

**Proposal to the Fund for Excellence
on
Mentored Independent Learning**

Overall Description

This proposal is a collaborative effort of three groups of faculty and staff who are intrigued by the possibilities for enriching mentored independent learning at Grinnell. We are convinced that the various forms of mentored independent learning which we discuss – internships, student-faculty research collaboration, and field trips and study tours – resonate powerfully with Grinnell's long-standing values and educational goals. We are convinced that these forms of mentored independent learning can extend and enrich Grinnell's current pedagogical initiatives in utilizing active learning strategies in more classes. We are convinced that the forms of mentored independent learning which already exist at Grinnell are extremely valuable educational experiences for our students and that we can and must further enhance those opportunities.

We are convinced that we can translate Grinnell's existing successes with mentored independent learning into a unique strategic enhancement of Grinnell's educational program by making mentored independent learning an even more significant part of our educational process and by making mentored independent learning available to many more of our students. The resulting combination of enriched options in mentored independent learning and of increased access to those options will make the Grinnell education unique.

Recognizing that these valuable activities are intertwined, and that we can provide them more widely to our students only if the proper resources are made available, we offer a four-part proposal which will permit Grinnell to enrich student opportunities to engage in mentored independent learning:

- by enhancing our current opportunities in internships, in student-faculty research, and in study tours,
- by providing the financial resources which all students need to enable them to engage in such opportunities (the MILE Fund),
- by providing an administrative apparatus which will permit faculty to devote the time necessary to mentor properly such opportunities (the Faculty Workload Accounting System), and
- by providing a formal device which will enable students to strive for higher levels of intellectual achievement (the MAP option).

First, we propose that the college enhance its current strong programs in mentored independent learning – internships, independent research projects, and study tours. We describe existing cases of mentored independent learning activities which deserve expansion and we note exciting new possibilities which await implementation. Expanding current activities and implementing new ones will require some increases in support staff (e.g., staff in the Office of Career Development and a coordinator for the MAP program) and some supplemental funding (e.g., funds for planning trips for off-campus study tours), in addition to the creation of the MILE Fund.

Second, we propose that Grinnell College establish a **Mentored Independent Learning Fund**, which we have been calling the MILE Fund. This fund represents a source of financial support on which students, with proper administrative guidelines and procedures, can draw for academic purposes such as funding summer internships, supporting costs of academic study tours, and funding summer research projects. We propose that this fund will provide a maximum of \$5000 per student, which will permit **all** qualified Grinnell students, regardless of their private financial resources, to participate in what are often life-changing learning experiences under the supervision of Grinnell faculty.

Third, we propose that the College create a **Faculty Workload Accounting System** which takes all forms of faculty teaching into account. This system would credit faculty for teaching courses listed in the catalog, as well as for teaching plus-2s, for teaching independent study courses (297s and 397s), for supervising internships (300s), and for summer research (399s). Without such an accounting system, faculty cannot be expected to take on the additional time-consuming responsibilities of mentoring independent learning opportunities which this proposal envisions.

Fourth, we propose that the College create a **Mentored Advanced Project (MAP)** program which will focus and increase the opportunities for student discovery and creation. The MAP option will systematically enhance opportunities for students to prepare for and engage in advanced work in their major field or across fields, in interdisciplinary projects.

Each of these four parts of our overall proposal might be considered independent of the others, but we believe that together they represent a much stronger enhancement of quality of the Grinnell education than they do separately.

Introductory section written by Chris Hunter.

Part 1. Increasing Mentored Independent Learning Opportunities

Mentored independent learning has long been a valued component of education at Grinnell. As faculty, we encourage our students to investigate beyond the textbook, beyond the classroom, beyond the campus. We do so in various ways – including internships, independent research, and study tours – all of which provide opportunities for students to combine individual discovery, experiential exploration, insightful application, and integrative reflection.

We believe Grinnell already has strong programs in mentored independent learning. Those programs can be strengthened, however, and made available to more students. In this section, we describe three key forms of mentored independent learning currently found at Grinnell – internships, independent student research, and study tours – and suggest ways to strengthen them and to make them more available.

A. Internships

Internships embody many of Grinnell's core values:

- Internships enhance the educational excellence of Grinnell by uniquely encompassing “varied forms of learning, in and out of the classroom and beyond the campus” and encouraging “education that reflects on its own process.”
- Internships enhance “our strong tradition of social responsibility and action” and encourage “learning from and communicating with the world beyond the campus.”

These internships reflect an enormous range of experiences, as suggested in the list of summer internships currently funded by the college. (See Appendix B.) These experiences are often described by students as life-changing, as the single most significant experience in their lives. More students will be able to have such experiences if this proposal is enacted.

As is currently the case, all internships funded from the MILE Fund will be approved through normal Career Development Office procedures to ensure they are appropriately designed, will be taken for academic credit, will result in reviewable products to be supervised/evaluated by GC faculty, and will contribute to the continued intellectual life of the college.

These internships – whether individual semester internships, individual summer internships, group off-campus summer internships, or within-course service learning activities – will fit one of two general models. Many will follow the most common model at Grinnell today: they will be taken for credit, be supervised by a GC faculty sponsor who regularly communicates with the intern [preferably in face-to-face meetings], and have a required journal & final reflective report. Other internships could be taken for credit, supervised by a GC-approved external sponsoring organization (usually an educational institution), have a required journal & final reflective report which would be evaluated by a GC faculty sponsor. Such internships would enrich our students' opportunities while burdening Grinnell's own faculty with fewer immediate supervisory responsibilities.

We anticipate that the faculty will develop more internship opportunities which use some form of group process, as is done now in Sociology 300, Practicum in Applied Sociology. This form may be more efficient from a faculty staffing perspective, will encourage valuable exchanges among students, and will facilitate increased academic rigor. In either case, students will be expected to report to the campus community about their internship, typically in the form of a poster session or oral presentation.

Students will typically do summer internships in the summer after sophomore or junior year [or in the summer after the first year, if educationally appropriate] and are permitted under current rules to do up to two four-credit internship over 4 years.

If we are able to increase access to internships by establishing the MILE Fund discussed in the next section, we will considerably enrich education at Grinnell. We will be able to share reports written by interns about what they have accomplished, reports which will add important elements of immediacy to many classes. We will be able to see the problems our interns have solved as they make presentations to the community and to outside groups in conferences. We will be able to see the increased intentionality of our students' academic choices as they complete their academic development plans (described below) and as they provide written requests for support from the Mentored Independent Learning Fund. We will be able to see the growth in alumni/ae involvement in internships and the shadowing program, and the increases in alumni/ae contact with and donations to the College. We will be able to track the growth in the applicant pool and in its strength. We will be able to track the increased retention among enrolled students.

Internship section written by Chris Hunter.

The Internship & Mentored Independent Learning Study Group included Chris Hunter, David Campbell, Doug Caulkins, Amy Eilert, Meg Jones, Steven Langerud, Katherine McClelland, Erin Peterson, Connie Richardson, Paula Smith, Henry Walker.

B. Independent Student Research

Student research has long been a significant feature of the educational process at Grinnell. The College tries to facilitate such opportunities by creating options during the semester for students to undertake original research, sometimes based on analysis of the literature in a field, sometimes by personal examination, creation, or study. Thus, we offer plus-two options in classes, individual independent study (297s and 397s), and internships. As we note below in our discussion of the MAP proposal, these opportunities for students to discover or create something new and significant plays a key role in our curriculum.

Research has long been a critical component of the academic preparation of Grinnell science majors. The Chemistry Department requires that every student conduct a four-credit research project, while all the other science departments strongly encourage their majors to undertake a significant research project. All of the departments in the division sponsor summer research opportunities in which a faculty member directly mentors students in projects that are directly related to that faculty member's research. In the period between 1992 and 1998, an average of 25 science faculty have mentored an average of 59 students each summer. (These data omit the summer of 1996 when the building project caused a significant decrease in both these numbers.) The quality of these student/faculty research collaborations is evidenced by the 89 student-co-authored papers published in peer-reviewed journals and the 214 external student presentations that have been made since 1990. Clearly, these research experiences are a significant component in our students' development of the skills and confidence needed to become successful in science.

The summer months provide the best venue for this sort of scientific research. The students have no competing demands on their time and attention, so they can conduct experiments that involve extended periods in the lab or field, something that is usually not possible during the academic year. In order for students to participate in summer research, however, they must have stipends that will cover their living expenses. In addition, the larger scope of the projects they undertake requires significant support for supplies and materials. The faculty of the science division have helped to meet those costs by writing individual research grants that include funds for student participation, by writing departmental grants under programs such as the NSF's Research at Undergraduate Institutions (RUI) initiative, and by writing interdepartmental/divisional grants to sources such as the Howard Hughes Foundation and the Pew Foundation in addition to governmental agencies like NSF. Such grant writing is a time-consuming duty.

While the division has been quite successful at obtaining outside funding to support student summer research, and the College has been generous in providing internal support as well, all of this support has been directed at enhancing programs in which students work on projects that are directly linked to a faculty member's ongoing research program. There is currently no provision for a student to use the summer to explore a research interest that is not an integral component of a particular faculty person's research. The problem this creates is illustrated by one of the projects described in the MAP proposal (described in Appendix G). Leslie Gregg-Jolly of the Biology Department describes a student who began a semester project to analyze the genetic makeup of maize samples found at various archeological sites in Arizona by Kathy Kamp and John Whittaker of the Anthropology Department. During the academic year, this student could only progress as far as discovering the experimental complexity of the project. If she had had a summer devoted solely to that project, she might have been able to make a significant contribution to understanding how maize seeds were exchanged in several ancient populations in the Southwest. Since her project was not in any way related to Professor Gregg-Jolly's research, however, the student, under the present funding system, had no way to do this summer research project. The MILE Fund would have made this interdivisional project feasible.

In addition to the opportunities for independent summer research provided in the sciences, some opportunities for independent summer research students exist in the humanities and social studies divisions. In most cases, faculty must obtain outside funding or Grant Board support for their own research which they use to hire students to assist in the research process. In a few cases, students are selected for funded summer research opportunities. For instance, the ACM Minority Scholars program permits two students of color each year to engage in independent summer research on a topic of the students' choice with Grinnell faculty by providing a stipend for the student and funding for the faculty mentor. The College provides this support, but only to two students per year.

Clearly, Grinnell needs to increase the number of our students who can engage in such independent research opportunities, particularly in the summer months when time permits such intense and valuable devotion to a single project. The MILE Fund could make this existing educational opportunity available much more widely. The MAP proposal could establish a framework which would help ensure that those students are prepared properly for the opportunity.

Student research section written by Bruce Voyles and Chris Hunter.

The Student/Faculty Research Study Group included Doug Caulkins, Charles Cunningham, Jared Gardner, Michael Rosenthal, Marci Sortor, Barbara Trish, Bruce Voyles, and Henry Walker.

C. Study Tours and Field Seminars

We propose to expand on the College's tradition of study tours and field seminars, building on existing models, as a means of making Grinnell College a *global crossroads*. Further, we propose to increase the participation in these activities by making them financially available to all qualified students (through use of the MILE Fund) and to teachers from Grinnell public schools. Finally, we anticipate that these experiences will engage a diverse group of faculty, resulting in innovative pedagogical strategies across disciplines that will benefit a broad range of students.

We propose that the College provide additional support for field seminars and study tours *both national and international*. Within the U.S., we seek funding for faculty-guided thematic field seminars (i.e., the proposed Civil Rights field seminar conducted over two weeks of Spring Break 1999) as well as funding for short week-end field trips to neighboring cities to see theatre performances (the Guthrie Theatre in Minneapolis, the Goodman or Steppenwolf in Chicago), visit museums (Chicago Art Institute), participate in major public event, and so on. We propose that the College bolster existing international study and research tours--such as those involving Russia and the Greek City-State--and support the creation of newly proposed ones, especially related to

courses in the humanities (i.e., for Humanities 140: Medieval/Renaissance Culture, study tours of medieval France or the Florentine City State). Some of these international tours can combine the normal academic elements of study tours with other activities: for instance, John Rommereim proposes (see Appendix F) a Grinnell Singers concert/study tour in the Baltics which would unite academics, musical performance, and cross-cultural education in potentially powerful ways.

In addition, we believe that other new initiatives can build upon the prior experience and accomplishments of innovative field experiences that have a proven record of success at the College. To this end, we propose the creation of a community-involvement program promoting international education modeled on the Hewlett project (i.e., George Drake's Lesotho program) as well as a series of Thematic Field Seminars fashioned after the University of Iowa-Grinnell College Bridging Projects that have had a field study component. Such programs will serve to internationalize our curriculum in significant ways.

Although there is a rich diversity of these programs already on campus (see Appendices C and D) – and we anticipate more in the future – participation of students and faculty has been relatively limited. Moreover, at present there exists too little coordination among these programs and too little visibility beyond a particular department or division. As a result, many students do not learn of these valuable and often interdisciplinary opportunities for close collaboration with faculty and other students in time to incorporate them into their four-year plan. Study tours and field seminars need to be understood as viable options for international and national interdisciplinary work and research right from the beginning of a student's education at Grinnell.

Rationale: National and international study tours and field seminars address most of Grinnell's core values, enriching our already excellent on-campus opportunities, putting diversity in a global context, and enlarging Grinnell's admirable tradition of social *responsibility to a global forum*. Our aim is to educate students as citizens of the world. Field work imbues an education with an immediacy that is difficult to achieve in the classroom, leading to a deeper form of critical thinking that endures a lifetime. Inherently interdisciplinary, field tours and seminars demand the use of innovative pedagogy. Field studies, both domestic and international, challenge students to examine their assumptions about the world.

A commitment to study tours and field seminars arises from a conviction that parochial attitudes impeding careful scholarship and undermining citizenship values are best overcome through informed travel and a diversity of experiences. Unlike conventional study-abroad programs, field experiences are focused on specific themes and guided by faculty members. (See Appendix G for some examples of student research conducted as part of the Ancient Greek City-State study tour in 1992.) The learning and bonding that occur during these experiences often lead to faculty/student, as well as faculty/faculty, collaboration in teaching and scholarship.

Our proposal redresses three important problems. First, study tours and field seminars offer a rich and innovative structure for the development of interdisciplinary education that will help reduce the divisional, departmental and disciplinary boundaries that have created a culture of separation on campus. By working closely with colleagues from other departments and disciplines, faculty who participate in study tours and field seminars find they must master unfamiliar materials, new ideas, and fresh perspectives that subsequently enrich their teaching in all courses. The intense and close interaction involved in both planning for and entering the field leads to more in-depth intellectual exchange and personal interaction than occurs in more fleeting contacts on campus. Concretely, the work resulting from study tours and field seminars can include senior theses and interdisciplinary upper-level seminar projects, public presentations, student-faculty and faculty/faculty collaborative and advanced research (ideally interdisciplinary), MAPs, and publications. More difficult to measure is the impact of these experiences on other goals such as critical thinking. Work in the field will challenge students to reflect on their own educational experience at Grinnell and encourage them to initiate new interactions and discussions, formal and informal, both inside and outside of the classroom.

Second, study tours and field seminars are also a mechanism to strengthen town/gown relations. To achieve this goal, we propose to offer access and financial support for the participation of Grinnell public school teachers in these programs. We focus on public school teachers in the expectation that they will have the greatest impact on the wider community as they translate their field experiences into the classroom.

Third, many Grinnell students are denied the opportunity to participate in study tours and field seminars because of financial constraints. This problem has become more pronounced due to rising travel and tuition costs. Our proposal seeks to expand the concept of need-blind admissions to embrace these opportunities, as well. Specifically, we propose that basic travel and tuition costs of such programs be funded through the MILE Fund, as suggested in Part 2 below, putting study tours on a par with summer internships and summer research and making them available to all our students regardless of personal financial resources.

Stated positively, these faculty-guided study tours and field seminars direct students toward more sophisticated questions about personal and group identity, group dynamics, the physical world, the world of symbols and conceptions of beauty and the good that undergird all education. Such questions as "Who am I? Where do I come from? How do we decide what is true, what is beautiful, what is good?" are engaged in particularly inventive and compelling ways through field study. They offer effective strategies for exposing and confronting racism, ethnocentrism, and parochialism. Many of our alumni claim that trips to the field stand out as the most memorable and transformative among the experiences they had as Grinnell students.

Timetable. The proposed initiatives would be distributed in an orderly way throughout a student's career at Grinnell. In Appendix E we have listed a timetable for specific tours and seminars that we urge the College to support over the next three academic years.

Study tour section written by Ellen Mease, Eliza Willis, and John Mohan.

The Study Tour, Field Research Study Group involved Ellen Mease, John Mohan, David Campbell, Doug Caulkins, Katya Gibel-Azoulay, John Rommereim, Eliza Willis.

D. Hewlett Summer Internship Program

The Hewlett Internship Program – for which a separate proposal is being prepared by another group – illustrates the academic strengths which could come from combining the faculty's expertise in creating opportunities for mentored independent learning with easier access to financial support provided by the MILE Fund and additional funds. The Hewlett program combines intense internships with field research and field seminars, all in an off-campus setting. The Hewlett program thus represents one very successful example of enhancing student learning in innovative ways, and shows the promise which the strategic application of additional funds, faculty expertise, and focused student interest can have on the educational enterprise.

Funding one Hewlett internship experience with six students might cost \$30,000 for the student stipend and tuition expenses, plus the travel and living costs for the faculty sponsor.

Part 2.

Supporting Mentored Independent Learning: the MILE Fund

We want all Grinnell students to have the opportunity to engage in mentored independent learning, regardless of their family's financial resources. Grinnell College tells our students that we value social responsibility and learning beyond the campus, and that we are need-blind, but our actions only partly fulfill those values. Many students are unable to engage in mentored independent learning opportunities, especially in the summer, because they need to work to earn money toward college expenses. The Mentored Independent Learning Fund [MILE Fund] will establish need-blind, egalitarian access to those experiences.

Our primary method to create these opportunities is by creating the Mentored Independent Learning Fund. Providing MILE Fund accounts for all of our students would represent a dramatic, ground-breaking statement of the importance of mentored independent learning in our curriculum and of Grinnell's commitment to need-blind access to educational opportunities. Many colleges permit students to earn credits from experiential or independent learning; some even require it; **none** that we know of make opportunities for mentored independent learning a realistic goal for all students regardless of family resources. That fact should attract national attention to this program.

In addition, we see the Mentored Independent Learning Fund as a way to attract academically strong students who are truly interested in independent learning to the College, to retain students who might otherwise leave Grinnell for opportunities elsewhere, and to enhance the academic strength of the College by enriching our curriculum.

The Mentored Independent Learning Fund can also stimulate our students to engage in more thoughtful and productive planning of their academic careers by encouraging them to plan from their first year for off-campus programs, for study tours, for internships, for summer research experiences, for proper liberal arts breadth, and for intellectual depth in their major. We can facilitate this process by requiring all students to complete an **Academic Development Plan**, a simple planning document (but more adequate than those now required of Tutees or new majors), as part of the process of utilizing the Mentored Independent Learning Fund. This document would demand that students define and defend in writing their academic choices at Grinnell. Such a document would strongly encourage the breadth and depth of liberal arts education we expect of all our students while recognizing the importance of informed choice.

A. Basics of the Mentored Independent Learning Fund

The primary uses to which students will be able to use the Mentored Independent Learning Fund are summer research opportunities, study tours, and summer internships.

- (a) The MILE Fund represents hypothetical "accounts" of up to \$5000 available to all students regardless of financial circumstances but usable only with explicit faculty/ administrative approval for approved academic purposes.
- (b) The funds will be disbursed according to clear and simple rules, using a streamlined administrative apparatus. Students will apply to their advisor for initial approval of intended expenses, and then to a second faculty member; if approved, the request will go to a supervising committee.
- (c) Students will be able to use MILE funds [with approval] to support summer internships, summer research opportunities, or for study tours as decided by appropriate faculty.
- (d) Summer MILE support will satisfy the financial aid summer earnings requirement. Credit costs for summer internships, for summer research, and for study tours will be excused.

- (e) Students will be able to use limited MILE funds [precise limits to be established later] for travel to internship sites or community service-learning sites during semesters or semester Breaks, to conferences for presenting papers, or to shadowing sites, or for other reasonable expenses as decided by appropriate faculty.
- (f) Once the MILE Fund is fully established, students will be able to apply to other GC funding sources (Wilson, Rosenfield, Noun, and other sources which become available) for further funding, normally after MILE funds are used.

B. Costs of Implementing a Mentored Independent Learning Fund

Grinnell College already funds many mentored independent learning activities using external grants (e.g., NSF funds used to support science summer research projects), endowment funds (e.g., summer internships funded through the Wilson, Noun, Rosenfield, and other endowments), and tuition payments (e.g., some study tours). The goal of our proposal is to create a single, more predictable funding source for all such activities, supported by the Fund for Excellence initially and the operating budget eventually. However, during the transition from the current mode of funding to the proposed arrangement in which the College funds most of these activities through the MILE Fund itself, we suggest that we use these existing funding sources as appropriate, supplementing those existing sources with additional funds from the Fund for Excellence. We urge the College to pursue actively other funding sources for these activities, while allocating appropriate support now so that we may implement this program as soon as possible.

The College currently funds approximately 40 summer internships each year [38 in 1998] using endowed funds, out of a total of approximately 135 students who receive an application form and 80 who actually apply, at a cost of \$3000 per student in stipends and \$2000 per student in forgiven tuition costs. Thus, we already spend about \$120,000 in stipends and \$80,000 in forgiven tuition, or \$200,000 per summer, on summer internships. The College also funds approximately 60 summer research students [56 in 1998] in the sciences, using mostly external grants, at a direct cost of about \$180,000 in stipend support, and \$120,000 in forgiven tuition, or \$300,000 overall. These two kinds of mentored independent learning activities then are funded currently at a cost of about \$500,000 per summer. Finally, the College offers numerous study tours in which students currently pay travel expenses and tuition costs, though they are eligible for financial aid for these expenses. The latter costs are harder to estimate.

In the long run, we believe that creating a Mentored Independent Learning Fund with “accounts” of up to \$5000 per student might require committing to direct expenditures of a maximum of \$1,600,000 per year, assuming 320 students (approximately a fourth of our students) receive permission to use up to \$5000 each in one year, an unlikely, though desirable, prospect. Of course, the initial cost for expanding on current funding will be considerably less than the eventual cost once these programs are completely established.

Initial start-up costs in the first few years will likely be much less in part because we will not be able to accommodate many more students than we already do. Furthermore, not all students will be considered eligible for receipt of these grants, since during the screening process we will discover that some students are on probation and hence are not eligible, or do not receive faculty support for their proposals, or cannot demonstrate how their proposed projects enhance their liberal arts education, or have GPAs too low to permit them to participate in such programs. Some students will presumably prefer to engage in other kinds of summer activities or to participate in paid summer internships without college credit.

We anticipate that, in the first few years of this program, we might fund up to 80 summer internships (the 80 who formally apply now, or twice the number who are typically funded currently and two thirds the number who express some interest by taking out an application), up to about 60

summer science research students (who already occupy the available faculty resources of time and lab space), and up to 40 students in study tours, per year. The total yearly cost of such support, assuming each of the 140 students doing summer internships and summer research receives \$3000 (the standard amount for a summer internship or research grant), might be \$420,000; assuming we also “pay” the tuition costs for these credits, the total cost might be \$700,000. The larger figure is about \$200,000 more than we currently provide for students doing funded summer internships and summer research.

Although estimating the costs of study tours or field study experiences is difficult, because the number of such tours varies and because their expenses obviously depends on the locations visited and the length of the tour, we can make some reasonable estimates. The examples provided in Appendix C for the Russian tours suggests costs for those tours of about \$3400 per student. The examples in Appendix D suggest similar estimates if one includes forgiven tuition costs and expenses for the directors or instructors involved. Thus, we can reasonably assume that study tour expenses might cost no more than \$5000 per student, which means the cost of funding 40 students per year on study tours would total \$200,000 or less.

Adding together these two sets of estimates, then, the MILE program in its initial years might cost \$900,000 per year (in direct student support for about 180 students per year), or approximately \$200,000 to \$400,000 more than we already fund.

The total costs of implementing this proposal will be larger than the direct costs of the student stipends and tuition alone, of course, since we will have to add a few support staff positions immediately and we will have to add some faculty positions eventually. We will need to increase staff support services in the Career Development Office (perhaps two full-time positions supervising internships and providing career advice to our increasing number of alumni/ae contacts) and in the Treasurer’s Office (one position perhaps to service the Mentored Independent Learning Fund), and a staff person to coordinate the MAP program, as noted below. We will, of course, need to provide proper computer equipment for these offices, including faster web access for the CDO staff and the students using their services. We will also need to acquire additional vehicles to provide for the increased transportation needs to more dispersed and more numerous internship sites and to more Alternative Break and field research trips, perhaps with professional drivers for longer trips.

MILE Fund section written by Chris Hunter.

The Internship & Mentored Independent Learning Study Group included Chris Hunter, David Campbell, Doug Caulkins, Amy Eilert, Meg Jones, Steven Langerud, Katherine McClelland, Erin Peterson, Connie Richardson, Paula Smith, Henry Walker.

Part 3. Creating a Faculty Workload Accounting System

To accomplish the goals of the proposed programs (the increased opportunities for internships, independent research, and field seminars, as well as MAPs, which we describe below), we need to reform our outmoded system of faculty workload accounting which gives no recognition and no reward for mentored independent learning. Ironically, this form of teaching – which has transformed the lives of many of our students – is given little consideration either in annual salary recommendation or in promotion and tenure reviews. Our institutional indifference to this form of teaching should be reformed, starting with a small change in the way that we account for the faculty work load. This reform is even more important because independent mentoring is not evenly spread throughout the faculty. Data from the fall semester of 1997, for example, indicates that independent teaching is concentrated in particular departments, introducing inequity in teaching loads. If we translate our current five course load into a points system as outlined in this Faculty Workload Accounting System, we can more fairly accommodate more forms of teaching.

In the short term, until we determine the number of additional faculty these expanded programs will require us to hire, we can temporarily compensate faculty with increased stipends for independent learning options which take place during the summer or winter break – supervising internships, leading study tours, or teaching in summer research programs. In the long term, some faculty might prefer such increased pay to changes in their teaching load or more frequent sabbaticals, and we should include such flexibility in the program. But our preferred approach is to institute the Faculty Workload Accounting System immediately and begin crediting faculty for all their teaching activities.

Basics of a Faculty Workload Accounting System

The goal of the faculty work load accounting system is to give appropriate recognition to a greater proportion of the mentoring responsibilities of the faculty. ***The basic principle is that if students receive academic credit for activities which involve faculty mentoring, then the faculty should count that activity as part of their work load.*** We propose this translation of our current five course load:

- (a) Each four-credit course will be the equivalent of 16 points, with 80 points – the equivalent of five courses – considered the normal load for the year.
- (b) Sixteen points (usually equivalent to credit hours) of independent mentoring will count as the equivalent of one course. Examples: (a) four four-credit independents; (b) two plus 2s, two four-credit independents, and two four-credit internships; (c) two four-credit senior thesis projects, two two-credit guided reading projects, and two plus 2s.
- (c) Because internships typically require less faculty mentoring time, the faculty director will be awarded half credit for each internship directed. (Two credits for directing a four credit internship, for example.) Faculty doing Hewlett-type "internship" programs, where the mentoring burden on the faculty director is much greater, will be awarded four credits per internship.
- (d) The number of points for each faculty member will be totaled after each semester and each summer. The Registrar's Office currently maintains records of all of the teaching that we propose to recognize in the faculty workload accounting system. A running total can be maintained in the Dean's Office records.
- (e) As faculty members accumulate mentoring points, they will negotiate with their chair and the Dean of the College to plan for an appropriate adjustment of their work load. This adjustment might come in the form of departmental rescheduling of some course offerings (e.g., putting some seminars on longer rotation) to accommodate the mentoring, through a course reduction for the faculty member, or an accelerated sabbatical schedule (e.g., a faculty

member might have a semester leave for the equivalent of two and one half courses [40 credits]).

Faculty Workload Accounting section written by Doug Caulkins, Bruce Voyles, and Jared Gardner.

Part 4. Facilitating Student Achievement: Mentored Advanced Projects (MAPs)

The idea of Mentored Advanced Projects originated in the Student/Faculty Research Workshop held during the summer of 1998, but its larger tenets and goals, we believe, emerge from campus-wide discussions that have been ongoing for some time. We began our discussions with a simple, yet potentially revolutionary, thesis: ***every student at Grinnell College should have the opportunity to discover or create something new and significant.*** Put another way, every student should have the opportunity to be what we consider ourselves: scholars who have mastered a certain body of material and now bring our own unique ideas and perspectives to that material as we create from it something new. To this end, we propose a program of **Mentored Advanced Projects (MAPs)** as a means of structuring such opportunities to the benefit of both students and faculty.

A. The Present Situation

We recognize that mentored individual learning in a variety of forms has become an important experience for increasing numbers of Grinnell students, and that this model of teaching and learning has broad benefits for the College. The pride the College takes in faculty/student collaboration in its admissions literature is evidence of a shared sense of these benefits. The scope of these activities is fairly broad, involving the full range of research and other types of educational experiences. Most of these activities are awarded student credit for "completed" work along with, in certain cases, a stipend. The existing opportunities for mentored independent learning are courses with the following designations:

- Directed Summer Research (399s)
- Independent Study (397s)
- Internship (397s)
- Guided Reading (297s)
- Senior Thesis Project (490s)
- Plus-2 (in association with a regular course offering)
- Study Tours

Most, if not all, faculty sponsor students in one or more of these activities at the present time. We discuss below what we believe to be some of the many advantages that will be secured for the College as a whole, and particularly for our students, in fully developing and implementing these resources. But we also have come to recognize that while there is a commitment *in principle* to the individual learning opportunities afforded by existing programs, there has been no systematic approach to developing these opportunities as a central component of our offerings to be made available for each and every student.

The costs to students and to faculty of the current haphazard approach to mentored independent learning have been substantial. For the most part this individual teaching is not accounted for in faculty's teaching load. The faculty has had to make time for this important work out of the few spare hours that can be secured in the course of a semester. Thus, from the start, what should be one of the most important and focused teaching activities we as faculty engage in is necessarily fragmented and drained of much of its needed energy and focus. Moreover, there is no formal evaluation by students of these teaching activities unlike the end-of-course evaluations done in each formal course. This means that student input from what is possibly the most intense form of teaching is not available when a faculty member is considered for promotion or tenure. The message of the College to students and faculty alike is that mentored independent learning does not merit the same institutional recognition as do conventional courses.

This reality means that faculty can mentor far fewer students than we might like and must turn away students who wish to do mentored projects. In addition, under the current system faculty must devote less time and energy to those projects they do mentor than many would like. This, we believe very strongly, is a situation that the College perpetuates at great cost to an invaluable

learning experience for our students, to the teaching lives of our faculty, and to the general level of prestige accorded the College nationally. We therefore propose the development of a new Mentored Advanced Project program at Grinnell College. This is at once a radical proposal for a major redeployment of College resources and priorities on the institutional level, even as it is at the same time a very modest proposal: *all we are asking is to do what we are already doing, but to be given the committed resources to be able to do it right.* Properly developed, mentored individual learning will serve our most fundamental goals as teachers by providing each student with a unique opportunity for individual discovery, even as it serves our ambitions for the College by providing a dynamic and original program by which we can communicate what it is that makes Grinnell a unique and valuable learning environment.

B. The Basics of a MAP Program

Our goal is the expansion of the opportunities provided by the College for students to undertake original work as a central learning opportunity. Toward this end, and as an essential ingredient in achieving this goal, we are proposing the creation of a Mentored Advanced Project (MAP) as an opportunity to be afforded each student. The MAP will be a goal that each student will be asked to consider as an option and will not to be required. The MAP will provide a chance for each student to develop a mentored independent learning experience beyond that usually afforded a traditional one-semester independent project. This extended experience will permit each student to bring the project to a level at which it can be published and presented. An archivable written product as well as a public presentation will be requirements for all MAP scholars.

The Elements of a Mentored Advanced Project

The MAP is in no way conceived of as replacing the importance of a traditional (non-MAP) internship or independent study or other individual learning experience. Instead, we would define the full range of mentored independent learning as falling under the umbrella of a Mentored Independent Learning Program in order to integrate the College's commitment to this mode of inquiry and teaching. Every mentored independent project is a potential building block or cornerstone of a presentable and publishable project: a MAP for the future.

We propose that the Mentored Advanced Project have the following characteristics:

- (a) The MAP is student scholarship of a high order, but broadly defined. It may involve any of Boyer's four types of scholarship:¹
- *The Scholarship of Discovery:* dealing with new knowledge and new ideas. This is the type of work normally associated with scholarship or research by college faculty.
 - *The Scholarship of Integration:* drawing new insights or meaning out of the discoveries produced by research specialists. This may be interdisciplinary, cross-disciplinary, or cross-specialty work.
 - *The Scholarship of Application:* bringing the insights of research to bear on social, organizational, or environmental problems. Sometimes this is thought of as policy research or applied research.
 - *The Scholarship of Teaching:* transforming and extending knowledge as well as transmitting it.

¹ Boyer, E. L. (1990) *Scholarship Reconsidered: Priorities of the Professorate*, Carnegie Foundation for the Advancement of Teaching, Princeton, N. J.

- (b) The MAP may be initiated by either a student or a faculty member.
- (c) The MAP involves mastering some subject matter. This subject matter may be within a student's major, in another discipline, or across disciplines.
- (d) The MAP involves the discovery of something original or the development of a body of knowledge in an original direction.
- (e) The results of the MAP activity must be made public beyond the bounds of a class.
- (f) The final product of the MAP must be archivable in an appropriate medium.

The Logistics

The MAP Proposal MAP projects can take a wide range of forms, and it is not the goal of this proposal to limit the possible manifestations they might take. We offer a range of examples of MAP projects in Appendix H, attached to this proposal. Clearly a successful Mentored Advanced Project would require careful planning and preparation. To facilitate this planning, students will be required to submit a written MAP proposal no earlier than the beginning of the second semester of the sophomore year and no later than the last week of the junior year. This window of opportunity is designed to ensure that students are adequately prepared to undertake the MAP, and that their work begins in a timely manner that allows public presentation of the final product of the MAP. Proposals for MAP Projects must be approved by two faculty members, including the faculty mentor.

Course Enrollment and Grading for the MAP The MAP is a creative project, not a specific kind of teaching/learning unit. For this reason, we do not advocate creation of a new course rubric for the MAP. Instead, a student proposing to do a MAP would enroll in one, or a series, of the existing array of independent courses; this is illustrated in the figure following this page. These courses will be graded and credit awarded in the usual fashion. After a public presentation of a project of sufficiently high quality, that project will be recognized with a specific designation on the student's academic transcript and will be listed prominently in the commencement program.

Presentation of the MAP Product Dissemination is an essential component of good scholarship, and it is a distinguishing feature of the MAP. We suggest a "Research Week" be set established toward the end of each semester. During the Research Week, the events calendar would be reserved for presentations of student and student/faculty research and creative products. Poster papers would be a good medium for efficient presentation of results in some cases; in other cases symposia or performances would be scheduled for focused presentations within areas of interest. In some cases, as in MAP projects that are also serving as senior theses within a given major, the department in question will handle the scheduling the presentation component.

The Research Week will also represent the College's commitment to student/faculty research, and it will provide a showcase of College achievement in which the entire community can share pride. Research Week might plausibly be scheduled to coincide with visits by prospective students, thereby providing a model of what our students have accomplished and an invaluable advertisement of the strength of our unique program in faculty/student collaboration.

Archiving of the MAP Product The final requirement of a MAP is that there be some product that can be archived by the College. This product will often be a paper, but it might also be a video or audio tape of a recital or other artistic presentation, a set of lecture notes or outlines for a teaching product, or a portfolio of some sort displaying creative works or the product of teaching experience. One possibility for archiving many types of materials is a Grinnell Journal, produced and published by the College in association with the Research Week events.

Why MAP?

Our goal in proposing the MAP as the cornerstone of the College's commitment to a foundation in student-faculty research is to help orient the campus culture toward a focus on student mastery, achievement, responsibility, and follow-through. We believe that the development of a body of student research brought to the level expected of MAP scholars will have a range of positive effects:

- the MAP will provide a strong foundation in student research at the College that we can use to help motivate structure and integration in students' academic programs;
- the MAP will help develop a stronger commitment to the value of research – student and faculty alike, and in dialog with each other – at a liberal arts institution;
- the MAP will provide students with a fuller understanding of the excitement and the responsibilities of individual discovery and teaching by providing them opportunities beyond those afforded by a normal classroom or laboratory setting;
- the MAP will teach students skills they can carry beyond Grinnell into any endeavor;
- the MAP will allow faculty and students to collaborate in developing new and underrepresented areas of inquiry in our curriculum;
- the MAP will provide the institution with a concrete archive of student accomplishment in the MAP library.

We envision the Mentored Advanced Project as encouraging the responsibility, focus, independence, and the hunger for excellence we desire in all our students. By requiring the MAP scholars to bring their work to completion and to find modes of communicating (teaching) that will enrich the community as a whole, the MAP scholars program will enrich the scholarly and intellectual life of the community as a whole. We have every confidence that within a few years of the implementation of this program that it will be the goal not of an elite core of extremely motivated students, but of a broad range of Grinnell College's students.

C. MAP and the Fund for Excellence

The MAP program is *only* feasible with appropriate recognition of faculty teaching activities and appropriate staffing support.

Mentoring as Teaching

It is essential that the substantial faculty investment of time and energy in mentoring all forms of independent work be accounted for by the College as a valuable form of teaching. A faculty workload accounting system of the kind outlined in this proposal provides the recognition and support necessary for the MAP proposal to succeed.

Staffing Implications for the MAP program

In the initial phases of the MAP program, no increases in faculty size are required. The new workload accounting system will allow us to shape the curriculum to meet our needs. By keeping the system under constant review we may find that it will become necessary to add a few faculty to the hardest pressed departments within the next 2 to 5 years. This approach has the virtue of not requiring an immediate commitment to a particular level of staffing. A phased increase in the number of faculty is anticipated, if the demand grows as we expect it to.

Support Staff

Implementation of the MAP proposal will require the hiring of a Mentored Advanced Projects Coordinator. The MAP Coordinator will be responsible for

- editing an inventory listing the research and research collaboration interests of the faculty interested in mentoring student MAP projects. The booklet should also list the prerequisite course work that the mentor conceives of as background for a MAP. (This inventory should also be a valuable tool for the admission office)
- coordinating the fall and spring semester research presentations

- advising students and helping them develop materials (slides, posters, etc.) for presentations on campus or at conferences
- archiving the finished products.

The MAP Coordinator must have the computer and other equipment necessary for carrying out this activity, as well as access to other support staff and campus resources.

MAP Assessment.

The assessment of the MAP program will focus on the following goals:

- Enhance opportunities for independent mentoring
- Enhance student scholarly achievement
- Increase public recognition of mentored student scholarship
- Reward faculty for a wider range of mentoring activities
- Increase participation of the faculty in independent mentoring

These goals are key to a change in college culture that builds on our long-term commitment to a variety of forms of individual mentoring, starting with the first year tutorial. Specifically, the goals are components of a culture that emphasizes mentoring for achievement in longer-term projects.

Enhance opportunities for independent mentoring

Baseline data on the number, type and funding of mentored independent learning projects carried out in the current year will be gathered. Success of the MAP program will be indicated by an increase in number, types (such as study tours and field seminars), and funding of mentored independent learning projects. MILE funding should exceed the current total from all sources.

Enhance student scholarly achievement

Baseline data on student on and off-campus public presentations and publications can be assembled for the current year. Success of the MAP program will be indicated by an increase in the number of completed MAPs and on and off-campus public presentations and publications. Outside scholars from colleges that emphasize independent student scholarship will be invited to the fall and spring semester "scholarship weeks" to view and comment on the quality of the public presentations and archived projects. In addition, employers and graduate schools can be asked if a student's having completed a MAP influenced their decision to hire/admit that student.

Increased public recognition of mentored student scholarship

Baseline data on media coverage of mentored student scholarship can be assembled by the Public Relations Office for the current year. Success of the program will be indicated by increased media coverage of mentored student scholarship and by increasing awareness of these activities on the part of prospectives and new students. Prospective students and/or new students can be asked about their awareness of mentored student scholarship. The current survey given to first-year students (CIRP) has a question under "reasons that influenced your decision to attend this college" reading "This college offers special education programs." Grinnell tends to score comparatively low on this item (confirming Kane's findings); our score should improve if the MAP program is advertised well.

Reward faculty for a wider range of mentoring activities.

Baseline data can be assembled from current and previous budget committees/executive councils on the degree to which mentoring of independents was taken into account in salary recommendations and promotion and tenure decisions. Success of the program will be indicated by the establishment of a faculty workload accounting system that counts independent mentoring and by increased attention of the budget committee/executive councils to independent mentoring in salary recommendations and promotion and tenure decisions.

Wider participation of the faculty in independent mentoring

Baseline data can be established retrospectively for several years on the percentage of the faculty

that has mentored independent learning. Success in the program will be indicated by an increase in that percentage over several years of the program. In addition, several questions about faculty experience in mentoring independent student work could be included in a faculty survey to be conducted this fall. These data would provide information to be compared to the results of a second survey several years from now.

MAP proposal written by Bruce Voyles, Jared Gardner and Doug Caulkins.

The Student/Faculty Research Study Group included Doug Caulkins, Charles Cunningham, Jared Gardner, Michael Rosenthal, Marci Sortor, Barbara Trish, Bruce Voyles, and Henry Walker.

General Issues of Implementation

We believe the expanded mentored independent learning program outlined in this proposal should begin with initial preparatory steps during the 1998-99 school year. These steps should include modest increases in staffing in the Career Development Office, which will need to begin to locate new internship sites, in collaboration with the Alumni Office. During the Spring of the 1998-99 school year, selected faculty should be encouraged to attend national conferences on experiential learning, internships, and service learning and on mentoring independent research projects. In addition, selected faculty should be funded to begin designing study tours.

During the summer of 1999, faculty summer workshops should be scheduled in which faculty can prepare for more intensive and rigorous supervision of mentored independent learning experiences. Some Oral Communication Workshops might be offered which focus on how best to help students present the results of their independent learning experiences more effectively. Faculty development funds should be increased so that faculty can prepare proposals for mentored research opportunities to be offered beginning in the summer of 2000.

The expanded mentored independent learning program should begin in 1999-2000, with creation of the Mentored Independent Learning Fund. During the first academic year (or two) of the program, we will have to phase in increased internship and research and study tour options as faculty become prepared to offer them, though our goal should be to accommodate as many students as possible. Eventually, we might expect up to 320 students per year to be interested in participating in some such experience, most during the summer after their junior year, some after their sophomore year.

Conclusion

Grinnell College has the resources to implement this proposal. We are convinced that doing so will strengthen Grinnell's existing academic program; enrich our curriculum in ways consistent with our values, history, and current direction; and bring Grinnell's innovative approaches to achieving an academically rigorous liberal arts education to greater attention.

APPENDIX A: Some Of The Faculty And Staff Who Have Been Involved In The Process Of Developing These Proposals

Brad Bateman
 Vicki Bentley-Condit
 David Campbell
 Doug Caulkins*
 Charles Cunningham
 George Drake
 Amy Eilert
 Jared Gardner*
 Katya Gibel Azoulay
 Pip Gordon
 Chris Hunter*
 Meg Jones
 Steve Langerud*

David Lopatto
 Katherine McClelland
 Ellen Mease*
 John Mohan*
 Connie Richardson
 John Rommereim
 Mike Rosenthal
 Marci Sortor
 Barb Trish
 Bruce Voyles*
 Henry Walker
 Eliza Willis*

*Representatives of the summer faculty workshops on internships, research, and study tours who collaborated on the final proposal.

Appendix B: Examples of Funded Summer Internships, 1998

STUDENT INTERN	INTERNSHIP SITE	FACULTY SPONSOR
Aline Aprahamian '00 Creative Arts Grant	Ms. Irma Cooper American Institute of Musical AUSTRIA	John Rommereim Music Dept.
Hormuz Batliboi '00 Wilson Grant	Mr. Ajay Mirajgoaker Rahul Mehrotra Associates INDIA	Timothy Chasson Art Dept.
Anne Butzen '99 Rosenfield Grant	Ms. Mary Kay McDermott Office of the Inspector General DCFS-Illinois	Sandford Goldberg Philosophy Dept.
Bronwyn Collins '98-Dec. Rosenfield Grant	Ms. C'Ana Petrich Girl Power, YWCA of Minneapolis	Martha Voyles Education Dept.
Elissa Colter '00 Wilson Grant	Ms. Catherine Tillman <u>Saveur Magazine</u>	Robert Grey Political Science Dept.
Erin Drehobl '99 Rosenfield Grant	Ms. Maureen Casey-DeCorcuera United States Embassy-Paris Paris FRANCE	Victoria Brown History Dept.
Mandy Emory '01 Creative Arts Grant	Ms. Claudia Streeter Museum of Repertoire Americana	Jan Czechowski Theatre Dept.
Lisa Hetzel '00 Wilson Grant	Ms. Barbara Belletini Fields Esperanza Community Services Chicago, IL 60622	Chris Hunter Sociology Dept.

Nokwazi Hlubi '99 Rosenfield Grant	Ms. Margarit Kung Moral Re-Armament The Conference Secretariat SWITZERLAND	George Drake History Dept.
Aime Hopper '00 Wilson Grant	Ms. Lara Mendell Global Routes Berkeley, CA 94710	Jean Ketter Education Dept.
Laurie Kauffman '99 Environmental Studies	Dr. Christian Naranjo, D.V.M. Jardin Gai Costa Rica	Vickie Bentley-Condit Anthropology Dept.
Kathleen Kerr '99 Wilson Grant	Ms. Zahra Orane Women Express-Teen Voices Boston, MA	Jean Ketter Education Dept.
Heather Korte '99 Wilson Grant	Ms. Lara Mendell Global Routes Berkeley, CA 94710	Monessa Cummins Classics Dept.
Nick Larma '99 Rosenfield Grant	Ms. Lisa Segal PathFinders Milwaukee, WI 53202	Ann Ellis Psychology Dept.
Jocelyn Luglio '99 Noyce/Intel Grant	Ms. Teri Grinlinton Arcosanti (Cosanti Foundation) Mayer, AZ 86333	Jean Ketter Education Dept.
Jeremy Lundquist '99 Creative Arts Grant	Ms. Deborah Maris Lader Chicago Printmakers Collaborative Chicago, IL 60622	Tony Crowley Art Dept.
Vadim Marchuk '99 Rosenfield Grant	Mr. Igor Knyazev Ukrainian Trade & Economic Mission Consulate General of Ukraine Toronto, ON M65 1M8 CANADA	William Ferguson Economics Dept.
Maya May '99 Wilson Grant	Ms. Jennifer Adams The Guild Complex Chicago, IL 60657	Janelle Taylor Anthropology Dept.
Lindsay McBride '99 Noun Grant	Ms. Sharen Johnson Gay Men & Lesbians Opposing Violence Washington, DC 20005	Johanna Meehan Philosophy Dept.
Betsy McCallon '99 Noun Grant	Ms. Jennifer Gadsby ALIVE: Alternatives to Living in Violent Environments St. Louis, MO 63105	Lisa Avalos-Bock Sociology Dept.
Oma McLaughlin '99 Noun Grant	Ms. Cheryl Huston Maine Adoption Placement Services	Jonathan Andelson Anthropology Dept.
Scott McNiven '99 Noyce/Intel Grant	Mr. Jeff Clearwater The Sirius Community	Jonathan Andelson Anthropology Dept.

Shutesbury, MA 01072

Heather Metz '99 Rosenfield Grant	Mr. Ben Morgi Operation Crossroads Africa UVIKIUTA Dar es Salaam, Tanzania	Edmund Gilday Religious Studies Dept.
Stacey Million '99 Wilson Grant	Ms. Anja Welsh Milkweed Editions Minneapolis, MN 55401	Monessa Cummins Classics Dept.
Kristen Morrow '99 Creative Arts Grant	Ms. Jennifer Yancey Museum of Contemporary Art, S.D. LaJolla, CA 92037-4291	Douglas Diamond Music Dept.
Trinity Muller '00 Rosenfield Grant	Mr. Eric Wingerter GREEN Washington, DC 20005	Barbara Trish Political Science Dept.
Mansir Petrie '99	Ms. Julie Church Environmental Studies Grant Lamu, NAIROBI	David Campbell Biology Dept.
Luna Ranjit '00 Rosenfield Grant	Ms. Indu Aryal ABC/Nepal Kathmandu, NEPAL	Eliza Willis Political Science Dept.
Amy Reiter '99 Wilson Grant	Ms. Serina Beauparlant Mayfield Publishing Mountain View, CA 94041	Paula Smith English Dept.
Yolanda Strachan '99 Development Grant	Ms. Romera Cruz Communal Movement of Matagalpa	Irene Powell Economics Dept.
Tony Stubblebine '00 Noyce/Intel Grant Minneapolis, MN 55415	Mr. Ben Stallings Twin Cities Free-Net	Sam Rebelsky Economics Dept.
Benjamin Tromly '00 Rosenfield Grant	Mr. Virgis Pikturna Radio Free Europe/Radio Liberty, Inc. CZECH REPUBLIC	Dan Kaiser History Dept.
Anne Walsh '00 Rosenfield Grant	Sister Rose Ann Schlitt, O.P. Adrian Dominican Sisters Ft. Lauderdale, FL 33340-7052	Jonathan Andelson Anthropology Dept.
Andrew Weidner '99 Wilson Grant Seattle, WA 98115	Mr. Tom Spurgeon <u>The Comics Journal</u>	George Drake History Dept.
Stephanie Wilcox '00 Mitigation Grant	Ms. Caryn Tatelli Unit 1 Chicago, IL 60615-3816	Chris Hunter Sociology Dept.
Megan Williams '00 Rosenfield Grant	Mr. Michael Zorick U.S. Department of State	Robert Grey Political Science Dept.

American Embassy in Hungary

Jeremy Youde '99
Noun Grant

Ms. Gail Goodman
Out Youth Austin
Austin, TX 78701

Deanna Shorb
Chaplain

APPENDIX C: John Mohan's Reflection On Grinnell College Study Tours Of The USSR And Russia

Winter Recesses: 1983-84, 1984-85, 1985-86, 1987-88, 1989-90, 1991-92

Spring Recess: 1996

The Russian study tours between 1983 and 1996 have been among the most educationally gratifying of my experiences at Grinnell College. While we have never asked participants for formal evaluations of the tours, I have considerable anecdotal information that the tours represented a high point in their undergraduate studies. For many students, this guided introduction to Russia encouraged them to return there for study programs, internships, and employment. For students in other majors, the study tour has offered a once-in-a-lifetime opportunity to visit a country and culture whose historical development has differed sharply from that of Western Europe and North America. Although we reserved a Russian-language emphasis on the tours only for students of Russian, the already-existing Russian study-tour served as a model for one aspect of the College's successful application for a Pew Grant in the mid-1980s, a grant focused on furthering foreign-language study at the College.

Each study tour grew out of an interdisciplinary course devoted to modern Russian society and culture. On each occasion, we attempted as far as possible to organize the itinerary around the institutions and people featured in the syllabus, e.g., artists, writers, and scholars and their professional organizations; institutions in Soviet and then Russian health-care programs; more recently, organizations dealing with questions of gender; sites of battles that changed the course of World War II, battles little known in the West, but to Russians -- correctly so -- the equivalents of many, many D-Days; and, not least, the cultural artifacts -- icons, paintings, ballet, opera, cathedrals--which make Russia unique.

Offered quite regularly in the 1980s, the study tour has taken place only twice in the 1990s. Rising costs have made Professor Kaiser and me somewhat timid about planning and promoting the prerequisite course and the study tour. As the attached cost-chronicle shows, we have been paying more and more money for less and less -- in terms of the scope of the itinerary and the length of the tour. If we leave out the year of the highest cost, \$3380 in 1992, a time of runaway inflation in post-Soviet Russia, we find the cost per student rising 33.5 % over the seven offerings. If we include that high-cost year, the increase is 48.5%.

But the single biggest increase in the cost of the tour--quite apart from transportation, lodging and food--is the Grinnell tuition, the charge for the two credits earned by students on the tour. That increase is 55.8%, from \$450 in 1983-84 to \$1080 in 1995-96. We have never been successful in persuading the College to allow the students to participate in the tour on a "+2" basis, or to allow them to incorporate the two credits into the 18 credits which a student can take each semester. The College's response has been that the tuition makes possible a portion of the financial aid extended to study-tour participants, just as all students take their financial aid with them to any OCS program.

We see in the Fund for Excellence the possibility of reviving the Russian study tour by 'forgiving' students the cost of the credits and, if possible, subsidizing some of the other costs incurred by students. For our part, we will do more "comparison shopping" to find lower costs. We will also tailor the study tours to make them relevant to individual participants who will be pursuing MAP projects.

From Professor Edward Steiner's visits to Russia to meet his friend and idol Leo Tolstoy, through Harry Hopkins's visits to the USSR to coordinate Allied efforts against Nazi Germany, to today's two-way exchanges of Grinnell students and Russian students, Grinnell College has always had special relationships with Russia, and the study tour would further those relationships. The revival and maintenance of the study tour will help Grinnell students and faculty alike to appreciate and, possibly, answer the question recently posed by James Billington, Librarian of Congress and

a distinguished specialist on Russia: "Will [the Russians] build on the spiritual strivings and moral aspirations of their great artistic culture, or will they once again recede into some new form of despotic authoritarianism that has been characteristic of so much of their past?"

My cost-chronicle follows.

December 28, 1983 - January 20, 1984
Directors, Daniel Kaiser and John Mohan
\$1730 Travel Cost per Student
\$450 Grinnell Tuition, 2 Credits
Russia (Moscow, Kursk, Leningrad)
Ukraine (Kharkov, Kiev)
Estonia (Tallinn)
18 students

December 28, 1984 - January 18, 1985
Directors, Daniel Kaiser and John Mohan
\$1925 Travel Cost per Student
\$500 Grinnell Tuition, 2 Credits
Russia (Moscow, Leningrad)
Georgia (Tbilisi, Gori)
Estonia (Tallinn)
22 students

December 26, 1985 - January 18, 1986
Directors, Paul Ashin and John Mohan
\$1850 Travel Cost per Student
\$540 Grinnell Tuition, 2 credits
Russia (Moscow, Kursk, Leningrad)
Ukraine (Kharkov, Kiev)
Estonia (Tallinn)
13 students

December 27, 1987 - January 16, 1988
Directors, Daniel Kaiser and John Mohan
\$2250 Travel Cost per Student
\$610 Grinnell Tuition, 2 credits
Russia (Moscow, Ulyanovsk, Volgograd [former Stalingrad], Leningrad)
Estonia (Tallinn)
14 students

December 28, 1989 - January 19, 1990
Directors, John Mohan and Helen Scott
\$2600 Travel Cost for Student
\$720 Grinnell Tuition, 2 credits
Russia (Moscow, Kursk, Leningrad)
Ukraine (Kharkov, Kiev)
Estonia (Tallinn)
19 students

January 3 - 17, 1992
Directors, Daniel Kaiser and John Mohan
\$3380 Travel Cost per Student
\$780 Grinnell Tuition, 2 credits
Russia (Moscow, Leningrad)
Estonia (Tallinn)

12 students

March 16 - 26, 1996

Directors, Todd Armstrong and John Mohan

\$2358 Travel Cost per Student

\$1020 Grinnell Tuition, 2 credits

Russia (Moscow, St. Petersburg)

10 students

APPENDIX D: Types of Field Study and Study Tours

Linked to a specific course

- (1) Trips or tours taken after the completion of a course. The course serves as the principal prerequisite for the tour, though all the students enrolled in the course join the tour. Two credits are awarded for this study experience. These tours have included faculty from several different departments and have had a multidisciplinary character.

Model: Interim Study Tour of Russia
Number of student participants: 14-16
Number of faculty participants: 3-4
Duration: 10-21 days
Results: Students choosing to spend a semester studying in Russia or pursuing further coursework in Russian and Slavic studies

- (2) Field studies (usually during spring break) undertaken as a requirement of an ongoing course. Plus-two credits are awarded for this experience. This course is a regular offering in the curriculum.

Model: Belize Biological Diversity
Number of student participants: 4-8
Number of faculty participants: 1-2
Duration: 14 days
Results: research projects for course and subsequent student-faculty collaboration

- (3) Study tour linked to an interdisciplinary, team-taught course or seminar organized around a theme that will change from year to year. These courses or seminars may originate in the concentrations or through other forms of faculty collaboration across departments. These seminars may take the form of a semester-long course or a seminar that meets several times over the entire academic year.

Models: Mississippi Delta Tour; Race and Regionalism Seminar, and University of Iowa-Grinnell Bridging Projects, Civil Rights Tour
Number of student participants: 10-15
Number of faculty participants: 3-5
Duration: 5 days to two weeks
Results: seminar or course papers and subsequent student-faculty collaboration; public presentations and symposia

Example: Civil Rights Study Tour (14 days)

Estimated Costs: \$1400 per participant (10 students plus five faculty). Total of \$21,000.

- (4) Performance tour linked to one-credit course.

Model: Grinnell Singers, domestic and international tours
Number of student participants: Approximately 50
Number of faculty participants: 1
Duration: 1-2 weeks
Results: performance experience

Example: Singers' Eastern European Concert/Study Tour (15 days)

Estimated Costs: \$1300 per participant (55 students plus manager, choral director, and lecturer), minus \$300 contribution per student. Total of \$58,900. With tuition costs forgiven, total of \$119,400.

Course-related study tours and field studies not linked to a single course. Students must complete certain prerequisites in order to participate in these off-campus experiences.

- (1) Research completed in the field during breaks. Involves faculty directed research on-site. This can have either a disciplinary or interdisciplinary character.

Models: Summer Archaeological Field School; Cyprus Project; Belize expeditions; Irish Identity and Community in Nebraska; Primate Social Organization Research Station in Texas; and Celtic Cultures Project.

Duration: Varies

Number of student participants: 6-10

Number of faculty participants: 2-3

Results: student-faculty research and publication

Example: Celtic Cultures Study Tour (Scotland for 8 weeks)

Estimated Costs: \$3000 for expense stipend per student (3), \$3000 for faculty expense stipend, \$900 for transatlantic transportation per participant, \$1500 for local car rental, \$400 for supplies. Total of \$17,500.

Example: Irish-American Identity and Community in O'Neill, Nebraska Study Tour (8-10 weeks)

Estimated Costs: \$3000 for expense stipend per student (3), \$3000 for faculty expense stipend, \$1000 for gas and supplies. Total of \$13,000.

- (2) Study tours during which all students present the results of research projects undertaken on campus prior to the tour. These tours have an explicitly interdisciplinary focus within the humanities. Students receive two credits for independent study.

Models: Study Tour Of Greece and Future Interdisciplinary Humanities Tours

Number of student participants: 15-20

Number of faculty participants: 4-6

Duration: 10-14 days

Results: seminar papers

- (3) Field Studies Related to a Study Abroad Program
Students undertake focused individual projects while participating in a study abroad program.

Model: Grinnell-In-London Phase II: Field Studies in British Villages

Number of student participants: 10-21

Number of faculty participants: 2

Duration: 4 weeks

Results: student papers and presentations at the Iowa Academy of Science

Independents

- (1) Direct summer research off the Grinnell campus
Model: Celtic Cultures Project
Number of student participants: 1-2 per summer
Number of faculty participants: 1
Duration: 6-8 weeks
Results: senior theses; student/faculty publications

Trips of Shorter Duration (1-3 days)--Linked, Related, or Unrelated to Specific Courses

- (1) Attendance at theater, opera, or other performing arts events in neighboring cities.
- (2) Visits to sites of historic, ecological, cultural or political significance. Several tutorials have already undertaken such trips. This has also been done in upper-division courses. For example, I plan to take students from GDS 111 to the Native American Women's Health Education Resource Center (NAWHERC) in North Dakota during the spring of 1999.
- (3) Participation in major political events such as marches, rallies or speeches by public figures

Alumni-Related Field Studies or Collaborative Research

- (1) Alumni tours that include the participation of current students and recent graduates.

Model: Amazon and Belize Alumni Tours

Number of student participants: 4-6

Number of faculty participants: 1

Duration: 10-14 days

- (2) Collaborative research with alumni

Model: Regional Development in Wales

Number of alumni participants: 1

Number of faculty participants: 1

Duration:

Results: co-authored papers and publications

Appendix E: Timetable for Study Tours

Time	Project
Immediately	Support for short-duration field trips (i.e., Guthrie Theater; Chicago; O'Neil, Nebraska)
1999 Spring (and every Spring from then on)	Competition for and selection of new Hewlett-type project
1999 Spring (and every Spring from then on)	Competition for and selection of new Thematic Field Seminars (bridging-type project with field component)
1999 Spring Break	Provide need-blind admission to Campbell's "Tropical Biological Diversity" Field Research Tour (Belize) Support for John Rommereim's Eastern European Concert/Study Tour Support for Katya Azoulay's "Race and Regional Histories" Study Tour Support for Humanities 140 Study Tour of Greek City States
1999 Summer (and every summer from then on)	Hewlett-type project field survey
1999 Fall (and every Fall from then on)	Thematic Field Seminars based on the Bridging Project model
2000 Winter, Spring, or Summer Break	Thematic Field Trips
2001 Spring Break	Support for Humanities 140 Study Tour of Florentine City States
2001 Summer (and every summer from then on)	Hewlett-type project field survey
2001 Winter	Support for Mohan's Russia Tour
2001 Spring Break	Support for Campbell's "Tropical Biological Diversity"

APPENDIX F: John Rommereim's Proposed Grinnell Singers Concert/Study Tour To The Baltics, March 2000

Benefits of Singers Concert/Study Tour:

Choral music is itself, even without an international tour, a valuable alternative form of learning, offering modes of encounter that are unavailable in the classroom. As they rehearse and perform, and as they hone their interpretation on tour with masterworks such as Tallis's forty-voice motet, *Spem in alium*, Josquin's *Missa "Pange lingua,"* or Rachmaninov's *All-Night Vigil*, the students have immediate, direct encounters with some of the world's finest works of art. Because so many nations around the world produce choral music, the choir can function as a window into distant cultures as well as distant times. Moreover, the students' benefit is not limited to music: they are always encountering texts as well. They are asked to commit to memory texts that would otherwise be distant and inaccessible to them: a thousand-year-old poem in Chinese, for instance, or mystical texts in Latin by Hildegard von Bingen, or a Pushkin poem in Russian. In addition to these cultural and historical encounters, the students learn in other, more skill-oriented ways. As they are challenged by the demanding repertoire, the students develop their musical skills and their interpretive ability.

Although the choral experience is a valuable alternative form of learning in itself, its educational impact can be enhanced by adding into the mix the twin elements of travel and lectures. In a carefully designed tour, the repertoire, the music, the locale, the history, and the performance can combine to create an all-encompassing educational experience.

Moreover, such a concert/study tour will have a powerful interdisciplinary character, potentially drawing together music, literature, architecture, history, language, art history, and political science and will, thus, provide students with a form of active scholarship in traditional and interdisciplinary fields.

Because the repertoire for the concert/study tour will be primarily American, with special emphasis on the heritage of African American spirituals, the tour will serve as a representative of American culture. The repertoire will therefore be chosen to highlight our unique heritage and the diversity of cultures within our nation.

The strongest institutional argument for this proposal is that it will lead to greater excellence in the choral program. The challenge of singing in an international arena will spur us on to greater heights. The choir will have the opportunity to sing for some of the world's finest choirs in informal choral exchanges, and, in turn, to hear these choirs sing. This will give the Grinnell Singers a valuable window into choral performance in distant areas of the world. International tours have become *de rigeur* for college choirs. Indeed, most successful high-school programs tour abroad regularly. A regular schedule of international tours is therefore vital for the long-term success of the vocal program. Without it, the most talented high-school graduates are less likely to choose Grinnell.

Thus, this concert/study tour will have a strong positive effect on the college's public image. The impact will not be merely cosmetic, however. When the choral program becomes more attractive, genuine improvement in quality will result because it brings an improvement in the level of incoming talent.

Description of Singers Concert/Study Tour:

In recent conversations with Kari Turunen, a choral conductor from Helsinki, I have explored the possibility of a tour of the Baltics by the Grinnell Singers in the year 2000. Mr. Turunen knows many of the most prominent conductors and choirs in the Baltic region. He has offered to host our choir in Turku, Tampere, and Helsinki (through the institutions with which he is associated in those cities), and to help us in setting up concerts in Jyvaskyla, Tallinn, Tartu, and Riga. I have numerous contacts in St. Petersburg, including the director of the Conservatory,

Vladislav Chernushenko, and one of the City's most prominent music critics, Aleksander Byalik, who I hope will aid me in setting up a concert and various cultural interchanges there.

For the most part, the choir will be hosted in people's homes. This will help to cut down on the cost considerably, and will make for a valuable cultural exchange. It will not be possible to house the Singers in Russian homes in St. Petersburg, so that portion of the trip will be more expensive. The cultural opportunities in St. Petersburg are so valuable, however, that it would be foolish to omit it from the itinerary. (If it turns out that the safety concerns become overwhelming, we would certainly omit it).

Because this idea has just been born, I am not able to describe the study component of the tour in any detail. I envision that a Grinnell professor (possible candidates: Dan Kaiser, John Mohan, Anatoly Vishevsky, Todd Mohan) will travel with the group and give lectures pertinent to each location. In addition, the instructor will design a list of readings that the choir will be required to complete prior to the tour, and there will be three or four lectures orienting the choir to the history, geography, and culture of the region during the first part of the spring semester. The students will receive two credits for this course.

Approximate cost:

\$1,300 per participant (55 students, plus manager, choral director, and lecturer)	\$75,400
\$1100 per student for forgiven tuition costs	\$60,500
\$300 contribution per student	– \$16,500
Lecturer's compensation	????
total cost:	\$119,400
without tuition costs]	[\$58,900

Friday, March 17

Bus from Grinnell to Chicago

Flight from Chicago to Stockholm, and Stockholm to Turku, Finland

Saturday, March 18

Arrive Turku Finland

Lectures, sightseeing in Turku

Meet hosts (members of the choir Sekakuoro Kulkuset, Kari Turunen, director)

Sunday, March 19

Concert at Turku Cathedral

Monday, March 20

Bus from Turku to Tampere

Concert at the Tampere Conservatory

Contact: Kari Turunen, professor at the Conservatory

Tuesday, March 21

Bus from Tampere to Jyvaskyla

Concert at Jyvaskyla University

Contact: Rita Varonen, director of the choir Canti Novum, professor at Jyvaskyla Conservatory

Wednesday, March 22

Bus from Jyvaskyla to Helsinki

Lectures, tour of the city

Thursday, March 23
Concert at Tempelaukion Kirkko (The Church in the Rock), Helsinki

Friday, March 24
Train to St. Petersburg
Lectures, tour of the city

Saturday, March 25
Concert at Smolny Cathedral
Contact: Vladimir Chernushenko, director of the Glinka Cappella and Rector of St. Petersburg Conservatory

Sunday, March 26
Train to Tallinn, Estonia
Lectures, tour of the city

Monday, March 27
Concert: Tallin Concert Hall
contact: Aivar Mae (director of the concert hall in Tallinn)

Tuesday, March 28
Train to Tartu, Estonia
Concert in the Great hall of the University
Contact: Vaike Vibopuu

Wednesday, March 29
Train to Riga, Latvia
Concert

Thursday, March 30
Sea transport from Riga to Helsinki
Evening flight departs from Helsinki

Friday, March 31
Arrival in Chicago, bus to Grinnell

APPENDIX G: Sample Student Research Projects Associated with the Ancient Greek City-State Study Tour

The 1992 study tour of ancient Greek city-state sites illustrates the ways international study tours can combine interdisciplinary and research opportunities with study tours. This tour had 10 student participants and five faculty (Sig Barber [German], Jerry Lalonde [Classics], Ed Moore [English], Ed Phillips [Classics], Ellen Mease [Theatre]). The summer research topics undertaken by students and faculty included the following:

- Pre-Socratics: Number mysticism, Pythagoreanism, Parmenides, Heraclitus. Anticipating but not including Socrates.
- The asclepeion at Epidaurus. The healing arts.
- Ancient Greek athletic competition, from gymnasium to Olympia.
- Ancient Greek theatre staging. Theatre of Dionysus, Athens, Acropolis.
- Homeric poems and Mycenaean artifacts (“words and rocks”).
- The economy of the Mycenaean polis: Linear B tablets and international trade routes and relations.
- The oracle at Delphi, for a thousand years the most influential sanctuary in Greek political life.
- Dionysus: cult, rite, myth.
- Mycenae: tholos and shaft graves (Schliemann).
- Heracles and heroic exploit.
- Euripides’ Ion: the Delphic ephebe romance.
- Paul and Hellenistic culture. What elements in Hellenistic culture (Corinth) predisposed Greeks to Christianity (syncretistic mystery cults, Stoicism, kind savior cults, hero cults: the social and historical contexts which enabled Paul to convert so effectively).
- Byzantine influence on the Greek world: monasteries, Byzantine museum in Athens.

APPENDIX H: MAP Examples

In his book *Scholarship Reconsidered: Priorities of the Professoriate*, E.L. Boyer describes four types of scholarship found in higher education. Maps could involve any of these four types of scholarship. The MAPs described below illustrate the sorts of projects that our students might undertake if the MAP proposal is funded. Some of these are actual projects that students have already done that we think would probably have been MAPs had that option been available. Others are ideas for MAPs that would be scholarship in one (or more) of Boyer's categories.

The Scholarship of Discovery

The scholarship of discovery deals with new ideas and new knowledge. It is the type of work normally associated with research done by college faculty.

1) A student has a summer internship at the Smithsonian, where she works under a historian on an exhibit pertaining to the Cold War. She returns to Grinnell excited by the project and fascinated by the topic. She proposes a MAP that builds on her preliminary work at the Smithsonian, and finds a Grinnell faculty member who can guide her through this next, independent phase of her research. Thanks to her internship at the Smithsonian, she is already well-acquainted with the general history of the Cold War and some of the historiographical issues surrounding it. Now she is ready to pick a particular event or issue and delve into it in-depth. She uses her familiarity with the Smithsonian and its resources to identify and consult primary sources essential to her project. Perhaps she draws on the resources of the Hoover archives located in Iowa, whose staff has already demonstrated their interest in assisting Grinnell students in their research.

[Marci Sortor]

2) A student in Molecular Biology (Bio. 380) was involved in independent work with a faculty member in the Anthropology Department. The student and her advisor were interested in the history of the relationships of Anasazi, Sinagua and Hopi populations in the Southwestern region of the United States. In particular, they became interested in studying the development of maize agriculture since that could be representative of cultural exchange. In Molecular Biology, the student learned how techniques associated with molecular biology can be used to study the relatedness of individuals between and within populations. The student quickly realized that if she could apply the molecular techniques to test the genetic relatedness of ancient maize samples (that her anthropology advisor had), she could gain insight towards understanding the extent of seed exchange between the Anasazi, Sinagua and Hopi traditions. In a semester-long independent project under my supervision, the student carried out the fundamental work that could lead towards developing a genetic "fingerprint" of various maize samples that would allow determination of how related the samples are to one another. Ultimately this experience helped this student to obtain a position doing corn genetics at Pioneer HiBred; she is now in a PhD program studying plant genetics. [Leslie Gregg-Jolly]

3) A student in a 200-level political science course completes a first-rate empirical research project fulfilling the requires of that course. Although within the faculty member's realm of expertise as a *teacher*, this project fall outside of her expertise as a *researcher*. The MAP framework would offer resources to both the student and the faculty sponsor to expand this research and, importantly, to help transform this strong course project into one that meets all of the standards of professional research. For example, as part of a course in behavioral political science, a student performs some statistical analyses using data from the National Election Studies database for a class project. In a MAP, the student delves more deeply into intricacies of that type of analysis and carries the class project to a higher level of sophistication. [Barbara Trish]

4) Many of the summer research experiences of students in the science division have the potential to become MAPs. For example, the general question for one of the research programs

in my lab was how a particular glycoprotein from the surface of animal cells helps to regulate the growth of those cells when they come into contact with their neighbors. Several years ago, a student working on that question found that the glycoprotein appears to be “up-regulated,” that is, its concentration on the cell surface increases as the cell develops more and more contacts with other cells. Based on that observation, she decided to try a new approach to isolating the gene encoding the glycoprotein. She created an RNA-subtraction library, a daunting procedure that I had never attempted, to use to generate a cDNA library that was enriched in the gene of interest. This work was suitable for presentation both as a poster at a Pew Consortium Undergraduate Research Symposium and as a talk in the molecular biology section at the annual meeting of the Iowa Academy of Science. [Bruce Voyles]

The Scholarship of Integration

This type of scholarship draws new insights or meaning out of the discoveries produced by research specialists. This work may be interdisciplinary, cross-disciplinary, or cross-specialty work.

1) A faculty member is invited to write a bibliographic essay on "Urban Ethnicity in Cross-Cultural Perspective" for CHOICE, the Journal of the American Library Association. He finds that two students in his Urban Society class would be interested in collaborating on the project. Each has complementary interests in ethnicity in different regions, one Latin America and the other Africa. Each designs a MAP project that would flow from the bibliographic essay project. They and their mentor spend the summer working on a Directed Research Project in which they read, discuss, summarize, and analyze, books in their chosen areas and synthesis the emerging themes. Although the students have written many papers before, they are taught important new skills in analysis and writing. The team completes a first draft by the end of the summer and continue working together in a 2-credit independent project to polish the essay that is published with the faculty member and students as joint authors. For their MAP project, the students each produces a more wide-ranging paper that is presented as a poster paper on Family Weekend. [Douglas Caulkins]

2) A student has an internship in Arizona working as a photographer for a Native American water rights commission. In preparing for the internship, the student, with the faculty mentor, engages in a course of reading into the culture and history in which she will be immersing herself for the summer, as well as some extensive theoretical and historical reading in issues surrounding photography, Native Americans and the politics of representation. While at the internship site, the student and mentor consult regularly about the issues that have come up related to her work at the site and its relation to the course of study conducted in preparation for the internship. On her return, the student decides she would like to develop this mentored independent learning experience into a MAP, by producing an installation and lecture that will present for the College community the theoretical and cultural issues and responsibilities involved in photographing a culture that is not one's own. Toward this end she contacts Native American photographers and artists she met in Arizona for insights and interviews, reads more deeply into the history of photography of and by Native American peoples, and presents her own photographs with accompanying texts to express the ways in which she sought to resolve in her own work some of these problems and the ways in which she found herself unable to do so. [Jared Gardner]

3) A professor hires a student to help map migration patterns in early modern Europe, analyze quantitative data, and develop a bibliography on migration models and theory. After working closely with the professor and becoming acquainted with the issues involved with working on migration in pre-industrial Europe, the student proposes a migration project of his own for the subsequent semester. The professor helps the student identify and select primary sources on migration. He consults the marvelous collection of early modern European maps at Chicago's Newberry library and eventually modifies of the professor's quantitative approach to suit his own research goals. [Marci Sortor]

4) A professor hires a student to work as a research assistant on a book project. In the course of that work, the student becomes engaged by the literature and other cultural images of the American southwest in the 1920s and 30s. This is not an area that the professor had initially thought to look at very closely, so the student decides to conduct mentored independent research in conjunction with her research assistant duties into this subject, opening up a new set of texts and issues for the professor while developing a new research interest of her own. The student produces two papers: one focused for the professor's needs in terms of his project, spelling out the ways in which this area relates to his research agenda and goals; the second and longer paper is written for a more general audience, developing an original argument about an understudied subject. Together the professor and student determine that this paper is worth developing further as a MAP (and potentially working up for submission for publication). The student spends the next semester conducting additional extensive research, at Grinnell and in the southwest, to reconstruct the literary and artistic communities that were drawn by fantasies of "cultural renewal" to the American southwest in the 1920s and 30s. This paper is presented to the campus, and eventually submitted for publication in a professional regional journal focusing on southwestern studies. [Jared Gardner]

The Scholarship of Application

The scholarship of application brings the insights of research to bear on social, organization, environmental, and other types of problems. This is sometimes considered applied research.

1) A student who is interested in social services learns that some social service clients in Grinnell are confused about what services are available from the different agencies. She designs a MAP that has, as a goal, to create a directory of social services for the local county, complete with an explanation of all of the services available from each agency. She does a summer internship with one of the agencies and learns how they make referral to other agencies when clients need different services. After extensive discussion with her mentor, she decides to also gather information on the communication patterns of the agencies as she interviews them about their basic services. In a independent study following her internship, she carries out interviews with all of the local social service agencies and creates a directory of services, both in hard copy and in a computer database (for easy updating). The agencies use the directory extensively and one takes over the task of updating the database. In addition, the student gives a presentation during research week on the communication patterns of the service agencies along with her recommendations for ways of making the referrals more efficient and less confusing for the agencies and clients. [Douglas Caulkins]

2) The Mathematics and Computer Science Department has an ongoing project of determining the best placement of incoming students into mathematics and computer science departments. The current system utilizes a rule-based expert system, involving some 90 rules. This system came about from a student-faculty project, building on principles of computer science in general and artificial intelligence in particular. The original system led to a published paper, co-authored by the students and me. Over the years, the department has revised that system with several follow-up studies. The current system may be run by anyone using a Web-based interface. One can start with the department's web page (<http://www.math.grin.edu>) and follow the links to prospective students, or one can go directly to <http://www.math.grin.edu/~walker/placement/placement-form.html>. The next phase of that work is to investigate the problem using a neural network approach. Already some promising work has been done in a student-faculty effort, but that preliminary work needs to be expanded in several ways. Eventually, it would be interesting to compare results from the two approaches. [Henry Walker]

3) Last spring, Coach Will Freeman and I took the first tentative steps in developing an expert system to help guide training workouts for the Cross Country team. During the spring semester, we identified some simple parts of training for study, and students in my Artificial

Intelligence class worked on the development of an expert system to explain some preliminary data. Over the long term, it would be interesting to expand this effort to gather a much wider range of data and to apply techniques from both mathematics and computer science to refine training programs. While this work is in its very preliminary stages and neither Coach Freeman nor I know just where this work might lead, it seems clear that students could join in many areas of this study. [Henry Walker]

The Scholarship of Teaching

The scholarship of teaching transforms and extends knowledge as well as transmitting it to others.

1) A significant component of Biology 380, Molecular Biology, involves student-designed projects. The essential criteria for a project is that it must be original work addressing a current issue or question in the field of molecular biology. Most students choose to carry out a series of experiments addressing a question of biological importance using techniques of molecular biology. Often, but not always, these projects are related to research conducted by a Grinnell College biology or chemistry faculty member. However, in light of the significant impact of molecular biology on society at large, community service has been recently suggested as a potential project. Indeed educational, legal and social issues are a focal point for the Human Genome Project, the largest coordinated project in history relating to molecular biology. Last spring, Wade Krause '99 and Stan Banks '99 chose the option for a community-service based project. They developed and executed an educational unit with students at the New Horizons alternative high school. The focus of the unit was the use of DNA testing in forensics. Under the premise of using DNA fingerprinting to solve a "crime" at the school, they provided students with theoretical framework to understand genetic testing and had the students carry out much of the hands-on work to compare each student's own DNA with DNA isolated from a sample at the "crime scene". Similar to any NSF-funded educational project, I required Wade and Stan to include some form of assessment for their project. They administered evaluation forms to the student participants and the response was outstanding. Three of the participating students indicated that because of this program they want to pursue a college education!!! Wade and Stan found this experience so rewarding that they are trying to independently gather resources to repeat it. The faculty at New Horizons are equally enthusiastic. Note that the success of the project is solely attributable to Stan and Wade's excellent work. They designed and carried out the project with minimal supervision from their professor. [Leslie Gregg-Jolly]

2) Anna joins a faculty-initiated project studying ethnic and regional identity in the British Isles, and writes a MAP proposal in which her part of the project will be a participant observation and interview study of residents of northeastern England, centering on county Durham, a former coal-mining region. After taking a foundation course in ethnographic methods, Anna takes a year-long program at the University of Durham and does her ethnographic field work during the following summer, while in constant communication with her mentor by email. In the fall semester she and her mentor work on the analysis and interpretation of the set of interviews and submit an abstract for a paper at the Central States Anthropological Society meetings in the spring semester. The abstract is accepted and Anna and her mentor polish the co-authored paper, which she presents during the Research Week at Grinnell before presenting it at the professional meetings in Chicago. In the meantime she also has prepared a two hour presentation for her mentor's course on The Anthropology of Europe. The presentation, which focuses on Anna's study of regional identity and the annual Durham Miners' Gala is put on the departmental website, complete with photos of the event. [Douglas Caulkins]