

Building Students' Intellectual Autonomy: The Lawrence Philosophy of Education and Examples from Across the Curriculum

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American students enter college at a time of life when they are still forging their identities and seeking a place in the world. At Lawrence, we believe that an undergraduate education should therefore be transformative: exposing the learner to the breadth of human experience, engaging the learner with the ideas of those who have gone before, equipping the learner to think deeply about those ideas, and encouraging the learner to integrate, innovate, and articulate a personal vision and unique sense of self as a contributing member of the human community. In so doing, each student is building his or her intellectual autonomy. Especially important to each student's transformation is a certain kind of atmosphere: one that welcomes unique individuals, nurtures diverse interests, provides personal attention, encourages open discourse and collaboration, values initiative, and celebrates accomplishment. The emergence of distinct individuals—*independent thinkers, leaders, and innovators*—thus depends on a commitment to individualized liberal learning.

Individualized learning is in opposition to traditional lecture-based methods, now regarded as ineffective and contrary to principles of optimal student learning (Barr and Tagg, 1995). Research has shown that traditional methods in which teachers take full responsibility to decide what and how material is learned, and in which students are passive, are not conducive to effective learning (Burgess, 2000). Instead, the most effective learning takes place when students take responsibility for their learning and are involved in all stages of the process.

Traditional and individualized learning approaches differ in their goals and in the responsibilities and roles of both teachers and students. Student-centered methods concentrate on producing life lasting learning skills that students can apply to any subject, independent of an instructor (Hawker, 2000). Thus tutorials, independent studies, and research projects have all been successful in increasing the quality of learning (Hambleton & Foster, 1998; Sharma, 1999; Hawker, 2000; Smallwood, 2002; Popov, 2003). In these modes of instruction, learning takes place effectively because the learner is responsible for choosing the subject matter, which is often relevant to the learner's own goals. In addition, learning is acquired through doing, through the learner's responsible activity (Hawker, 2000).

Yet Hawker (2000) and others argue that individual learning ought not take place in isolation and they exhort college professors to design course work that puts students in close working relationships with both instructors and other students, where students can practice what they are learning. Students need to be guided, particularly in the skill of asking interesting questions, and then in learning to thoughtfully reflect on the issues and to evaluate problems (Burgess, 2000). Individualized teaching and learning fosters close relationships with faculty and between students and has been shown to influence students' career development as well as personal beliefs and attitudes (Terenzini, 1994; Merkel, 2003).

How do we build intellectual autonomy at Lawrence? It takes more than simply a low student:faculty ratio and a collection of seminar courses. The entire college, but the faculty in particular, must be committed to reaching and encouraging each student to understand his or her full potential. This commitment is realized by ensuring that students have ways to personalize their learning in larger courses, plentiful opportunities to interact with peers and professors in small seminars or studios, and unique pathways to learning afforded by lessons, internships, directed or tutorial study, independent study, and honors projects and capstone experiences. A commitment to individualized learning at Lawrence is not an exclusive demand for one-on-one teaching so much as it is a dedication to the uniqueness of each student's learning and to seeking varied means to that end, each characterized by feedback that is sensitive to the knowledge and abilities—both current and potential—of each student. We do so best by focusing our attention on

individual students in a rich set of varied collaborations that are stimulating, challenging, and supportive.

The use of collaborative environments is, we think, key. As Dr. Ryan alluded to in an earlier paper, we have to acknowledge that in the US, K-12 educational systems produce students who are less specialized and perhaps not yet as intellectually independent as those who arrive as first year students at Oxford. Traditional college age students in the U.S. need mentors as they mature from *receivers* of knowledge to *synthesizers* and, eventually, *creators* of new knowledge. Thus, at US liberal arts colleges, it is our responsibility to devise curricula that help our students develop the characteristics of intellectual independence as well as the skills of disciplinary scholars. Lawrence University has moved over the years to a developmental model when thinking of our curricula, both at the university and department levels. We have infused inquiry-based, active learning techniques throughout the curriculum, in keeping with research in the fields of education and cognitive science that demonstrates the increased effectiveness of less traditional pedagogy (e.g. NRC, 2000). We would further argue that our students are well served by the input of a diverse set of peers and mentors, to understand both the *breadth* of human knowledge and experience and the *various possible reactions* to that experience. The use of collaborative environments has the added benefit of being a bit less costly than exclusive tutorial instruction, but it does produce students who are able to jump into more independent learning environments later in their college careers and beyond.

Here we will describe how the faculty at Lawrence University infuse personalized, tutorial-like experiences in several types and sizes of collaborative learning environments ranging from small introductory seminars, a 60-person introductory class, intermediate level disciplinary courses, to 1:1 student-initiated tutorials and independent studies. We will provide exemplars from different divisions of the college and different levels of the curriculum, demonstrating how individualized learning can be infused in a developmental model across the curriculum.

Building Autonomy: The Transition to Critical Thinking and Analysis

At Lawrence, students begin their odyssey of becoming independent thinkers in a required two-term course named Freshman Studies. Freshman Studies has been the cornerstone of the Lawrence curriculum for over sixty years, where it has always served as an introduction to liberal learning. In the last decade, it has been recognized as one of the most distinctive programs of its kind, earning praise from the National Endowment for the Humanities and *U. S. News and World Report*.

An understanding of the program's unique strengths begins with the fact that Freshman Studies is a collaborative, multi-disciplinary effort. Every student in the college and the Conservatory takes two terms of Freshman Studies, the freshman class being divided into sections of 15 students each. Every academic department is expected to contribute staffing freshman studies; in 2005-6, 21 of 23 departments contributed faculty to the course. Every section of the course follows the same syllabus with works drawn from divisional lists devised by faculty in each division of the college and voted on by the teaching staff for the coming year. Recent syllabi have included works by Stanley Milgram, Aldo Leopold, Plato, Martin Luther King, Jr., and John Coltrane. The common works list means that everyone at Lawrence does the same works at the very same time: this year, we all started with Hamlet and saw the words brought to life in a performance by actors visiting from London; later we moved on to Aldo Leopold and Richard Dawkins, Stanley Milgram and Max Weber, Martin Luther King and John Coltrane. These works are set alongside each other, so that students can discover common concerns or themes and also make out different approaches to knowledge.

So what's individualized about this course? Professors spend quite a bit of time working in and out of class with small groups of students as they prepare to lead upcoming class discussions and with individual students as each grapples with unfamiliar texts and thesis-driven essay assignments. All students are expected to participate in a mixture of full class and small group discussions, raising and addressing questions, synthesizing materials, and forming opinions about issues raised by the works under study. In addition, faculty members provide copious feedback on student writing; a minimum of five papers and one re-write are graded in the first ten weeks alone. In addition, many professors use the pedagogy recommended by our colleagues from Oxford, that is, ungraded sessions with, and papers from, individual students on preparing

and organizing their thoughts into cohesive essays or later, dissecting or discussing those essays. This course provides a challenging transition from the expectations of high school, where students rarely need to expose their thinking and interpretations to the probing of peers and mentors to the more personal sets of expectations we have for students at the college level. By teaching this course in a seminar setting, we strike a balance between intimidating first-year students with intense individual attention while providing individual challenges and supportive encouragement for students. Typically, by the end of her two terms in FS, a first-year student has learned to read more closely, write more carefully, and has begun thinking for herself. Her life has been changed from a relatively passive receiver of knowledge to that of an engaged thinker. The collaborative environment of the seminar has provided a supportive, yet challenging environment for exploration of big ideas such as “justice” or “human nature,” while individual attention to her thinking and writing has begun to hone her skills.

‘Disciplining’ our Undergraduates: Part of the transformation toward intellectual autonomy.

In contrast to the multi-disciplinary introduction to the liberal arts provided by Freshman Studies, we’ll spend the rest of this paper describing ways in which individual students become “disciplined,” that is, how they learn to think and create knowledge within a disciplinary area. Students are then ready for a culminating experience within a single discipline (we’ll use history as an example) or are ready to create their own learning experience in a tutorial or independent study. We’ll end with a story of what can happen when a student is disciplined, but is ready to move back out beyond the confines of a single discipline to take a broader look at a particular issue in a faculty-mentored independent study.

Research Opportunity at the Introductory Level

When faculty members are committed to providing opportunities for individual students’ personal and intellectual growth, even larger introductory classes can include tutorial-like aspects, in this case, small group research experience. Early exposure to research in STEM disciplines (Science, Technology, Engineering, and Math) as an

undergraduate has been called for by numerous groups (e.g. the National Research Council, HHMI, and the NSF) based on evidence that students learn and assimilate knowledge more effectively when inquiry-based teaching methods are used in the sciences (e.g. Hake, 1998) and its effects on understanding of science, undergraduate confidence, and expectations of earning advanced degrees have been shown to be increased significantly by involvement in research as an undergraduate (Russell et al., 2007). Learning outcomes have been shown to be significantly enhanced even by research experiences at the introductory level in the sciences; such gains have been best documented in the discipline of physics (e.g. Merkel, 2003). Merkel contends not only that students become more knowledgeable about their research subject, but also they learn how to ask questions, look for additional information, how to integrate new facts into an existing framework, and how to pose new problems productively. In short, they are taught to become independent learners (Merkel, 2003). While all the science departments at Lawrence are committed to inquiry-based methods, we will focus here on one example from the department of biology.

The introductory biology course at Lawrence serves just over 100 students in two course offerings per year, yet groups of 2-4 students each work with a faculty mentor to design and implement a five-week research project. After four weeks of open-ended lab work in which all students undertake variations of the same experiments, students are given the opportunity to work with any one of our biology faculty members on a project of their own design. Faculty members designate two or three broad topics as appropriate for short projects such as “Insect Behavior” or “DNA Fingerprinting,” and they also advertise their areas of expertise (invertebrate zoology, molecular biology) so that students can find mentors for project ideas of their own. Biology department faculty members typically mentor three different student group projects twice each year and allied faculty in biochemistry and bioanthropology often take on one group each.

In undertaking these projects, we have several goals for student learning. First, we feel strongly that science is an active discipline, one that requires *doing*. As part of taking on the role of active scientists, students must narrow a broad topic of interest to an answerable research question, they must design a well-controlled experiment to address the question, and learn to implement their plans. Faculty mentors guide the scientific

process and the preparation of final oral reports, but the projects belong to the students. For most students, this is their very first college-level science course, but they are already getting the opportunity to flex their creative muscle and their organizational and collaborative skills in ways that parallel the methods of practicing scientists. They gain ownership of their projects, of the spaces in the building, and of their own learning; they are becoming “disciplined” in every sense of the word. Of course, not all projects have successful scientific outcomes, but all the projects serve to push students along the road to developing intellectual independence. So, what about changing lives? Well, many students become empowered to pursue the construction of new knowledge in the intermediate and upper level courses, while a few discover they only like textbook science rather than the doing of science. We count both of those outcomes as successful!

Whether students find their short research projects to be worthwhile was explored in a voluntary on-line survey administered in 2004. Students were asked whether their Bio 110 research project was an important part of their education: 80% of recent graduates and 87% of current students surveyed agreed or strongly agreed that it was. We asked a set of questions about the value of inquiry-based projects throughout the biology curriculum and received overwhelmingly positive responses from both recent graduates and current students (Table 1). Interestingly, recent graduates valued these projects even more highly than did current students.

Table 1. Responses of recent graduates (top row for each answer, n=46) and current students (second row for each answer, n=134) to the following prompt: Beginning with Biology 110 (Principles of Biology), students are exposed to inquiry-based science. Numerous upper level courses in biology also provide students with inquiry-based research projects. Has your experience with such projects helped you to become:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
More knowledgeable about the process of science and the scientific method	67%	28%	2%	2%	0%
	45%	41%	11%	1%	1%
Comfortable with scientific terminology	70%	24%	4%	0%	2%
	40%	41%	17%	2%	0%
Better able to understand current scientific endeavors	65%	30%	2%	0%	0%
	38%	42%	16%	4%	0%

Better able to understand the practical applications of science to your life	61%	33%	4%	2%	2%
	39%	45%	13%	2%	1%

Given the success of research projects at the introductory level, we have included student-directed research projects in intermediate and advanced laboratory courses such as comparative physiology, aquatic ecology, terrestrial ecology, vegetation of Wisconsin, and ecological energetics while other courses have open-ended, discovery based laboratory work. The goal in each case is to build students' capacity for independent learning and creative work.

Hands-on learning through research is not limited to the natural sciences at Lawrence. The social sciences have, as well, found great success in infusing inquiry-based work in the curricula. The longest running application of active pedagogies in the social sciences at Lawrence is found in our psychology department.

Individualized Instruction in a Collaborative Context: The Psychology Department's Research Methods Course

The collaborative, mentoring approach taken by the Lawrence psychology department treats students as creative individuals and budding scholars and therefore leads to incredible intellectual growth for the students, and their mentors. In the process, students not only come to understand the field as a whole, but also become "experts" in a particular area of student interest through student/faculty and student/student collaboration throughout the major. Students do not simply learn about psychology in a passive manner; but rather, "do" psychology by actively engagement in collaborative scholarly pursuits. In fact, we argue that students cannot *really* understand psychology without *doing* psychology. Although they can learn established content and theory, they cannot learn perhaps the most important aspects of psychological inquiry -- the processes involved in creating new theories and novel research to test new hypotheses about the human condition. What is an interesting psychological question to study? How can those ideas be framed as testable hypotheses? How does one go about

carrying out those tests and interpreting results? Undergraduates at many institutions never get to approach these issues, let alone become active participants in the discovery of new knowledge. At Lawrence, we have our students designing and undertaking new research as early as their sophomore year by providing them with numerous opportunities to work collaboratively with one another and with departmental faculty mentors.

Although the psychology major is the second largest in the College, we have designed the curriculum to ensure that each major will have many opportunities to work closely with faculty mentors on research and theoretical projects. Such varied opportunities ensure that each student gains critical thinking skills and an understanding of the interplay between psychological theory and research, develops oral and written communication skills appropriate to the discipline, and develops specific methodological skills used in the field. Thus, rather than viewing teaching and research as conflicting faculty activities, we view these them as complementary and mutually enriching.

We have structured our major program to emphasize early and active engagement with individualized, collaborative learning. The major is structured in a developmental sequence; the core of which includes an introductory survey course, our Research Methods course, and Senior Capstone courses, the latter two of which are two terms in length to enable students to engage in significant, original projects. In particular, the sophomore Research Methods sequence is designed to help students gain hands-on experience with the scientific method as it applies to the field of psychology, to help them to think critically about psychological theory and research, and to prepare them to conduct and report (in both written and oral presentations) their own empirical research. Unlike most other methods courses in which student engage in “canned” experiments, the centerpiece in Research Methods at Lawrence is an original experimental project that students conceive and conduct in small collaborative groups with faculty members as mentors. In the end, students will have designed their own projects based on their interests, executed their studies, analyzed the results using appropriate statistical tools, written up a professional journal-type article using American Psychological Association guidelines, and presented their research and findings in a Presidential Poster Session.

The Research Methods project provides our students with a formative learning experience and often leads to independent studies, capstone projects, and honors projects in which they explore their interests in greater depth. These projects have led to 19 student/faculty co-authored publications and conference presentations since 1990.

To provide students with a culminating liberal arts experience during their senior year, we developed a two-term “Senior Capstone” sequence in which small groups of students meet in independent course sections supervised by a faculty mentor. The senior capstone aims to encourage autonomy and creativity, but does so in the context of close supervision by faculty. As in Research Methods, the centerpiece is a two-term project. Students are assigned to sections based on their interests so that a collaborative environment in which students are working on related issues can be fostered. The sections are kept relatively small – about 7-10 students in each -- with sections meeting with one of the seven faculty members regularly to discuss topical and project-related readings, provide constructive criticism of each others’ work, and to allow students to present their own work in progress. Discussions, papers, and presentations are all designed to develop students’ abilities to conceptualize important questions within the context of the discipline, formulate ways to answer those questions, and present ideas clearly and cogently in both written and oral form. The types of projects pursued in the capstone sequence are varied and can include critical reviews of past theory and research, original empirical studies, theory development papers, or papers that integrate a student’s applied work (e.g., in an internship) with its wider scholarly context. In all cases, students define their own area of interest and develop their own questions and/or hypotheses, culminating in a substantial paper and a public senior oral presentation. This developmental sequence, anchored by our survey course in which students sample the breadth of the field, through research methods, and the senior capstone serves to nurture students’ intellectual autonomy while building their skills and confidence.

Similar active, student-directed learning is not only found in the natural and social sciences at Lawrence. Faculty members in the humanities, particularly in the foreign languages, have been using immersion weekends, technology-based learning tools, and off-campus travel for many years. Recently, other humanities disciplines

have incorporated methods courses and student-directed projects into their core curricula. One such example at Lawrence is found in our history department, here a part of our humanities division.

“The Practice of History:” Intellectual Community and Individual Salvation

The term “tutorial” tends to conjure the image of a one-on-one, Protestant-style communion, if you will, between an individual believer and his or her scholarly God. While Lawrence’s history department has nothing against such encounters, and indeed, arranges more than its share of them, “The Practice of History,” our senior capstone course, entails more of a communal, Catholic-style experience—or, if you prefer, a more social-democratic one, whose motto might well be “It takes a Village” (though I must add hastily that the history department endorses no presidential candidate for 2008).

Students arrive at “Practice,” at least in theory, with a paper topic in hand that has been worked out previously in an upper level seminar, tutorial, or independent study (as I’ve suggested, we historians worship at many churches). The class, consisting of no more than fifteen students, is overseen by a professor who, by definition, will have specific expertise only on those few topics which he or she has personally overseen. Most students, as a result, will already know much more about their own topics than their professor, whose primary role is to help focus and shape the final product. While the professor, in other words, can illuminate the road to salvation in “The Practice of History,” students must ultimately save themselves. But they don’t do so *by* themselves. Rather, they do so as members of a collaborative scholarly community designed to guide each of them toward the composition of a substantial and original piece of historical writing based on primary sources.

The communal nature of this enterprise becomes apparent on the first day of class, which in most courses is devoted to the syllabus and various introductory exercises. In “Practice,” the first day is a “library workshop” currently overseen by one of Lawrence’s fine research librarians, known to “Practice” veterans as the Research Goddess. As she hears the students describe their projects in class, she begins to construct individualized, web-based research maps for each, highlighting various paths toward relevant sources,

both primary and secondary. Students know thereafter that if they need further research support, the Goddess is on call. For further scholarly support, moreover, students may call on a second faculty advisor: typically, the member of the history department who is most expert on their topic. The same faculty member also serves as second reader of the final paper.

The body of the course amounts to an extended group tutorial on historical research and writing. Students are guided through a series of written assignments, from a short primary source exercise through a full rough draft. Here again, the professor plays a shepherding—not to say priestly—role, pulling and prodding each student toward greater clarity, stronger focus, more effective organization, and better mechanics. But the students also pull and prod one another. Organized by topic into groups of three or four, they read and comment on each other’s work, offering the crucial perspective of an intellectual peer who does not necessarily know, say, who Heraclitus was, or why the Watts riots took place. In sum, “The Practice of History” offers each student an academic congregation consisting of an intellectual shepherd, the professor, a scholarly guide, the secondary advisor, a library research goddess, and a community of fellow-seekers.

Many, if not all students use that congregation to reach the Promised Land of a coherent, well-argued, well-supported, and well-written contribution to historical scholarship. Indeed, the history department takes pride in making salvation available to all true believers—all, that is, who are willing to put in the time and effort—regardless of their god-given talents. Let me illustrate the point with a few quick salvation stories.

One of my favorite “Practice of History” success stories entered the course with around a 2.0 grade point average. But he had a promising topic—the 1994 controversy over the Enola Gay exhibit at the Smithsonian Museum in Washington—and proved willing to work. Having uncovered a treasure trove of primary sources through the good offices of the Research Goddess, he spent many an hour with me (and with his secondary advisor), discussing everything from treating both sides of the controversy fairly to avoiding the passive voice and eliminating comma splices. His final draft, a solid ‘B’, represented by far his best work at Lawrence.

Another example is a young man who in four years at Lawrence had almost never spoken in class. (I should have mentioned earlier that “Practice” requires each student to

deliver a fifteen-minute talk on his or her topic during the final week of class). The student in question, a record-setting wide receiver for Lawrence's football team, lived in quiet terror of that assignment for nine weeks. But by week ten he had become so immersed in Iowa's so-called "Cow Wars" of the 1930s, so conversant with the topic, that he delivered one of the most engaging talks I've heard since I began teaching the course. He spoke with an unforced fluency for twenty minutes and fielded questions with aplomb for another ten. Today, he is a popular history teacher at a local high school.

And finally there's the case of a good and diligent student who lacked only the self-confidence to achieve genuine excellence. She'd chosen a fascinating topic: the depiction of the Japanese in American political cartoons during World War II. One day she brought a dilemma to her tutorial group. After looking carefully at her evidence, she was beginning to conclude that an eminent scholar, who had recently written a Pulitzer Prize winning book covering some of the same territory, had gotten the matter wrong. What should she do? I turned the question over to the group, and one of her tutorial mates quickly cautioned her against challenging such high authority. But another, a rather combative young woman, disagreed sharply: "I say if you've got the goods, go for it," she proclaimed. Her professor agreed. The result was a first-rate case against the Pulitzer Prize winner. The woman who made it is now teaching in Chicago's inner city public schools. Just as fittingly, the woman who encouraged her to make it has since graduated from law school.

So, what conclusions should we draw from the foregoing? One, I suppose, might be to steer clear of extended religious metaphors. Another, I hope, would be to note that the success of "The Practice of History" hinges less on the unique, one-on-one relationship between student and professor than on the student-centric nature of the enterprise. Each student in "Practice" becomes the focal point of an adjustable scholarly network custom designed to foster his or her intellectual growth and autonomy.

Tutorials and Independent Study

Lawrence University currently offers students the ability to extend their course work beyond the established curriculum using three types of individualized learning

opportunities (in addition to music lessons offered in the conservatory). These are: Tutorials, Independent Studies, and Internships. Last year, Lawrence students enrolled in 442 different tutorials (408 of were 1 student working with 1 or 2 professors) and 249 IS offerings (all but three of these enrolled one student).

In most areas of the college, tutorials tend to be used when a student or several students and a faculty member, or sometimes two, wish to develop jointly a course of study in a relatively narrow subject of mutual interest. Tutorials are thus very collaborative ventures that begin when a student approaches a faculty member with an idea or a wish to study a topic in some depth. The primary goal of a tutorial is expansion, refinement, and synthesis of knowledge and skills. Pedagogical approaches vary widely by discipline and can include problem solving (*e.g.* in the quantitative sciences), small group discussion, 1:1 discussion of readings, and presentation of papers or creative works. The design of a tutorial is very flexible and may be used to lay the ground work for independent study, may be the equivalent of a graduate level seminar, may help students fulfill a life-long passion (*e.g.* I want to read and discuss everything Virginia Woolf ever wrote!), or may be a testing ground for the design of upper level courses, for example. The format and content of tutorials are limited only by creativity of our students and faculty.

The similarly flexible Independent Study option also carries the student beyond the established curriculum though the expectation is that the daily or even weekly work in the course will be much more student-directed. Typically, the goal of Independent Study is an original synthesis of existing knowledge and/or the genesis of new knowledge, or the creation of a work (*e.g.* artwork, musical composition, film), or a performance. It is expected that through independent study, the student will hone and apply skills learned in previous coursework, while producing new work typical of the discipline or interdisciplinary area. In some disciplines, the overlap between a Tutorial and an Independent Study might be greater than in others, but it is expected that the student will demonstrate increasing intellectual autonomy and creative input in the latter. In the sciences, for example, a student and faculty member might create a tutorial that covers marine mammals, using both texts and primary sources, while an Independent Study would be used when a student wishes to undertake research on the effects of increased

phosphorus on aquatic ecosystems. In the humanities, a tutorial might be used to do readings beyond the curriculum in a foreign language while an Independent Study would be elected by a student who wished to translate a foreign text into English for the first time.

Credit-bearing internships are used when students wish to add an academic component to an off-campus sponsored internship. The student must have an on-site sponsor as well as a faculty supervisor who guides the student to and through relevant readings and other resource materials and who will assess a culminating project or paper. These types of internships are most common in our psychology department. Internships that do not have an explicit academic component are much more common but do not earn academic credit.

In 2006-7, we undertook a large-scale study of the use of Tutorials and Independent Studies (IS) from the faculty perspective, covering offerings of the four previous academic years. Faculty members answered questions about the motivation for and the goals of the course offering, the collaborative nature of the enterprise, as well as the pedagogy used and the products produced by students and assessed by faculty members. In total, data from 1042 surveys were analyzed (80% return). We learned that 90% of IS offerings were for a single student, while 38% of tutorials had more than one student working with a faculty member, thus there is some collaborative learning occurring, primarily in tutorials. We found that pedagogy employed in both tutorials and IS was extremely variable and somewhat discipline-specific, as were the students' assessed products. For example, as one might expect, 84% of IS offerings in the humanities culminated in a single large paper, while oral presentations and data sets predominated in the sciences, and performances and works of art were required in the fine arts. To our delight, faculty reported that 89% of IS and 87% of Tutorial offerings were 'successful' and further, that in 50-60% of the cases, there was a benefit to the faculty member to having offered the course, in spite of the fact that they also reported spending from 5-6 hours per week working on each offering (including preparation and grading time as well as contact time).

To show how students and teachers might collaborate, and to illustrate the pedagogy of Independent Study, we offer the example of a recent IS on "new media,"

undertaken by a linguistics major and a member of the English department. The topic of this course took shape almost by accident. The student had originally planned to work on speech act theory, but as she was looking for possible readings in the library, she found a number of books that seemed even more interesting. Somewhat sheepishly, she asked the instructor about the possibility of changing course—and he wasted no time in assuring her to go ahead with her new plan. Her reading began with *The Language of New Media* (2001) by Lev Manovich and eventually took in works as various as *Everything Bad is Good for You* (2005) by Steven Johnson and “The Work of Art in the Age of Mechanical Reproduction” (1968) by Walter Benjamin. The guiding questions behind the reading were fairly simple: What is new about “new media”? How do “new media” differ from “old media”? How, for example, does playing a game like “Second Life” differ from reading a novel or a play?

The format of the IS was also quite simple: the student would read the rough equivalent of a book a week; she’d then write an essay, summarizing and analyzing the reading; and finally she’d read out the essay to the instructor, not stopping until she had reached the very end of her piece. The essay would become the basis for a free-wheeling discussion, which might in turn suggest topics for future exploration. Each essay was a free-standing work, and there was no expectation that the student would pull her writings together into a longer term paper or presentation. The individual essays were not graded, though the student did receive a cumulative grade for her work in the course. It is worth noting that all of these arrangements were worked out by the student and the instructor: at Lawrence, there are no rules governing the amount of work that must be assigned in an IS or the schedule for grading and commenting on that work.

In a system of this sort, it must also be noted, there is always some potential for failure. As the term wears on, and other responsibilities become more and more pressing, the student can easily lose steam. (So, for that matter, can the teacher.) The student may need more help than the teacher can easily provide. Even very good students can run into serious trouble while doing an IS, since their success in the more structured environment of the classroom may actually make them less fit for the very different world of the IS. Luckily, none of these troubles emerged in this case. Indeed, the student seemed to come alive—to do better and better work as the term wore on. Why did this happen? First, and

most importantly, because the student was passionately interested in the subject—and had a real knack for it too. She saw connections, made analogies, and pushed her thinking as hard as she possibly could. Second, the student turned out to be a remarkably interesting writer—witty, thoughtful, and generally quite stylish. Finally, she was under no pressure to make any grand statement, to produce a major paper or to prepare for an honors exam. The reading, writing, and talking—really, the thinking—could become an end in itself.

In short, this student was more than ready for the sort of opportunity provided by an Independent Study. Before graduating in June, she landed a great job with a software company in Madison, and she's already begun thinking about moving on to grad school in media studies. Lots of colleges now claim to change lives. If we make that claim, it's partly because of stories like this one. At Lawrence, it seems, browsing in the library and talking with professors can send students in new directions—not only for a term or two, but perhaps for years to come.

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