Back in the late 1990s, the University of Minnesota was contending with mediocre study-abroad participation.

The university wanted to send 50 percent of its students overseas as part of its strategic goal to become a more international institution, yet only about 15 percent studied abroad, a rate lower than those of its Big 10 peers.

In certain majors, the rates were even more dismal. Just 15 of the 4,300 students who were enrolled in the Institute of Technology, the college of engineering, mathematics, and physical sciences on the Twin Cities campus, studied in another country that year.

One of the biggest barriers, officials at Minnesota discovered, was that many faculty members and students believed that going abroad wouldn't work in a given course of study, for reasons of quality and timing.

The overseas programs didn't meet the university's academic standards, they feared, and spending time abroad could delay participants' graduation.

Those concerns ran especially deep in highly structured disciplines, like engineering. As a consequence, few students in those majors studied abroad.

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Such obstacles are not unique to Minnesota, of course, and the university's solution has served as a model for other institutions. To get more students overseas, Minnesota officials decided they needed to focus on what was happening back at home, by working to better integrate study-abroad opportunities into the curriculum.
Over the past decade, administrators in the international-programs office have sat down with individual departments to identify programs in which students can study and earn academic credit that complements their home-campus course work, and to map out when in a course of study students can go abroad. They have also engaged professors to vet foreign programs and to create and lead their own trips overseas.

"We've worked with aviation science and zoology and everything in between," says Gayle Woodruff, director of curriculum and campus internationalization.

The effort has taken time, patience, and personnel. And it is never-ending, requiring updating as disciplines change and study-abroad programs come and go.

Still, the project has helped Minnesota increase its education-abroad numbers across departments and disciplines. Today, 30 percent of undergraduates at the university's five campuses travel overseas.

**Getting on the Same Page**

Minnesota's curriculum-integration work grew out of a conversation between Peter J. Hudleston, then associate dean at the Institute of Technology, and the director of the university's learning-abroad center at the time.

Both men, says Mr. Hudleston, who is now a professor of geology, were concerned that so few science and engineering students went overseas.

They arranged for study-abroad staff members to meet with professors to identify the impediments.

They soon discovered that misperceptions existed on both sides.

Faculty members associated study abroad with students' spending all or part of the junior year overseas—the worst time for those in highly regimented science or engineering courses to be away, Mr. Hudleston said.
The professors worried that "taking time off" in the "heart of the major" would set students back and leave them scrambling to graduate on time. In fact, students at Minnesota who go abroad are more likely than others to graduate on schedule.

What's more, Mr. Hudleston says, the professors saw a global experience as an add-on, not something integral to students' course work. Study abroad was for liberal-arts majors and language students, they believed, not for scientists and engineers.

For their part, international educators say they came in with their own biases and didn't fully understand the fields.

"We can forget that they really care about their curriculum," says Martha J. Johnson, the current director of the learning-abroad center. "They don't want to trust their students to just anyone."

"We had to say," she adds, "here are all the things we're not going to interfere with."

The early work with the Institute of Technology set the tone for the curriculum-integration process: Initial discussions between faculty members and a point person in the international-education office focus on learning outcomes for the major and how studying abroad could further those goals.

For engineering, studying in another country might be relevant because of the increasingly global nature of the profession, while for students of graphic design, the appeal could be the opportunity to explore the influence of foreign artists on their home turf.

Each department "defines in its own terms why it's important to go abroad," Ms. Johnson says.

The group then works together to pinpoint times when overseas study can best fit into the curriculum. And Ms. Johnson and her staff work to provide programmatic choices.

Over the last decade, Minnesota has added more than 50 programs to enable students in nontraditional disciplines to study abroad, says Ms. Johnson, who
gets ribbed by colleagues from other colleges on visits to study-abroad sites when she asks about offerings in areas like soil sciences or volcanology. Some 200 Minnesota faculty members have also gone overseas in recent years to review programs.

Other study-abroad options include academic exchanges that grow out of professors' international research collaborations and short-term programs led by Minnesota faculty members. For example, professors affiliated with the university's health-careers center, which works with students considering jobs in medicine and other health-related careers, are planning a seminar in India, focusing on public health and primary care in tribal areas.

In all, the university has more than 300 options for students wishing to study overseas.

The common thread, Ms. Johnson says, is that all programs must be evaluated and approved by the department, not just her office.

The work is also driven by the particular challenges of each department or college. Staff members with the health-careers center and the education-abroad office are wrestling with ways to get professors in health-related disciplines, many of whom teach only at the graduate level, to lead overseas programs. They also are setting up a workshop that would prepare students to go abroad and work in a health-care setting.

To aid students and their academic counselors, the international office creates discipline-specific advising sheets. A sheet for majors in geology, one of more than 100 disciplines covered, outlines the progression of the major, suggests when students should be planning for overseas study, and highlights times when international travel isn't feasible.

Prospective geologists can't study abroad in the summer following their sophomore year, for example, when they must take a mandatory introduction-to-field-geology course. But they might want to sign up for a faculty-led "global seminar" on the geology of Iceland during their junior summer, the sheet suggests.
Mark H. Pedelty, an associate professor of communication studies, says the advising sheets don't dictate a lockstep course of study but rather give students an idea of what's possible. "It's important that it's a template," he says, "not one size fits all."

**Changing the Conversation**

To keep advisers and faculty members current, the international-programs office offers regular workshops and training sessions, holds an annual universitywide conference on curriculum integration, and sends faculty and staff members to key international-education meetings.

But it can be tough to keep advising sheets fresh, as major requirements change and as the university adds and subtracts international-study programs. Right now, as Minnesota moves to put all the sheets online, Ms. Johnson has noted that a number of them are outdated.

The increase in overseas offerings has also meant that the university, which awards credit for all study done abroad, has had to deal with the complexities of course transfers and equivalencies, Ms. Woodruff says.

Such work is labor-intensive, its supporters acknowledge, and figuring out how to meld education abroad into major courses of study can take several months—or, in some cases, several years.

As for costs, Minnesota received several grants to get the curriculum-integration project started, but today there are few hard costs, Ms. Woodruff says, as the endeavor is spread across the university and built into the workload of study-abroad staff members, academic advisers, and administrators.

Despite gains in participation, Minnesota is still far short of its goal of sending half of its students overseas.

Even if that target is reached, there will still be the 50 percent of students who haven't gotten to travel internationally, Ms. Woodruff points out.
As a result, in recent years, curriculum-integration efforts have begun to focus less on working study abroad into the curriculum and more on how to make sure courses offered on the home campuses have an international flavor.

While other institutions, like Oregon State University and the University of California at San Diego, have adopted the Minnesota model, whether curriculum integration is appropriate for all institutions is unclear.

Many liberal-arts colleges, which have high study-abroad rates, say they naturally incorporate overseas education into their academic programs.

Still, Ms. Johnson says, a number of her counterparts at liberal-arts institutions have imitated parts of Minnesota's curriculum-integration strategy, such as major-advising sheets.

She argues that the effort was critical at a large research university like Minnesota, where it can be difficult to raise the profile of international education.

And the process is moving forward. New departments and academic programs, like Jewish studies, mortuary science, and the university's academic health center, are working on curriculum integration. The business school now requires all its students to have an international experience. Mr. Hudleston, the former associate dean, says that even in disciplines like engineering, he has noticed a difference.

During his first years as a dean, he doesn't recall any students or parents asking about study abroad. But by the time he stepped down in 2007, he says, "I can't remember a meeting where it didn't come up."