Faculty Perceptions of MAPS and Independent Studies
Grinnell College
Fall 2005

In Fall, 2005 the Executive Council asked the Office of Institutional Research to gather perspectives from a variety of faculty members to better understand the role Mentored Advanced Projects (MAPS) and Independent Study (IS) courses play in the College curriculum.

To accomplish this, we identified faculty members who have taught a significant number of independent study courses and MAPS (297, 299, 387, 397, 399, 497, 499, and MAPs of any numbering) over the past two years. I planned to interview 12 faculty members (four per division; a mix of both junior and senior faculty) to gain information about the following:

1. What are the similarities and differences between independent studies and MAPs?
2. How do students benefit from completing an independent study and/or a MAP?
3. In what ways could the independent study or MAP experience be improved to enhance learning?
4. How could the College increase or enhance independent and interdisciplinary research opportunities?

All but one of the faculty members was able to meet with me for an interview. Eleven out of the 12 faculty members were interviewed: 4 from the sciences, 4 from social sciences, and 3 from humanities. Interviews ranged from 30 minutes to 1 hour. Notes were taken during interviews and data from the interviews were coded for themes as they related to the research questions. The following report highlights the results of the faculty interviews.

What are the similarities and differences between independent studies and MAPs?

Faculty members were asked to describe the MAP and the Independent Study (IS). Their responses not only highlighted the differences and similarities between the two but also illustrated that there are differences in how individual faculty and departments conceive of a MAP and independent study. This section of the report highlights commonly agreed upon characteristics of MAP and similarities and differences between a MAP and IS.

Characteristics of a MAP

Although the characteristics of a MAP are listed on-line, faculty members were asked, in their own words, to describe the MAP experience. Following is a list of the most commonly mentioned characteristics:

Advanced, Culminating Experience. Most faculty members agreed that a MAP is an advanced research project which is a "culminating" or "capstone" experience. The MAP is not separate from the student's previous coursework, but rather it is an *extension* of

student's coursework. As one faculty member in social sciences described it, "It [MAP] allows students to build upon things they have done before…to pursue or follow up on things in prior courses..." Most MAPS are conducted by students after the spring semester of their junior year, but there are students who are involved in a MAP after their sophomore year.

*Product***.** All faculty members mentioned that students completing a MAP must demonstrate their work in some form. The most common product of MAP is a research paper but other products may include a departmental or conference presentation, a performance, or facilitating a seminar. Several faculty members mentioned that it was the final product that determined the student's grade.

Process In addition to creating a final formal product, faculty members describe a process that is specific to a MAP. Many faculty members described it as taking a student through the research process - formulating research questions, using theory, collecting data, analyzing results, and forming conclusions. Even MAPS that may deviate from the traditional research-based MAP (i.e. one based on a performance or recital) the basic tenets of the research process - inquiry and discovery - are evident.

Intensive The MAPs are an intensive experience for faculty and students in terms of time and energy. In addition to their other teaching and committee responsibilities, faculty mentioned that it was very difficult to oversee a MAP during the academic year. As a result, some faculty will only do MAPs during the summer when the faculty and student can focus on the MAP. Faculty members who have conducted MAPS in the summer and during the school year acknowledged that the amount of work and mentoring that occurs during the school year substantially is less than during the summer.

Compensation MAPS get compensated. Faculty members across disciplines noted that they receive compensation either in the form of a course release or a stipend. Faculty also recognized that summer MAPS provide compensation for a student. More information regarding faculty's perception of the compensation is discussed later in the report. *In practice, faculty questioned how that plays out.*

Differences in MAPs

In describing the MAP, faculty members provided insights into how MAPS differ across disciplines. Below are some of these differences.

Student vs. faculty driven topics The process by which a student chooses a topic for a MAP also varies by discipline. In many of the science departments, MAPS are driven my faculty research and interest. Faculty present their research interests to students and students must apply to work on a specific project. Science faculty members did note that these projects can evolve and change based on the nature of the product or student's interest. As one science faculty member noted, "MAPS are not independent of what I do although students do a fair amount of picking projects."

In one humanities department, MAPS are developed in conjunction with its seminars. Students involved in a MAP projects must somehow relate to the topic of the seminar. In other social science and humanities departments, students usually approach the faculty member with a specific interest or research topic. Unlike in the sciences, this topic may or may not be directly related to the faculty members' own research or teaching interests. One faculty member in the social sciences also observed that in his

department, he may be overseeing two or three MAPs that are not related to one another in terms of topic or discipline whereas in the sciences, the topics usually have some relationship to one another.

*How faculty spend their time***.** As mentioned earlier, MAPS are very time intensive for all faculty members. However, *where and how* faculty members spend their time seemed to differ among discipline. Faculty members in the sciences described being in the lab with their students every day. Most social science and humanities faculty did not spend as much time "hands on" with their students but talked about the long hours they spent preparing to meet with the student and reading drafts of their papers; the exception would be faculty members who work with students involved in performance. Since, at times, social science and humanities faculty members are mentoring students whose research interest is different from their own, faculty members in these areas also reported needing to spend more time reviewing additional literature and research. Social science and humanities faculty also mentioned needing to spend a significant time teaching students research skills whereas science faculty more often mentioned helping students apply previously learned research skills using specific equipment or within a specific environment.

Role in curriculum The role that a MAP plays in a student's curriculum also varies. One department requires that all students complete a MAP (or a similarly intensive research project) in order to graduate. For other departments, students may use MAPs to substitute another requirement such as a seminar, use it to fulfill credits for their major, or use them to fulfill credits toward graduation. In some departments, a MAP is synonymous with a senior thesis or senior project. Student doing an Independent major are required to do a senior thesis and this senior thesis is counted as a MAP.

Applying for a MAP All students who are awarded a MAP must submit an application to the Dean's Office. However, in most of the sciences departments as well as a few in the humanities and social sciences, students must also submit a separate application to their department. In these instances, departments first decide which of their students they support doing a MAP and then the MAP application gets forwarded to the Dean's Office. In other departments, it is the faculty mentor's and student's responsibility to complete and submit the application.

Challenges to Faculty

The MAP presents challenges to faculty that are different from the more traditional courses that they teach. Many faculty mentioned that the greatest challenge was the time involved. One faculty member who oversaw a summer MAP noted, "I spend 5 hours a day teaching, the students need guidance" "I spend 40 hours a week in the lab." Another faculty member noted that even when he was out of town, he would be on the phone with this students daily, "Our conversations would last, at a minimum, 1 ½ hours." As one social sciences faculty member summarized, "It's [MAP] hard as hell. It's demanding of a student; it requires the student to do his/her thinking. It's hard work for the student and it's hard work for the faculty." Another faculty member mentioned that for untenured faculty, MAPs could be an additional burden. For small departments that serve large numbers of students, finding time to supervise MAPS was very difficult and as a result, the department has had to limit the number of MAPS they could effectively supervise.

Several faculty members mentioned the challenge of finding the balance between providing structure and allowing for independence and between providing direction and providing answers: "You need to figure out how to help the student reach own conclusions and not just feed them information."

Independent Study

Faculty members were asked to describe an independent study (IS). Some faculty members saw little difference between an IS and a MAP whereas other faculty members made specific distinctions between the two.

"There really is no difference in the outcome"

Faculty members expressed that, in terms of their expectations, the intensity of the project, or the final outcomes, there was little difference between the MAP and the IS. For these faculty members, the differences were administrative: the MAPS required a formal application and included compensation for students and faculty. As one faculty member in the sciences mentioned, "I don't really know the difference between the IS and MAP except for the paperwork." Those departments that did not see a difference did not encourage students to do an IS or in some instances, did away with the IS option primarily because IS did not receive compensation. Other faculty members mentioned that although they see no differences in goals, rigor, or learning outcomes between an IS and a MAP, an IS had less administrative requirements attached and as such, this was appealing. Reasons that faculty members cited for doing an IS instead of a MAP were: a) inability of a student to get their MAP application submitted on time, b) feeling the MAP application was not worth their time, and c) had too many students interested in pursuing a topic and this exceeded the limit imposed on the number of MAPS a faculty could oversee.

Faculty members in the sciences would agree to an IS in special circumstances but as one faculty member mentioned, "If students want to do an IS, I would encourage a MAP, if it works for them." Another faculty member disliked the MAP because for this person, the mentoring aspect of the MAP involved more hand-holding and simulated a more "in loco parentis" model than an independent study. As a result, this faculty member would prefer having students do an IS rather than a MAP.

"They are philosophically different"

Other faculty members mentioned a distinct difference between an IS and a MAP. Independent studies can take many forms and there is a wider variation among the types of IS than among MAP projects. Some may be small research studies, some focus on one or more aspects of the research process, others are guided readings and still others resemble small classes. Due to the variety of the independent study, the workload, for both faculty and student, also varies. Some faculty mentioned that they spend significantly less time on an MAP where other faculty mentioned spending the same amount of time with the student. In general, for faculty members who differentiated between a MAP and a IS, the differences primarily were a matter of degree. In

comparing the two, faculty members frequently mentioned that a MAP is more intense, more advanced, more in depth, more demanding and more involved.

Faculty reported that students enroll in IS for a variety of reasons, some want to expand on a topic they may have been introduced in class, some are looking for ways to get an additional 2 credits of coursework or to "fill in" their schedule. But, as one humanities faculty member noted, "Even when they use it to fill in their schedule, it is still valuable."

Faculty members mentioned that sometimes an IS is a precursor to a MAP. A student may enroll in an IS, get interested in a topic that then evolves in to a MAP. Other faculty members are encouraging students who want to do a MAP to register for an IS so that they can begin to clarify their topic, do background reading, get up to speed on the research techniques.

There seems to be a difference in how faculty members define and describe MAPs and IS. For many faculty members in the sciences, a MAP and IS are very similar. One faculty member in the sciences mentioned that he does do guided readings but that he does not consider a guided reading an independent study whereas faculty members in the social science and humanities consider guided readings to be a type of independent study. It appears that faculty members conceptualize these two activities in very different ways and therefore, in any future discussions it would be helpful to have faculty members clarify what they mean by a MAP and/or IS.

How do students benefit from completing an independent study and/or a MAP?

Faculty agreed that students benefit from completing an independent study and a MAP. Faculty members passionately emphasized, "it is a definitive experience." "it's life-transforming," "it's an incomparable experience." Because faculty members used the terms IS and MAP interchangeably, this question focused on unveiling what students learn from engaging in an in-depth research/creative project rather than delineating between the MAP and IS experience. After reviewing the comments, it appears that the benefits can be grouped into one of four categories: a) understanding the research/creativity process, b) working one-on-one with a mentor, c) gaining a perspective into graduate school or future career, and d) improving life-longing learning skills.

Understanding the research/creativity process. Not surprisingly, faculty members agreed that students engaged in a research project developed a better understanding of the research process. . This was expressed in a variety of ways, "A chance for students to do real science;" a chance to "illustrate research, theory, performance," to "manage the literature, really understand what the data mean, draw conclusions, " to "produce original work" and "students see how really hard it is to answer a question." In fact, many of the faculty spoke more about the process the students experienced rather than the product. As one faculty member noted, "Even those students who don't complete a quality product based on department's standards do learn a lot."

*Working one-on-one with a mentor***.** Frequent interaction between a faculty member and a student was cited as another one of the benefits of this type or research process. Several faculty member mentioned this mentoring or apprenticeship model represents the most

effective learning environment and as one summarized, "this is the best teaching that I do." The strength of this process is that students have significant opportunities to learn from "masters" and faculty can tailor their teaching to meet the specific needs and interests of the student.

*Gaining a perspective of graduate school or career***.** Faculty mentioned that involving students in a research project at the undergraduate level can help students clarify their career goals. A MAP may encourage students from underrepresented populations to pursue a specific career, it may give students confidence to apply for graduate school or fellowships, it may open up career paths that a student hadn't previously considered, or in some instances, may help students decide not to continue pursuing a specific goal.

Improving life-long learning skills. Many faculty members spoke of students learning skills that were not discipline specific: improving oral and written communication skills, working independently, make own decisions, working with peers, working with a client, acknowledging limitations. Students who work abroad also learn how to overcome potential linguistic and cultural barriers.

In what ways could the independent study or MAP experience be improved?

Faculty members were asked to suggest ways to improve the independent study or MAP experience. The list below provides these suggestions. In some instances, a suggestion from one faculty member conflicted with one another. These differences are also noted below.

Compensation. Faculty members voiced concerns with the compensation of MAPS. One faculty member was not willing to accept compensation, " this is what I do…" This faculty member felt that compensation was okay for other faculty members but that the current level of compensation was "insulting." Other faculty members agreed that the amount and level of compensation was not adequate. One faculty member stated that although it comes with a course release, if you have other commitments such as being a department chair or needing to do an independent study, you don't really benefit from a course release. So, although there is an opportunity for course release, in practice, many faculty report that they rarely benefit from it. Another noted that small departments with large numbers of students are not as able as larger departments to supervise as many MAPS and "this is perceived as an imbalance in system, not eh to mention the compensation scheme of 6 MAPS per course reduction, which again favors those who can manage MAPS." One suggested that a better compensation would be to reduce the course load from 3/2 to 2/2. Another faculty noted that he would be able to mentor 4- 6 MAPS a semester if he didn't teach. Yet another faculty member recommended that instead of course release, pay the faculty what they deserve which would also limit the number of temporary faculty members needed.

Better public relations. Social science, humanities and science faculty members mentioned that they would like to see more publicity and attention given to the research projects. Faculty and students are doing good work and put in a lot of time and energy and this needs to be recognized. Faculty noted that the college's public relations efforts

should be improved and that information about these projects should be disseminated accurately and intelligently.

Continue requiring students to produce a product. Faculty expressed the value in having a student produce a tangible outcome as a result of a research project. Although they noted the importance of the research process, they emphasized that the final product forced students to "put it all together" and "make sense of it." Keep the presentation/paper requirement – for some students it the only thing that motivates them to "pull it together" Presenting in front of their peers makes students "pull it together" and provides incentive to polish it.

Expand the definition of a MAP. One faculty member in the social sciences and one in the humanities suggested that the College expand its definition of a MAP to include more non-traditional research projects. These faculty members noted that students can be involved in a lot of in-depth projects (i.e. community service, performance, starting or developing an organization, etc) where they would benefit from one-on-one mentoring and learn valuable skills.

Require a minimum GPA. One faculty noted that, in his experience, students with less than a 3.0 tend not to do well on a MAP. This faculty member suggested that their could also be "exceptions" made but that, in general, only students with a GPA above a 3.0 should be encouraged to do a MAP.

Do not require a minimum GPA. Other faculty members suggested that there be no minimum GPA. One humanities faculty member said, "One student had a great GPA but didn't do a great final project and one student had a lesser GPA but had a great final product." Another faculty member in the social sciences stated, "Not everyone is an 'A' student and not all 'A' students are brilliant." This faculty member suggested that a student with a "burning issue" but only mediocre GPA could still do a good MAP and learn a lot.

Develop ways for students to gain skills prior to the MAP. Faculty members in the social sciences and humanities shared frustrations in having to help their students develop basic research skills prior to having them complete a MAP. These faculty members acknowledged that many times they have to focus on teaching their students how to do research before they can focus on the specific project. As a result, many of these faculty members are encouraging students to enroll in IS prior to the MAP to get the necessary skills. One faculty member suggested that a course/seminar be offered for students who are planning on doing a MAP to teach them the necessary skills. This was less of a concern for faculty members in the sciences and one faculty member illustrated how the development of one class, Biol 150 has positively assisted in getting the research skills need to do a MAP.

Faculty development workshop to share ideas. One faculty member suggested that it may be helpful for faculty members to share their experiences on working with MAPS: what works, what doesn't. As this faculty member stated, "I tend to fall back on how I was mentored as a graduate student or how I've always done it, but perhaps that's not the best way."

Review and revise the evaluation form. Although no questions specifically asked faculty members to discuss this, several faculty members commented on the evaluation form that faculty are asked to complete at the end of MAP. One faculty member said it is not

onerous but she has yet to complete it; another mentioned the form was a waste of time. Other faculty members suggested the form be revised to gather more information such as: what the student may have learned (i.e. communication skills, impact on career choice), what went well, what didn't go well as well information on the faculty experience (i.e. amount of time, how faculty used his/her time, etc.). A faculty member summarized, "Did you get a superb product or was it a disaster?" and added, "It would also be useful to know what students get out of the MAP." Another faculty member felt that the form was biased toward the sciences and the more traditional research process and would like the form revised to include MAP projects that are not the traditional research project.

Limit number of MAPs for faculty and students. One social science faculty member suggested that faculty members only be allowed to work with 2 MAPs and that students be limited to 1 MAP. As noted earlier, however, some faculty members in the sciences exceeded the current 3 MAP limit and had to resort to doing IS. For one faculty member, limited the number of MAPS a student could to would lessen the amount of time one student can "monopolize" a professor's time and allow other students a similar opportunity. Again, faculty members in the sciences sometimes work with the same student for more than one summer in the hope that, as this student gets more experience, the student can serve as a mentor for a newer student.

Encouraging/discouraging summer MAPS. Although many faculty felt that summer was the most appropriate time to complete a MAP, another faculty member felt that the summer was the only time that faculty could devote to research. Because of this, the faculty member would not encourage students to sign up for MAP during the summer.

Role of administration. Faculty had mixed reviews about the administrative paperwork that was required of MAPS. Some faculty members felt it was reasonable and liked that it encouraged students to think about their project and take it seriously. Other faculty members felt it was needless and a "waste of time." In should be noted that those who felt it was needless already had an application built into their department. Another administrative problem is that the departments use different course numbers to designate MAPS and in some instances this has not been recorded. As a result, a MAP project may not be accurately recorded on a student transcript.

Allow students to take one fewer course. Because of the intensive nature of the MAP, faculty suggested that students be allowed to take a reduced course load during the fall and spring semester they are doing a MAP.

How could the College increase or enhance independent and interdisciplinary research opportunities?

Faculty members were in agreement that independent and interdisciplinary research opportunities were excellent experiences for students. As mentioned earlier, the faculty members recognized the value of these type of learning experiences and acknowledged that these experiences are unique and cannot be replicated in a traditional classroom format. They agreed with the interdisciplinary approach but felt that until faculty members begin to engage more in interdisciplinary activities, students would be slow to do this. Below are faculty members' ideas/perceptions on expanding independent and interdisciplinary research opportunities:

*Providing opportunity for 1st and 2nd year students***.** Faculty members in each of the academic divisions were concerned about opening up research experiences for 1st and 2nd year students since "they just don't have the skills." However, one faculty member felt it would be nice to "have a framework where they (1st year students) could identify a topic and work through it for 2 – 3 years." Another faculty member introduced the idea of a sophomore college where you can work with students, take them to a conference, and get them involved in topics of interest to them.

*Student-based academic symposia/workshops***.** One faculty member suggested that we provide students with an opportunity to more formally talk about their research interests, their questions. This person also suggested that there be a place to "store student questions/interests and we may find that there are a group of students with similar interests."

"We have no room to expand." In one department, all students are required to do a MAP and thus, the faculty member felt that it would be difficult to expand this further. In other departments, the faculty members felt that faculty currently were as committed as they could be, so unless more faculty members were hired, it would be difficult to expand. Others were concerned that expanding this opportunity to all students was not worthwhile; "Not all students can or should do this type of independent research

Time. "The idea [of expanding] is fine but I'm skeptical – there is more work but the same amount of hours" The amount (or lack of time) was most frequently mentioned as a reason against increasing independent research. One faculty member cautioned, "My work has little to do with preference and more with what is on my schedule," and another, "Something else has to give [if we expect more of this work], expectations need to change."

Individual vs. Group. Other faculty members were concerned that focusing on individual, independent research would replace the values associated with group work. One faculty member expressed it this way, "For my discipline, I don't see independent research as important as a carefully crafted group experience" while another questioned, "Are we pulling resources away from other things that work well?"

Final Notes and Observations

This report outlines faculty perceptions of the MAP and IS but still leaves many questions unanswered. Faculty members were very willing to talk with me about their perceptions of the MAP and IS. Although their attitudes and opinions about the concept of the MAP and IS varied, one thing was consistent: faculty members were excited to talk about their student projects. In some instances, faculty members proudly showed me the actual project or the poster and/or talked in depth about the student's process, learning, and growth. How can this excitement around independent research be sustained as well as encouraged among all faculty members?

Can "one size fit all?" Is it feasible to expect that MAPS and IS will be similar within and across disciplines? Many faculty members seem to be replicating the ways in which they were taught and many are tailoring their MAPS and IS to provide students with experience that may prepare them for graduate school or for a career in a specific disciplines. Is it possible to develop one application process and a compensation structure

for an activity that has varied approaches and goals? Is it necessary to be consistent and if it is not consistent, can it still be fair?

Secondly, assuming compensation for MAPS will continue, what level of compensation is appropriate? As another faculty member wondered, "By compensating, have we opened Pandora's Box?" In general, faculty members do not believe that the current MAP compensation is adequate for the amount of time and energy devoted to a project, some faculty believe that this is the expectation and no additional compensation should be given, and others believe that without changing or clarifying faculty responsibilities, no compensation would be adequate.

Based on current faculty loads and expectations, how and what can be done to expand independent and interdisciplinary research? Is increasing the number of faculty and students who enroll in MAPS sufficient and/or does it require a new way to think about independent and interdisciplinary research? If so, how can the college develop processes so that faculty and students can begin to discuss how this can happen?

Respectfully submitted,
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