student with a small community of peers who help each other negotiate the transition to college.

Learning Communities at LaGuardia Community College

The term "learning community" is used at LaGuardia Community College to refer to a variety of programs: the Liberal Arts Clusters, Enterprise Center, and New Student House to name a few. Though different in content, each program shares a number of common attributes. Typically students enroll as a group in a thematically linked cluster of courses where professors integrate the content across courses according to a unifying theme. A group of students register for each cluster and make up the only members of the classes. In addition to taking these courses, students also enroll in an Integrated Seminar, a one-credit-hour course taught by one of the three professors. The intent of the integrated seminar is to provide a time during the week when the students can examine the content from all the courses across their common theme, providing an intellectually integrative experience. The New Student House is like the other programs but is targeted at less well-prepared students who are admitted into remedial level courses determined by placement exams. For these students, the Integrated Seminar consists of academic advising, problem solving, study skills seminars, and test-taking strategies.

Coordinated Studies Program at Seattle Central Community College

The Coordinated Studies Programs (CSP) at Seattle Central Community College typically consist of two to four thematically linked courses that meet together as one large learning community (40 to 100 students) and are team taught by two to four instructors. The theme of the CSP, defined by its title, crosses disciplinary areas usually in the Humanities Division, but may extend to the Math-Science or Professional-Technical Divisions. CSPs typically meet for a total of 11 to 18 hours each week in four to six hour blocks over two to four days. Generally all instructors are present and active in all class meetings. For most of the week, the entire class meets together, but once or twice a week the large class splits into smaller seminar sessions. The use of cross-disciplinary topics, team teaching, continuous class meeting times, and regular small-group activities creates a collaborative learning program that provide students a distinctly different learning experience, one that consciously seeks to engage students as full participants in the construction of knowledge.

Research Design

The research project sought to answer two basic questions regarding these programs. First, do learning communities make a difference, and if so, how? To answer these questions we used both quantitative and qualitative forms of inquiry.

Quantitative Study: For the quantitative study, a panel of students from each institution was drawn to create a representative group of students in learning communities and in traditional classes (See figure 1). In each institution, we selected a sample of learning community classes that in the view of program staff best captured the intent of their program. Panel members were followed via survey questionnaires to track academic and social behaviors, perceptions of academic experiences, and academic performance and persistence during their first year.

FIGURE I

NUMBER OF STUDENTS SELECTED FOR STUDY AT EACH INSTITUTION

INSTITUTION	Learning Communities	Traditional Classes
Seattle CCC	121	166
U of Washington	254	188
LaGuardia CC	174	287

An entry questionnaire was administered at the beginning of the year and a follow-up questionnaire later during that year. The first collected information on a range of student attributes and prior educational experiences. The second, derived in part from Pace's Quality of Student Effort Scales, obtained information on current life situations, on a range of classroom and out-of-classroom activities, and on estimates of learning gains. In the following term, information was acquired from institutional records for credits earned, grade point average and quarter to quarter enrollment. These data, together with students' estimates of their learning gains, were taken to represent outcomes of students' first year experiences.

Several forms of analysis were carried out. These ranged from simple frequency and cross-tabular comparisons to describe and compare students behaviors and outcomes to multivariate discriminate and logistic regression analysis to ascertain the independent contribution of participation in a learning community to persistence and learning outcomes.

Qualitative Study: The qualitative part of the study focused entirely on the experiences of students in the learning community programs. Its intent was to understand, from the students' point of view, how participation in a learning community influenced students' learning experiences and how those learning experiences fit in with their broader experiences as first year students. While we sought information on the success of learning communities, we were equally concerned with understanding *how* they worked. Thus we posed questions such as: What do students do in the programs? How do students in the programs make sense of their experiences? How are the behaviors related to the outcomes we observed in the quantitative study that are associated with program participation?

We visited each institution three times during the course of the year, twice in the fall and once the following spring. During these visits, the researchers immersed themselves in the activities of the college, attending program classes, talking to students and staff in a variety of settings. Data were collected through this participant observation process and through interviews with several key students. These ranged from causal conversations, informal telephone interviews with key informants to pre-arranged taped interviews using an open-ended, semi-structured format to taped interviews using an open-ended, semi-structured format. Over seventy students from each campus were interviewed; some were interviewed only once while others agreed to multiple interviews over the course of the year. Data were also drawn from a variety of institutional documents including college publications and class materials.

Data analysis was conducted in an on-going process which enabled the research team to explore themes as they emerged and to pursue unexpected leads during the second and third site visits. We analyzed the data by reading and rereading the fieldnotes and interview transcripts, assigning codes to portions of the data, identifying emerging themes in the data, and generating hypotheses based on these themes. This process of incorporating emerging themes from the data with hypotheses constructed during the study is characteristic of inductive analysis used in qualitative research. The strength of inductive analysis is that it facilitates the "grounding" of new models or theories. A critical component of the analysis was the collaborative nature of the research. During site visits we met on a daily basis and between site visits on a weekly basis to

discuss themes, generate alternative hypotheses, and challenge one another's assumptions. Beyond adding to the rigor of the analysis, these collaborative efforts enriched our work by forcing us to consider and reconcile the multiple ways in which the data could be viewed. To make the mechanical aspects of data analysis more manageable (sorting and retrieving the coded data), we employed a qualitative data analysis computer program (QUALOG). This enabled us to analyze great amounts of data while preserving our ability to continually go back to the data to test our working hypotheses.

The Impact of Learning Communities on New College Students

Building Supportive Peer Groups

"One of the biggest reasons for joining a FIG group was to meet people. The way the university is set up it is practically impossible to meet people unless you subdivide it into smaller groups."(student at the University of Washington)

In all three settings, participation in a first-year learning community enabled students to develop a network of supportive peers that helped students make the transition to college and integrate them into a community of peers. This community of peers, formed in their learning communities, provided students with a small, knowable group of fellow students with whom early friendships were formed. Some friendships lasted; others faded. But in all cases students saw those associations as an important and valued part of their first year experience.

Meeting people and making friends during the first year of college is a major preoccupation of student life, especially among younger students who have yet to establish families or acquire significant work obligations. While making friends may be a relatively easy task in smaller, more intimate residential colleges, it is far more difficult in commuter institutions and in very large institutions. It is not surprising then that so many students talked of their learning communities as a place to meet new people and make new friendships; a way to make the large university a smaller, more knowable place. At the University of Washington, meeting people was the predominant reason given for joining and liking a FIG. In the urban setting of New York City, a student at LaGuardia Community College put it this way:

That's why the cluster is really great, because right now [September] I've made a lot of friends. In another school if I had different classmates, it would have been harder. I've made a lot of friends that I didn't know before, so that's good.

The comfort of knowing people in classes the first quarter was not the only reason students gave for wanting to meet people. Many students talked about anticipating a long-term payoff from their participation in a learning community. Because the communities were organized around an academic major or an academic interest, students talked about the benefits of knowing students in future classes. One student said "these are probably people that will be here as long as I will be and will probably be in some of the classes I will be in later on." Another said, "[the people in the FIG] want to major in business, and I'll probably have them in my classes. So when I do walk in the business school, it won't be like I don't know anybody. I'll see someone I know, and that's good."

In this way, the network of established friendships often extended into the following academic quarters as students took classes together and/or formed study groups beyond those established in the first quarter learning community. In all cases, but especially in the programs in the community colleges, the structure and continuity of program activities provided a space for the emergence of a supportive community of peers that continued outside the program (Tinto and Russo, 1994). In addition, the students in the community colleges we studied often made friends who fell outside their prior social networks. In these settings where students come from a great diversity of backgrounds and traditions, students spoke not only of making new friends, but also of the diversity of views and experiences they came to know through those friendships.

Shared Learning: Bridging the Academic-Social Divide

"We were all learning together, but each person learns differently... I mean studying for tests and stuff. We helped each other... copying notes for days we missed, dividing things up. I know that me and this girl did that a lot. Just studying for things and talking to each other about our projects." (student at the University of Washington)

The shared learning experience of learning communities did more than simply cement new friendships; it served to bridge the academic-social divide that typically plagues student life. Often, social and academic concerns compete; causing students to feel torn between the two worlds. Learning communities helped students draw these two worlds together. The personal connections students made in the learning communities allowed them to experience classes in ways that they may not have if they were not in a learning community. The development of these interpersonal relationships in the classroom was important because it was against this

backdrop of a supportive network of peers that other academic support mechanisms could begin to operate. Once these were in operation, students were able to turn towards the material presented in class and their assignments.

At the University of Washington, for instance, the FIGs encouraged student class attendance and class participation. Even in situations (e.g., large lecture classes) where student attendance was uneven, members of a learning community were more likely to attend class. They spoke of a sense of obligation to other community members to attend class. FIG students reported that they felt more comfortable going to large lectures knowing that they would see a group of people with whom they were familiar. One student said,

I can't imagine not being in the FIG, I really can't. I would feel so lost. I mean, my history class has about five hundred people in it, and going into that class on the first day by myself completely alone--I would have peed my pants! But having somebody to go with you would make things so much easier. And next quarter, I'm ready [to go into classes alone.]

In this way, the learning communities at the University of Washington reduced student feelings of anonymity and decreased the tendency of students to skip certain classes. The comments of Jeff and Beth illustrate this point. Jeff said he attended his Writing Link class because everyone, not just the instructor, would notice if he was missing: "The reason why I go usually is because that's a smaller class; if you're missing, everyone knows you're gone. And you kind of feel, that's the only class I really feel obligated, like I have to be there every day, so I show up to each class." Beth talked about classes in general: "[A] nice thing about FIGs is that since you know everyone, they really encourage you not to skip out. There's more encouragement not to miss classes. If you go to your first class, then there's everyone telling you to go to your second."

The learning communities at Seattle Central and LaGuardia Community colleges presented more clearly shared learning experiences. Unlike students in the FIGs at the University of Washington, students in these community college programs were the only students in the linked courses. They shared common classes, learning experiences, and work assignments. As one student at LaGuardia explained:

In the same class you see the same faces, and you make friends. And you discuss anything whenever you want. . . . If I have a class, like writing, and the next class is different, then I have to make friends in that class, and I can't discuss the things that I want. [In this learning community] it's easier to talk about different ideas or whatever you want.

Not surprisingly, the impact of learning communities on both social and academic life at LaGuardia and Seattle was even more noticeable than it was at the University of Washington. Many students saw participation in the learning community as an important part of being able to manage the many struggles they faced in getting to and participating in class. This was particularly evident in the Coordinated Studies Program (CSP) at Seattle Central Community College. Through seminars, group projects, class discussions, and self-evaluation reports, CSPs allowed, indeed compelled, students to actively participate in their learning both inside and outside class and incorporate their out-of-class experiences into the learning process. These activities contributed not only to a high level of student participation in learning (as compared to students in traditional class settings), but also to the development of supportive peer groups that helped students balance the many struggles they faced in attending college. Students spoke of their desire to continue college often as a direct result of their CSP experience.

In this and other ways, participation in a shared learning experience enabled new college students to bridge the academic-social divide that typically confronts students in these settings. It allowed them to meet two needs, social and academic, without having to sacrifice one in order to meet the other. But more than simply allowing the social and academic worlds to exist side-by-side, the learning communities provided a vehicle for each to enhance the other. Students spoke of a learning experience that was different and richer than that with which they were typically acquainted. As one student from LaGuardia noted, when comparing his recent experience in a learning community with his more traditional classes:

In the cluster we knew each other, we were friends, we discussed everything from all the classes. We knew things very, very well because we discussed it all so much. We had a discussion about everything. Now it's more difficult because there are different people in each class. There's not so much - oh, I don't know how to say it. It's not so much togetherness. In the cluster if we needed help or if we had questions, we could help each other. . Now we're just, more on our own."

Gaining a Voice in the Construction of Knowledge

"These classes incorporate into your life and into your learning. It becomes part of your thinking. It just keeps connecting, and connecting, and connecting." (student at Seattle Central Community College)

Unlike the learning communities at the University of Washington and LaGuardia Community College, those at Seattle Central Community College met as one large class, and the faculty worked together as a collaborative team in the classroom. They consciously sought to model learning for the students and include students as active participants in the construction of classroom knowledge. In that way, they sought to have students take ownership over the learning process. It was an experience that required students to become personally involved in deciding what they knew and how they knew it. Given the diversity of both faculty and students in the community and the diversity of views expressed in the class, it was also an experience that forced students to rethink their own perspectives.

Students at Seattle Central appreciated the contrasting, though complementary, ideas from different instructors. They saw instructors grapple with and analyze their own content and synthesize it with the content from other disciplines into a course with one main theme. The continuity of course activities and assignments provided students with opportunities for guided practice in their own thinking across disciplines, in-depth exploration of key concepts, and relating course materials with their lived experiences. The result was high levels of discussion and activity within the CSP and a sense of personal involvement in learning that students saw as very different from past educational experiences.

The multi-disciplinary approach also provided a model of learning that encouraged students to express the diversity of their experiences and world views. In doing so, it allowed age, ethnic, and life experience differences among students to emerge and become part of class content. Many students commented on the range of diversity as a way to learn more than just *about each other*. They saw student (and faculty) diversity as an important factor in their learning *about the content*. They appreciated the multiple perspectives that a diverse population provided in the CSP process and felt, in turn, comfortable expressing their own ideas and questions.

The innovative approach of the CSP encouraged students to consciously address issues of their own learning. The diversity of learning experiences challenged students' understandings of what it means to attend college and to learn. The CSP challenged students' assumptions about how knowledge is constructed. The process of collaboration between students and faculty and with the course content provided a new model of learning that encouraged students to embrace an expanded picture of the learning process. The students reported that they learned concepts better by seeing them presented from perspectives that crossed content areas and found deeper appreciation of the many ways in which knowledge is created.

Changed Behaviors, Changed Outcomes

These are not the only positive outcomes of learning communities. The data from our survey questionnaires indicate that learning communities benefit students in several other ways. In response to the survey questionnaires, students on all three campuses, especially Seattle Central Community College, reported greater personal involvement in a range of academic and social activities and greater perceived developmental gains over the course of the year than did students in the regular curriculum at each of the three institutions. They saw the faculty and their student peers as more welcoming and supportive, their classes as more involving, the campus climate as more comfortable and friendly, and themselves as more excited and involved in learning. In short, students in learning communities were more engaged in learning and more positive about that engagement than were students in non-linked courses in the institution (See appendix).

Perhaps most importantly, students in learning communities persisted onto the next year at considerably higher rates than did similar students in the regular courses. Seattle Central Community College students persisted to the following Spring and Fall quarters at a significantly higher rate than their peers taking traditional courses (83.8 verses 80.9 percent in Spring and 66.7 verses 52.0 percent in Fall). At the University of Washington, though the persistence into the second year is high among all students (96.3%), it was still higher among those who participated in the FIGs (99.2%) than it was in the comparison groups (95.8%). In each case, multivariate statistical analyses confirmed that participation in a learning community was an independent predictor of persistence to the second year of college even after controlling for a range of other student attributes that also contribute to persistence.

These differences in persistence remained even after controlling for willingness to participate in a learning community. For instance, in the case of Seattle Central Community College, students who registered late and enrolled in the CSP because it was their only remaining option, had the same persistence level as those who purposefully chose to participate in the CSP.

Finally, we found that remedial students also benefitted from participation in a learning community. Remedial students in the New Student House at LaGuardia Community College's were even more positive in their views and more involved in learning activities than were their non-remedial peers. And their rates of persistence were comparable to that of their peers in the regular curriculum.

Implications

The research of the collaborative learning project suggests several ways in which institutions can enhance the education of their students.

1. ***Institutions can effectively employ learning communities during the first year to assist new students make the transition into both the academic and social life of college.***

By providing new students a way to engage in learning together with their peers, learning communities address one of the continuing problems facing students in the first year of college: the need for both academic as well as social integration. And they did so in a manner that did not require students to pit one need against the other.

Unfortunately, this is not the case for many college students, especially those attending residential campuses away from home. For these students, the demands of social membership in the first year frequently take precedence over the demands of academic work. This may be expressed in the form of sorority or fraternity pledging, membership in student organizations, or time spent with friends "hanging out." In other words, students often pursue social affiliations at the expense of academic work. This problem is further compounded by the size of many public institutions. In public universities and colleges where class sizes in the first year typically run in the hundreds, students commonly report being bored and uninterested in the lectures. They find that learning is a highly individualistic, often alienating, experience.

While Freshmen Interest Groups like those at the University of Washington cannot, in themselves, solve the problems of uninteresting classes, they do serve as a type of learning community that can further students understanding of course material. More importantly, learning communities generally do more than simply make learning possible in the first year. By linking the social to the academic, learning communities make for a more powerful learning experience, one that transcends the typically un-involving academic experience of the first year. It is an experience that significantly impacts both first-year learning and persistence into the second year of college (Tinto and Goodsell-Love, 1994).

2. ***Institutions can employ learning communities to promote student involvement and achievement in settings where such involvement is not easily attained. Even among students who face multiple constraints upon their ability to become involved in college, learning communities "work."***

Unlike the involving colleges studied by Kuh, Schuh, Whitt, and Associates (1991), the settings we studied were largely non-residential. Students in these colleges had to attend to a multiplicity of family and work obligations that normally constrain involvement. Yet even for those students, and for those whose academic skills were marginal, learning communities "work." In the community colleges we studied, students found support among their learning community peers that enabled them to manage the many struggles they faced simply getting to college while also enhancing their involvement in the academic life of the institution. At the public university where large classes and competing social activities normally discourage attendance and involvement in learning, students in learning communities were more likely to attend class, and in many cases, more likely to be engaged in academic activities. For all students, the outcome was a more positive learning experience and improved persistence.

We believe learning communities can substantially improve both student involvement in learning and persistence in college. Unlike the many "retention programs" that are primarily the responsibility of student affairs and only marginally related to the work of the faculty, learning communities directly impact upon the experience of both faculty and students and the character of the educational settings in which they participate.

3. ***Learning communities can be an effective response to the needs of new college students with remedial level skills.***

The experience of students in the New Student House at LaGuardia Community College bears testimony to the potential of learning community programs to help developmental level students succeed in college. Students in that program were as actively involved in learning as other students, and were more positive about their experiences than their peers who were not admitted to the New Student House. Moreover, they persisted at a rate that was comparable to their peers.

It's not surprising that learning communities help students who need more preparation for college. What is surprising is that so few institutions have looked to learning communities to help these students. Most institutions have, instead, continued to rely on supplemental "add-on" programs that are largely the work of student affairs. While such programs can be very valuable, they typically fail to address the totality of student educational and social experience in college.

4. ***Institutions should assist faculty collaboration and their utilization of teaching strategies that actively involve students in classroom learning.***

Implementing an effective learning community program that combines courses and links faculty is not only time-consuming but replete with challenges to the "traditional" ways of doing things. Among other things, faculty must be assured the time to collaborate with one another and to redesign their courses. Registrations procedures, academic advising, and evaluation practices will probably all need revisions. Even if a college seeks to enhance student involvement only through improvements in individual courses--in lieu of multi-disciplinary, team-teaching programs--faculty may need professional development workshops on using collaborative/cooperative teaching strategies that encourage diverse student views and the social construction of knowledge. The development of learning communities is a faculty effort that needs administrative support.

5. *In considering the direction of educational reform, institutions should focus less on student behaviors and student obligations, and more on the character of their own obligations to construct the sorts of educational settings and provide the types of educational pedagogies in which all students, not just some, will want to become involved.*

Our obligation as educators to involve students in learning should lead us to rethink the patterns of academic organization that now mark our institutions. Rather than adhere to highly bureaucratic models that emphasize subject and discipline divisions, individual learning in competitive educational settings, and the separation of "student affairs" from "academic affairs," we would be wise to consider adopting a community-based model of education which encourages learning through collaboration and ties together all facets of students' college experiences. Such a model of learning has long been employed with considerable success in smaller, typically private, residential colleges. Now we are now discovering that it can also be successfully adapted to institutional settings where involvement is more difficult to achieve. That this is the case should come as no surprise. The only surprise is that it has taken us so long to rediscover the importance of community in college and its impact upon student education.

Summary

The results of our studies lend support to the effectiveness of learning communities as a vehicle to improve both student learning and persistence. These can be summarized as follows:

1. Participation in a collaborative learning group enables students to develop a supportive community of peers that helps bond students to the broader social life of the college while also engaging them more fully in the academic experience. Groups that formed for course-related purposes often extended beyond the classroom for informal gatherings and study sessions. In this manner, collaborative learning practices enabled new college students to bridge the academic-social divide that typically confronts students in community colleges; students were able to meet two needs, social and academic, without having to sacrifice one in order to meet the other.
2. Students were influenced by participating in a setting in which sources of learning came from a variety of perspectives beyond that of one faculty member. When several professors were brought together to teach collaboratively, students' learning experiences took on an intellectual richness that traditional courses could not match. At the same time, as students connected their personal experiences to class content and recognized the diversity of views and experiences that marked differing members of the classroom, the academic conversation was opened to many voices, empowering students and validating their ability to contribute to the progress of the course.
3. Student learning was clearly affected by the collaborative experience. Students in those settings were more socially and academically involved in college life and more positive in their views of the institution and their own involvement in college. We know from student comments that they perceived an improved quality of learning in the collaborative settings and saw themselves as having made greater intellectual gains while in college than did students in regular classes. And perhaps most important, independent of individual attributes, students were more likely to stay in school.

4. These "effects" were as prevalent among "remedial" students as for their "non-remedial" peers. Learning communities work for many types of students, including those typically excluded from the mainstream of academic life because of deficient academic preparation.

This research fills a critical gap in the work of Astin (1993), Tinto (1987) and others who have explored the importance of student involvement to student success and persistence. While reaffirming the fact that involvement matters, our research provides empirical documentation of a number of ways in which that involvement arises in three different educational settings. In doing so, it moves the conversation about involvement beyond the recognition of its importance to the practical issue of how involvement can be generated in settings where it is not easily obtained.

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Appendix

Below are provided three tables which describe some of the differences between learning community program and comparison group students in each of the three institutions studied by the research team. In each case, the tables provide the results of student responses to survey questions that asked them to rate different facets of the institutional environment, specifically their classes, other students, faculty, administrators (in the case of LaGuardia Community College also office staff and counselors), campus climate, themselves as members of the institution, and different types of intellectual gains over the course of the year. All but the last variable, intellectual gain, are the result of student responses to individual items that asked the student to rate a particular aspect of the environment on a seven point scale where 1 equals the most negative evaluation and 7 the most positive evaluation. For example, the question on classes asked students to rate classes as ranging from boring and dull (1) to stimulating and involving (7). Data given in the table are the means on each variable for each group of students. The intellectual gain variable is derived from student responses to over twenty questions that ask the student to estimate, on a four-point scale, their gain over the course of the year on specific domains of skill and/or fields of knowledge. Responses range from 1=very little to 4=very much. For each person, the scores on each question are added and the sum divided by the number of questions to produce a factor score on that category of questions. The data in the table are the mean factor scores for each group of students, program and comparison.

TABLE A-1

**PERCEPTIONS OF COLLEGE ENVIRONMENT OF
CSP AND COMPARISON CLASS STUDENTS
(SEATTLE CENTRAL COMMUNITY COLLEGE)**

PERCEPTIONS OF:	CSP	COMPARISON
Classes	6.03 *	5.16
Other Students	5.64 *	5.19
Faculty	6.00 *	5.62
Administrators	4.86 *	4.54
Campus Climate	5.31 *	5.17
Yourself	5.80 *	5.01
Intellectual Gain	2.68 *	2.46

where * indicates a significant difference between groups at the .05 level.

TABLE A-2

**PERCEPTIONS OF COLLEGE ENVIRONMENT OF
FIG AND COMPARISON CLASS STUDENTS
(THE UNIVERSITY OF WASHINGTON)**

PERCEPTIONS OF:	FIG	COMPARISON
Classes	5.11 *	4.61
Other Students	4.49	4.36
Faculty	3.84	3.76
Administrators	4.46	4.33
Campus Climate	5.24 *	4.91
Yourself	5.31 *	4.95
Intellectual Gain	2.43	2.43

where * indicates a significant difference between groups at the .05 level.

TABLE A-3

**PERCEPTIONS OF COLLEGE ENVIRONMENT OF
LEARNING COMMUNITY AND COMPARISON CLASS STUDENTS
(LAGUARDIA COMMUNITY COLLEGE)**

PERCEPTIONS OF:	LEARNING COMMUNITIES	COMPARISON
Classes	5.13 *	4.93
Other Students	5.52 *	5.07
Faculty	5.64 *	4.95
Counselors	5.40 *	5.05
Administrators	4.60	4.60
Office Staff	4.50	4.52
Campus Climate	5.24 *	5.00
Yourself	5.41	5.35
Intellectual Gain	2.67	2.64

where * indicates a significant difference between groups at the .05 level.