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Iowa State University

Chapter 7

The learning communities program at Iowa State University began in the early 1990s as a localized effort of some faculty and staff and has grown into a thriving multiple-model program that enrolls approximately half of the first-year class. Currently, students are enrolled in a wide variety of learning communities, from those designed for specific academic majors to general residential programs. In the 2002-2003 academic year, 2,139 students participated in 46 communities organized into 119 teams. Assessments indicate that learning communities at Iowa State provide students with myriad academic and social benefits. All these communities hold in common an interest in offering students an experience that integrates their academic and social lives. Many of these communities offer this integration through a variety of first-year seminars, while others embed this integration directly into pre-existing courses linked in the learning communities. How this integration occurs, either as part of a separate seminar or in other courses, is central to the discussion in this chapter.

Throughout the life of its learning communities, Iowa State has worked to institutionalize the grassroots effort without squelching the enthusiasm among early innovators. Innovations often begin with individuals and groups who invariably first work outside the existing structure of the institution. If the innovation begins to take hold, it quickly can create conflict with existing structures, and its further growth requires institutional change. How the institution responds to such change has a significant impact on the success of the innovation. Indeed, the University enhances innovation and improvement whenever it fosters such change by coordinating the formal parts of the institution with the informal networks and venues for accomplishing tasks.

Embedding Learning Communities in Wider Change

Iowa State University, established in 1868 as one of the nation's first land-grant institutions, has a traditional focus on teaching and learning. Approximately 23,000 undergraduates and 5,000 graduate students are enrolled at the institution. The University offers a wide range of programs through its nine colleges, embodying the three-part mission of learning, discovery, and engagement. Iowa State is a Carnegie Doctoral/Research Extensive institution and a member of the Association of American Colleges and Universities. The University is primarily residential, with more than 80% of new undergraduates coming directly from high school. Located in Ames, Iowa, the University admits all students who qualify, based on college entrance test scores or a minimum high school rank of 50%. Approximately 70% of the student body are from Iowa, 20% are non-Iowa U.S. students, and 10% are international. Iowa State enrolls approximately 8% underrepresented ethnic minority students. The average time to degree is about 4.5 years, and the six-year graduation rate is approximately 65%.

Learning communities at Iowa State had their origins in efforts to increase the focus on teaching and learning, particularly in undergraduate education. A small number of faculty members from across campus were aware of and involved in the

national movement to become more learner-centered by delineating learning outcomes, using active learning methods, and using assessment to enhance student learning. The Center for Teaching Excellence was established in 1993 to promote learning and the scholarship of teaching and learning on campus. The provost appointed task forces in 1994 to study rewards for teaching, teaching innovation, and student services. Also in 1994, faculty in the Colleges of Education and Engineering teamed up to organize small groups of faculty to study teaching and learning principles, try new approaches in their classrooms, and support each other as they learned new ideas. That grassroots effort led to Project LEA/RN which is still active on campus (Licklider, Schnelker, & Fulton, 1997).

The provost's task force focusing on student services mirrored a parallel development in the Division of Student Affairs. The task force report called for several enhancements in student services and increased coordination between academic and student affairs units, both centrally and among the various colleges. This led the provost to increase attention on student life issues and to resource allocations that enhanced student services. These efforts reflect the decade-long movement within student affairs to recognize the crucial role residence systems and student support programs play in the academic success of students. Iowa State's residence halls established an academic unit that brought significant attention to academics and created a solid base of support for the learning communities movement. Beginning in the late 1990s, the residence system underwent a complete overhaul of its physical facilities and academic programs. Also, increased focus on academic success by the dean of students provided a strong underpinning for such activities as service-learning and leadership development that have augmented the work of learning communities.

The University program for student outcomes assessment, the development of a revised promotion and tenure policy, the creation of the position of vice provost for undergraduate programs, and the adoption of the University's strategic plans with strong goals in the area of undergraduate education are other important efforts contributing to the development of the learning communities program. Student outcomes assessment for all academic programs have been mandated by the Iowa Board of Regents since 1994. The Board also requires student outcomes assessment reports when each academic program undergoes its periodic academic review. Initially, the development and implementation of the plans were overseen by the Student Outcomes Assessment Committee, led by a faculty coordinator who reported to the provost's office. With the inception of the vice provost position in 1998, the function has moved into that office and is overseen by an assistant vice provost and a group of academic associate deans from each college.

In 1997, the University administration and the Faculty Senate began to develop in earnest a new tenure and promotion document based on Boyer's model of scholarship (Boyer, 1997). The existing document at the time called for identifying one area of scholarly excellence (i.e., research, teaching, or outreach) and tying promotion and tenure to establishing excellence in this area, while showing competence in the other two. The new policy established the principle that scholarship was expected to be balanced among disciplinary research, teaching, and outreach based on an individual position responsibility statement developed jointly between the faculty member and the academic department. Under the new policy, adopted in 1999, scholarship is expected and recognized in all areas of a person's academic assignment. This policy has paved the way for an enhanced focus on teaching and the scholarship of teaching and learning, which has helped to foster increased faculty involvement in learning communities.

The vice provosts for undergraduate programs, research, and extension, respectively, oversee the three main missions of Iowa State in learning, discovery, and engagement. The undergraduate position was created in 1998, signaling the University's commitment to enhancing teaching and learning. Successive University strategic plans covering 1995-2000 and 2000-2005 have emphasized enhanced student learning and success. Benchmarks were established and tracked, and resources were allocated to support the strategic plan goals.

Thus, the 1990s provided fertile ground in which to nurture a grassroots effort to develop learning communities. The University has faced several challenges along the way, and many continue. In particular, establishing a true culture that focuses on learning at a multifaceted university is an ongoing issue. Learning communities have contributed greatly to the development of such a culture at Iowa State, and their success has been due, in part, to a sustained effort by the University to foster such a cultural transformation.

The Development of Learning Communities

This section provides a brief summary of the key aspects of learning communities at Iowa State. Much of this information is also described in documents on the Iowa State University (2003) learning communities web site and in case studies presented by Lenning and Ebbers (1999) and Huba, Ellertson, Cook, and Epperson (2003).

Two developments in particular were responsible for the learning communities program at Iowa State. The first was a visit by Vincent Tinto in the fall of 1994, sponsored by the higher education graduate program. Tinto's seminars and meetings with key faculty and staff provided the theoretical and empirical underpinnings to the conversation that had already begun on campus. His visit set the stage for further discussions among early innovators on campus about how learning communities could enhance student learning and increase student satisfaction and retention. The initial group included education faculty, the director of the newly formed Center for Teaching Excellence, and personnel from the Registrar's Office and the Orientation and Retention Program in Student Life.

The second development was the Department of Residence Life's increased interest, beginning in the early 1990s, to support the institution's academic mission. The departmental leadership at that time became aware of residence-based academic programs, such as Freshman Interest Groups (FIGs), being developed at other universities. The department began to increase its focus on academic programming and recruited and trained staff who would expand their repertoire beyond social and personal development.

By 1994, the undergraduate colleges agreed to establish clustered course programs, many of which included residential components. By the fall of 1995, each college had established a learning community activity. Over the next two years, initial assessments on student retention and satisfaction indicated that the fledgling program was beginning to show success. However, the grassroots aspect of the effort began to encounter some difficulties as those, who had put so much personal energy into them, were starting to look for increased support and encouragement. Lenning and Ebbers (1999) list a number of challenges the program faced at that time:

- Lack of time to focus on long-term development of assessment
- Lack of knowledge and expertise in learning communities and their assessment and evaluation
- Perception that time devoted to teaching in learning communities would adversely affect promotion and tenure
- Lack of financial support and release time
- Challenges with scheduling
- Inability to orient students in how to be effective learners in the learning community setting
- Lack of planning time for faculty to collaborate on course development

In 1997-98, the provost established the Learning Communities Working Group to address these challenges and take the program to a new level. The position of vice provost for undergraduate programs was created during the spring of 1998 and was responsible for expanding learning

communities and increasing coordination between academic and student affairs. Further, the University president at that time, impressed with retention data associated with learning communities, decided to fund a three-year, $1.5 million initiative to support a plan developed by the provost, vice president for student affairs, and the Learning Communities Working Group.

An administrative team was assembled and asked to expand the learning communities program based on what had been learned to that point, to carefully assess the academic impact, and to report annually for the three-year trial period. At the end of the three-year initiative, a determination would be made whether or not to formalize the budget.

Early in the implementation process, a decision was made that, for programs to qualify as learning communities, they would have to include both an integrative course-based experience and a social support component. The principal belief was that socially based learning community programs or course-based programs each have value in their own right, but programs that incorporate both and assess them as a whole would achieve a synergy that would lead to even better results for students.

The director of the Center for Teaching Excellence and the assistant director of residence were charged with providing day-to-day administrative leadership. They paid careful attention to encouraging and enhancing existing college-level efforts, expanding participation of students and faculty, and better coordinating the logistics of the multiple-model program. In addition, a comprehensive assessment effort was developed to provide the basis for continuous improvement and to document success. Several components were added, including:

- *Peer mentors.* Support was provided to hire peer mentors based on a formula of 1 peer mentor for every 16 learning community students. These peers provide direct academic and social support to the students in the learning community.
- *Grants program.* Annual grants were awarded to support social activities, field trips, assessment plans, and other program expenses. The grants did not provide salary support, as it was felt that the program could not be sustained unless departments and colleges felt the learning communities were important enough to devote their own resources to them for staffing.
- *Committee structure.* A steering committee and several standing sub-committees were established to obtain input and provide guidance. The committee structure involved more than 50 people, including faculty, staff, administrators, graduate, and undergraduate students. The assessment subcommittee was perhaps the most critical subcommittee, since the future of funding for the program depended on the results of its findings.
- *Administrative support.* About 15% of the budget provided administrative support for the wide array of activities necessary to sustain learning communities. This support went to the Registrar's office for scheduling and data gathering, the Department of Residence for assessment and programming efforts, and additional assessment support for the assessment subcommittee.
- *Faculty and staff development.* An important component of the initial program was to encourage a variety of approaches to professional development. Funding enabled groups and individuals to attend national meetings and conferences. Faculty and staff presented scholarly work related to their learning community activities and became involved in national organizations. In addition, in the spring of each year, the campus held a Learning Communities Institute. The institutes have attracted between 120 and 150 faculty and staff annually. Each year, one or more well-known keynote speakers gives a national perspective, and sessions have been devoted to highlighting successes, sharing lessons learned, and planning in individual groups.

As illustrated in Figure 1, the number of learning communities offered and student partici-
pation in them has doubled since 1998. However, the issues identified by Lenning and Ebbers
(1999) are still present. Maintaining faculty and staff enthusiasm, with many other activities on
their collective plates, continues to be a challenge.

Integrating Learning Through Multiple Community Approaches

The definition of learning communities used at this institution is inclusive. However, all
recognized learning communities at Iowa State have some form of integrative course component,
which is further supported outside class.   Academic and social issues, often central to a tradi-
tional first-year seminar, are addressed in seminars specifically designed for that purpose and
attached in learning communities or, as noted earlier, embedded directly in pre-existing learning
community courses. Learning communities are variously organized around specific courses, pro-
grams of study, or academic themes, and about a third have residential components. Most target
first-year students, but the concept also applies to sophomore and upper-level programs.

Figure 1. Learning community growth at Iowa State University, 1999-2002. From Shapiro, H.
(2003). *Enhancing grassroots efforts through creation of institutional support structures.*
Retrieved from: http://www.iastate.edu/~learncommunity/2003AssessmentPlenary.pdf

The multiplicity of approaches includes students co-enrolled in courses as part of larger enrollments, learning community students comprising the entire enrollment in one or more sections of a course, and students enrolling in two or more courses in different disciplines with strong integration of the course content and cooperation among the instructors.

All learning communities at Iowa State have articulated learning objectives, and they require annual assessments of how well those objectives were achieved and how assessment results are being used to improve the program. The most common objectives across learning communities include improvement of academic success skills, social adjustment, and career awareness and exploration. In addition, all learning communities must have an identified integrative concept that cuts across their component parts. Many use integrative first-year seminars to help achieve their learning objectives. Another integrative approach is the use of peer mentors. All peer mentor job descriptions include time for small-group interactions with learning community students related to achieving the particular community's learning objectives. Learning community coordinators and peer mentors organize study groups, field trips, guest speakers, social activities, and community service projects. Each learning community includes at least one instructional faculty member on its team.

The four most prevalent types of linkage between courses, as described more fully by Slagell, Faass, and LaWare (2002), are summarized below. This summary moves from the least to most integrated learning community type.

Course Clustering

In this model, students in a learning community schedule two or more classes together, but the instructors make no special effort to coordinate the curriculum or assignments and may not even be aware that learning community student cohorts are enrolled. Peer mentors and learning community coordinators work outside class to provide academic and social support. This model can lead to enhanced learning, but it has several disadvantages. Without a curricular link, the instructors do not attempt to coordinate the courses, and the opportunity for deeper, more connected learning is not seized. Also, the presence of a cohort of learning community students can create behavioral issues in the classroom.

Course Links

This model is similar to clustering, but the added feature is that the instructors are aware of the common learning community cohort in their classes, and they make some effort to communicate by sharing syllabi and being cognizant of what the students are doing in the other class. Even minimal sharing of information and acknowledgment by the instructors that the courses are linked add to the depth of learning and help students see some of the linkages among their courses. Also, sharing syllabi provides an opportunity for instructors to make sure that major assignments are not due at the same time.

Enhanced Course Link

This variation encourages even closer coordination among instructors than either of the first two. The instructors develop linked assignments and make periodic visits to each other's classes. Because of the closer connection at the course level, the out-of-class support can be better coordinated and focused on the desired learning outcomes. This concept is applicable to upper-

division and first-year courses. Applying this in large section classes can be problematic if the learning community cohorts make up only a small fraction of the course enrollment.

Enhanced Course Linkages with a Seminar

In this model, student cohorts schedule two or three classes together. The discipline-based courses can be large or small section courses as long as they have enhanced links. In addition, the students all participate in a seminar/discussion session every week that is planned and facilitated by the instructors in the linked courses. This seminar/discussion section provides an environment that deepens student learning, develops integrative assignments, and encourages team teaching. Some use the seminar as a way to explore career issues or expose students to research in the field. Of course, this model requires additional resources to allow for planning time and team teaching.

Learning Community Examples

The programs described below illustrate the range of what constitute learning communities at Iowa State as well as the common academic and social features. Each of these communities includes at least one component, such as a seminar or peer mentor, that integrates elements of the entire experience.

Biology Education Success Teams (BEST). This cross-disciplinary learning community is designed for incoming students in the biological sciences. Students enroll in linked courses in English and biology as well as an orientation class. A variety of optional activities support developing their academic skills, exploring fields of study in the biological sciences, and enhancing their academic and social integration into the University. Peer and faculty mentors work with the students, and some choose to participate in service-learning activities related to environmental awareness and applying classroom learning to the natural surroundings.

Design Exchange. This is a residentially based learning community for 100 first-year students in the College of Design. Design students live on residence hall floors with approximately 50% of the students enrolled in other colleges, so they develop a variety of friendships. The design students share a common studio space and computer laboratory in the residence hall and have two upper-class design students as live-in peer mentors. They participate in a required seminar course each semester and some take a common English class. The seminar stresses portfolio development, sketchbooks, creativity, internships, study abroad, and the clarification of personal career goals.

Business Learning Teams (BLT). The Business Learning Teams are groups of business students who enroll in the same sections of three courses and reside near one another on campus. Students are placed in teams based on their residence and their course placement at orientation. Many of the courses are linked by some integrated content. One of the most common linkages is an English composition course. The students meet during the New Student Days Program before fall semester. The teams include student, faculty, and staff mentors.

WiSE Living Option. Approximately 200 women in science and engineering choose to participate in the WiSE living and learning option. Incoming women majoring in various sciences and engineering fields live together on the WiSE residence floors, attend classes together, and participate in group study sessions. Peer mentors and staff organize academic and social activities, such as seminars on interviewing and résumé writing, industry tours, tutoring, Big Sis/Little Sis mentoring, outside speakers, and faculty dinners. Assessment over many years indicates that WiSE contributes positively to the success of women in fields of engineering and science where they are underrepresented.

Assessing Multiple Learning Community Models

A number of key assessments were completed during the pilot years, leading to the eventual formalization of the learning community budget within the institution. See Huba et al. (2003) for details. Student surveys, including experimental and control groups, were instituted in 1998 and have evolved through various iterations to provide information about students' perception of their abilities in career awareness, knowledge of the discipline, teamwork, time management, critical thinking/problem solving, written and oral communication, leadership, and diversity. Other items assessed include the students' use of time, their most positive and negative experiences, and the learning community students' evaluation of their peer mentors. Key outcomes are summarized in Table 1.

Table 1
Key Outcomes of Learning Communities

Learning community students are more likely than control group students to:	• Earn higher grades • Have a professor with high expectations • Understand the nature of their anticipated major • Have experiences that helped them reach their goals • Receive prompt feedback about progress • Feel satisfied with the overall quality of their classmates • Feel satisfied with their overall experience at Iowa State • See connections among classmates • See connections between personal experiences and classroom learning
Learning community students are more satisfied with their opportunities to:	• Interact closely with faculty • Receive advice and support from faculty • Participate in clubs, organizations, and student government • Practice their skills • Apply learning to real world problems • Interact with people from different cultural backgrounds
Learning community students spend more time:	• Studying in groups • Participating in community service/volunteer work
Learning community students have significantly higher first-term grade point averages, even when controlling statistically for ACT and high school rank, than those of the control group.	

These findings support the theory that learning community participation leads to enhanced student achievement. These data are continuously collected and analyzed, and they provide a useful adjunct to other academic measures, such as data from National Survey of Student Engagement that have been collected for several years.

Retention data have been collected and analyzed on an ongoing basis. Figure 2 offers raw retention data collected after the first through fourth years for first-time, full-time, first-year stu-

dents entering fall 1998. This is the first group for which four years of data have been collected. The graphs compare return percentages for learning community students and non-learning community students. Analyses of the data done by Epperson (2000) demonstrate that the learning community students are retained at significantly higher rates than the non-learning community students, even when adjustments are made for the college entrance examination scores and high school ranks of the students. The adjusted data still show a first-year retention difference between the learning community and non-learning community students of five to six percentage points, and the four-year result for the 1998 class is eight percentage points. These trends have persisted with groups entering since 1998 as well.
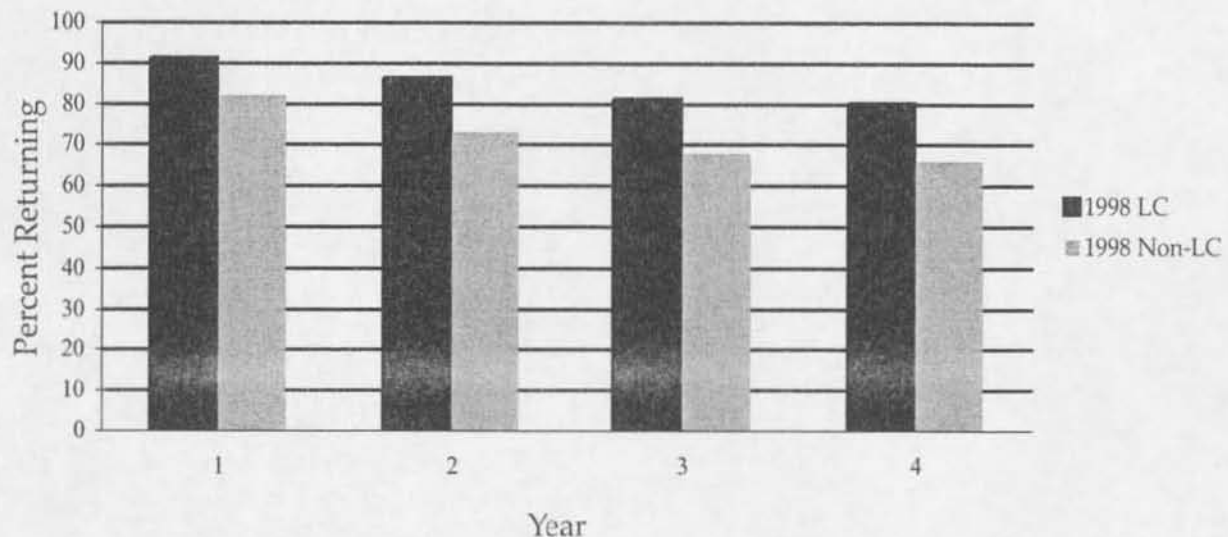

Figure 2. Retention rates for first-time, full-time freshmen entering fall, 1998.

Epperson (2000) developed a method for using adjusted retention data to make estimates of the return on investment of the $1.5 million put toward the learning communities initiative. While an argument that learning communities are solely responsible for retention increases would be specious, an assertion can be made that the program is one of many possible players in increased retention rates and an associated increase in revenues. The main factor considered by Epperson was the tuition revenue for the additional students retained, projected each year as the cohorts moved through the system. The estimates did not account for additional revenues from items such as fees, residence hall contracts, or bookstore sales. Epperson (2000) reported that from 1998-1999 through 2000-2001 increased retention resulted in $2.5 million in increased tuition revenue to the University.

Armed with the results of the student surveys and the retention analyses, the learning communities administrative group proposed formalizing the learning communities program in spring 2001. The interim president accepted the proposal, and despite difficult financial challenges, he established a permanent base budget in excess of $650,000 to support grants, peer mentors, assessment, faculty and staff development, and administration of the learning communities program. This budget is jointly administered by the vice provost for undergraduate programs and the vice president for student affairs.

Conclusion

Iowa State University has developed a wide variety of experiences for students that are classified as learning communities. The variety is characteristic of the grassroots origin of the

concept on campus and the diversity of perspectives and priorities that exists across colleges at a large university. However, the commonalities among the programs—integrative learning themes and course experiences, peer mentors, a focus on academic and social development, and faculty involvement—make this complex undertaking a success. Assessment data bears out the efficacy of these traits for increased retention, student achievement, and student satisfaction.

The inclusive definition of learning communities at Iowa State allows for a wide variety of integrative academic components. Data suggest that no single first-year integrative seminar model stands out as the best. The philosophy of Iowa State's learning communities is to support multiple, department and college-based models and to provide institutional coordination that enhances, rather than overwhelms, those local efforts.

The learning communities program at Iowa State has progressed through several stages. Initially, the effort was highly localized, with individuals and small groups working together. As the program grew, it reached a critical stage where many initiatives could have failed. The enthusiasm and excitement of the initial activity could have waned if institutional barriers had become overwhelming. Because of strong presidential leadership and the broader context in which change was occurring, the program was able to withstand these challenges and become stronger. These efforts have received institutional recognition, and people have felt rewarded for their contributions.

The challenge now facing Iowa State is one of continued acceptance and integration. Some of the curricular challenges include solidifying and assessing general education learning outcomes, renewing and refreshing faculty involvement, enhancing the use of peer mentors, using instructional technology more effectively to enhance learning, developing upper-level learning communities, and increasing the use of active learning strategies by faculty. In addition, learning communities still need to be more fully integrated into the planning at the college and department levels. Finally, although the promotion and tenure policy rewards scholarly teaching, more recognition is needed for the value of high-quality scholarship of teaching and learning.

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