A GATHERING OF THINKERS
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Chapter 6: A Meeting of Minds
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INTRO

> *"I have a really close relationship with them, especially since I spent this summer in field school with Bill. And I lived with them for six weeks, and then I've spent a lot of time with Sally. So I do find them really helpful. They genuinely care about what I'm doing, and so I feel [that] they're like friends."*
>
> *-Murphy [03-04] discussing two of his professors*

For many students, few relationships in college will matter as much as those with their favorite professors. Professors help students discover new fields of knowledge, learn more in familiar fields, refine writing and speaking skills, choose better courses to take, choose a good major, work on research projects or senior theses, and apply to jobs and professional programs. Professors open doors to new opportunities perhaps never considered. Not every student gets these benefits – and not every professor, certainly, offers them – but frequently students' relationships with faculty members have a dramatic, even fundamental, impact on their college careers.

But to an entering freshman, all that lies in the future. Initially they see a variety of teachers and teaching styles, with some disappointing courses, provocative and exciting courses. They come to distinguish good teachers from bad, and tend rather

quickly to discriminate subjects and professors to pursue further. With most professors, a student's relationships will be strictly professional; many students – especially men, and ethnic minorities and international students – never get more than a professional relationship. But for a majority at the College, one or two professors become more than just good teachers; they become mentors, and sometimes even friends. Such relationships can draw out students academically, engage them intellectually, and support them personally.

GOOD AND BAD PROFESSORS[1]

Professors' ability to effectively teach matters to students. Each semester for four to five months, for at least three hours every week, students look at and listen to one person, who stands at the front of a room or the head of a table. Students quickly notice nervous ticks and peculiar phrases. They see their teachers' hand gestures, how they walk around the room, when she is interesting, and when lectures are dull. This eye for detail is a byproduct of the sheer amount of time that students as a whole spend with a professor. Professors may underestimate their own importance in this respect: seeing 20 to 30 students, their attention is diffused. But all eyes of students are on one person.

[1] Interestingly, while 58% of men report [in interviews?] having at least one "good" professor by their senior year, almost all women (87%) report similarly. There could be a number of possible reasons for this: 1) men are less likely to identify a professor as "good" or "bad," or less likely to report their feelings if they do; 2) men are less likely to rely upon a professor's reputation as a deciding factor in choosing classes, whereas women rely more heavily upon such information. Unfortunately, we do not have the data to support or reject either of these hypotheses.

Students consistently identify four characteristics that make a good teacher: excitement, classroom skills, accessibility, and the ability to engage students in lectures and in work.

1) Excitement. Students look for professors who love the material they teach, and are motivated to spread that interest to others. The professor's *excitement* makes abstract ideas concrete and real, and makes academic ideas practical.

> I think a good professor is just very down to earth, just really excited about the information... It's not so much that they're all into themselves because they've learned so much; it's that they're so excited with the students that they want to share all this information, and they really love their subject. I think if you got a professor like that, they could make the most boring subject in the world even interesting . . . [Anne 03-04]

> For me, I think if they have a passion for what they teach and they know what they're talking about, [then] that's really refreshing. [Maudie 03-04]

> Professor Berger kept your attention, and you know, kept things moving in a fast enough pace where nobody really got bored with it. [But] wasn't like a high pressure type where, you know, if you didn't make the effort you were going to get left behind. And I think that helped kids be self-motivated, and kept them up with the rest of the class. [Frank 01-02]

2) Classroom Skills. Second, professors should have good classroom skills. These include an ability to organize clear lectures and syllabi, respond well to questions and maintain strong (though not tyrannical) control over the class. A number of students commented how their professors simply could not control or guide discussion or keep the class focused on the lesson:

> Some students can smell blood in the water when a professor just isn't able or willing to step up and really lead the class. I can hear [students] trying to steer the conversation intentionally away from like what you're supposed to be talking about. Being able to recognize that ten miles away, and stop it before it even starts is really important…

> I think that Professor Sams, for example, is an interesting and compelling individual. And you read his work, and you're really interested in it. But in a classroom, he seems unable to direct the class towards any sort of like progress. There isn't a product at the end of a discussion. [Hannah Morrill 03-04]

3) Accessibility. A professor's simple *accessibility* for a few hours outside of class can make a world of difference to students, for a number of reasons, perhaps mainly to be a sympathetic audience for either despair or enthusiasm. Students who struggled in a course say that extra help is not only good for them, but sometimes was necessary for

them to pass. At the same time, exceptional students looking for more challenge can use a professor's office hours to talk about extra material.

Intellectual accessibility is also important to a number of students, who commented that their best professors were completely open to new ideas and perspectives, and willing to discuss material or topics outside the scope of the course:

> She has office hours four times a week, and there are always people there asking her questions. I mean there's a line outside of her office . . . there are always people there asking questions and just talking about stuff in general.
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> I remember the first or second week of school here, in September, me and one of my friends went to her office and we just kind of talked about the September 11 bombings and how it affected us and all that. She's really personal too, and I think that's a good quality of a being good professor. [Frank 01-02]

Professors who are personally accessible—not cold, closed people, but warm and willing to talk – opened the doors to discussions and closer relationships:

> I: What are like the characteristics of a great professor?
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> S: The ability to step down from their podium . . . Take off their

> professor hat, and not lecture; and actually talk with you, speak with you and hear you, rather than feeling the need to profess all the time, you know . . . [to] be able to foster like some kind of . . . rapport that's not superior. It's impossible for them to be like chummy with you, because they're not your peers. But just be empathetic . . . talk *with* you and not talk *at* you. [Jared Smith 03-04]

When professors use their time to give students feedback, for instance on papers, it helps the students improve their work. But more importantly, it demonstrates the teacher's involvement with the student's work:

> A lot of professors, if you get a paper back and part of it has no red ink on it at all, just a grade, you're like "Well, how did this come about?" You have to talk to the professor afterwards and figure it out. Or you have a professor who just puts a ton of chicken scratchings all over your paper, and it doesn't really help. Some professors, I feel, could be more vocal about like how you need to change your style . . . If you go and talk to a professor about your paper after you get it, like outside of the class, then I feel a bond with professors who are really helpful, at least the ones I've talked to.
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> I think teachers could do a little more to like have helpful criticisms of their students' writing. [Harry Potter 02-03]

That kind of accessibility and concentrated response leads to a deeper engagement.

4) Engagement. Finally, students say, the best professors are those who not only stimulate interest in academic material, but actual engagement with it – when students become immersed in a world of ideas, and excited about being there. Students describe "feeding off each other's ideas," and "intellectual drives," being excited about new academic projects, or about taking a class they have been interested in for some time. Built perhaps on the first three characteristics, this engagement is the Holy Grail of college teaching, emblematic of what creates a great college.

In creating engagement, the professor doesn't force certain perspectives on students, but helps them explore them on their own:

> Yeah. I think the, the best professors are the teachers who interpret the knowledge they have, give it to you and let you think about it, but don't necessarily give you black and white ways of seeing things.
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> And the professors who just kind of spit out knowledge for you to memorize are the worst professors, are boring, and you're not that engaged in the class. [Harry Potter 01-02]

Other students emphasized the palpable excitement of students and the professor during

class, and how such a situation is important in developing critical reasoning skills, central to the liberal arts education:

> [There] just has to be a constant engagement between like teachers and students, and students and students, [where] everyone's interacting, feeding off what other people are saying so that new ideas are being put into your head, just not what the teacher's saying. If you allow a student [to speak] their opinions on it, it's easier to like provoke yourself into like thinking differently. [Harry Potter 02-03]

Murphy commented that the interest in what professors teach students is "reciprocal, they start to show a genuine interest in why you find them interesting, you know. And it leads to . . . a conversation." [Murphy 03-04] In that a professor embodies knowledge of a certain subject, there could certainly be a kind of egotistical side to why many professors like students to be interested in the material they teach, and Murphy seems to point to the positive outcome of this relationship – that professors can teach even more vigorously and excitedly if they feel their students are interested in them and the knowledge they are conveying.

Engagement describes not simply a detached academic interest, but a social, intellectual, and sometimes even emotional one as well; the best professors and students, consciously or not, create it in their classes. At the center of a good college is such connection: people together, excited with each other, meeting over intellectually

challenging ideas and activities.

Any particular professor, though, exemplifies a distinctive combination of the characteristics.

> The best professor is one [who] can engage the students to really want to pay attention to a course, and not drone on. [They] do something out of the ordinary – to really liven the class, or to demonstrate what they're talking about in a different way that the student wouldn't have thought about it.
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> My math professor does this quite well, where he'll relate any aspect of calculus to just a random object, or a random incident that happened to him. Even if the examples are off the wall, it's a huge stretch to even make it anything remotely near what he's talking about. Just that fact that he's inserting these wild experiences or objects into the class makes it a little easier to grab the material and stay awake. [Jay 01-02]

John listed a number of attributes and qualities when asked about what he thinks makes a good professor:

> A professor who makes sure that I am following up with the reading; a professor who asks questions; a professor who's able to recognize that the

> whole class is lost and get everybody back on track. A professor who also provides humor, not just dry and boring; and a professor who is always available for office hours; a professor who gives you information; a professor who doesn't spoon feed you, but when he realizes, you know, you're in trouble and will help you out. [John 01-02]

John later described an important moment he had during his first year, in a class in which he was not participating as much as expected because of his political views:

> Before class [my professor] said, "May I talk to you after class?" I was like, "Okay." You know, I found that kind of strange . . . He said "John, in your life you'll always have something great to say and you should voice your opinion more . . . That class is kind of one sided on the issue quite a few times about welfare policies, about time limit policies. He told me that my input was always good, and I always like provoked argument and further discussions. So I was like okay, thank you for telling me because other teachers here will just let me just fall through the cracks and say I'm not participating.
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> So he's not letting me just get by. [John 01-02]

Many other students discussed moments they had with professors that seemed key for them in their college career, moments that may have triggered, in a way, a kind of

paradigm shift for them in relation to class participation in John's case, or how to construct a paper with an eye for your reader, or give a speech targeted towards your audience.

Often times, the student seemed to "get it" not because it is an amazing revelation, but simply because the professor cared about the student understanding the point. Madeline described such an event when she discussed a professor who was not well liked by students, but could be a very effective teacher:

> I know Henderson has all kinds of, like, student relationship issues as far as not many students are too fond of him . . . But when he says something nice about the work that you've done, it makes it that much like more important . . .
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> We had to write a 25 page research paper, the first time I'd ever done that. And I worked my butt off for it, revising it. And the first drafts were really horrible. I definitely wasn't prepared for writing when I came into college. That's been a big thing to work on. So, so it was like do you have a thesis? I don't know.
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> And then [the paper] all finally came together, and he wrote me this e-mail that was like, you know, I just wanted to let you know that this was really

> high quality work. And . . . he doesn't say that to people. [Madeline 04-05]

Students at the College talk about good professors using many descriptives, but the most common by far are, again, excitement, expertise, accessibility, and the ability to engage students. Over a single semester's course, good professors can trigger significant intellectual changes, even revelations, in students, and can intellectually energize them for the future.

The characteristics of a bad professor according to students are, expectedly, the opposite of those of good professors. A bad teacher, conversely, is noticeably bored with the material s/he is teaching, has little control over the class and the flow of discussion, cannot be reached outside of class, and teaches in a way that alienates instead of invites. Some are boring lectures:

> Like there's nothing worse than sitting in a class for and hour and a half and just having the teacher go on and on, and you get off track and you don't know what the teacher's talking about anymore. [Harry Potter 02-03]

Others fail to teach and run class in a way that suits the academic material – smaller groups for discussion-based classes, unless the material is too difficult or factual, so that a lecture is appropriate:

I: What is your experience in like a smaller class compared to like a larger class? Which do you prefer?

S: It really depends. It depends on the material and, and the topic for the most part, and what's being done . . . [If] the material lends itself well to discussion, something like Origins [of Religion], which I took fall semester; [it] was also a lot of group discussion. That kind of material lends itself really well. But other things, like neuroscience . . . I don't think that if it were discussion based it would be as, as helpful or as useful. You know, some stuff just needs to be lectured when taught, and you just learn it. [Mark 02-03]

Occasionally a teacher works in format so poorly adapted to the students as to seem almost aggressively unengaged:

S: I mean I've had really small classes. I had one class with two people – myself and one other person.

I: Oh wow. How did that go?

S: Yeah. Well, it wasn't a seminar oddly enough. The professor stood in front of a lectern and lectured to us . . .

I: How come there were only two of you?

S: Because everyone else was scared off of it . . . But I mean I liked the material . . . He acted like there were 40 of us. He didn't make eye

> contact. He didn't ask questions. He just stared at the back wall.
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> It was very weird . . . One day, the other person didn't come, [the teacher] didn't wait five minutes to see if he was going to show up. He just steamrolled on. I'm pretty sure if neither of us were there, he still would have given a lecture. [John Smith 03-04]

Evidently this professor was making some kind of point, but it was that he cared about the other people in the room.

It may be inevitable for students to have at least one bad professor, one bad professor can alienate students from entire fields of study:

> Last year I really hated one of my Government teachers. I, I just, it was really boring and I don't think she taught the class very well. That kind of made me not want to major in Government . . . I know I really hated it…
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> We were talking about past elections, and like studying how elections have changed . . . We'd discuss like actual elections and some of them were, you know, not exciting, but they were cool things to talk about. And she made them boring somehow . . .

> I don't think she would try hard enough to teach. She was teaching because she had to, not because she really wanted to be there, and . . . then I don't want to go. [I was thinking] I wasn't going to major in that. [Kim Smith 02-03]

Some bad professors are seen simply as obnoxious human beings, regardless of academic qualities; for some students (especially women) this is decisive, for others merely an annoyance. In either case, students spend a great deal of time watching and listening to professors, and so apparently minor issues quickly become magnified. While students distinguish say, a professor's annoying habit, or strange lecture style, from the professor as a person, the educational outcome for the student is what is important.

"PROFESSIONAL" RELATIONSHIPS

Over a college career, a student may take classes with as many as 30 different instructors, and with most they have "professional" relationships. A small (but critical) proportion of these will later grow into closer "mentorship" relations, but the numerical majority of student-professor contacts are professional.

As students define it, "professional" relationships between students and faculty consist of, as the term might suggest, each person doing what is required of them. Students do their work, talk to the professor specifically about course work, ask questions

if they have them, and participate in required activities. Professors teach the material as best they can, answer questions, and make themselves available outside of class if students need help. In a way, this kind of relationship is utilitarian and limited – both sides do what is required of them in their roles as students or professors, and generally do so in a friendly manner, but nothing more. Sean comments that,

> [Some] professors… they just sort of want to get through their class . . . but I think you can almost like expect that. You can't expect that a professor is going to [be] developing close friendships with all their students. I think most professors, it seems to be more of a professional relationship, which I think is fine, that's to be expected. [Sean 04-05]

and Luke states,

> S: I don't really have a professors that I can go in to and talk deeply. But, I mean, I go in and talk to professors about work and stuff if I have questions. [Luke 04-05]

Talking outside of class about extra-academic topics requires time and energy, and does not necessarily have a clear payoff. To the contemporary student who must manage a heavy workload, extracurricular activities, and a social life, spending time with a professor, or even devoting time beyond what is needed to get a decent grade in class, is low on the priority list. And for professors too, feeling pressed to publish, handle

multiple courses, and carry responsibilities beyond teaching, such "casual" time may seem a waste. So the "professional" relationship can be utilitarian – friendly and close enough to help the student get the grade she wants with the minimum of effort, and for the professor to get through the day with no friction.

Some students talk about their workload in the same professional, or in this case, "conscientious" manner as they do their professors:

> In the Political Theory class I am pushed to do my *best* work. In, in the other classes, I think I'm kind of pushed to do very *conscientious* work. I won't necessarily say it's my best work, but it's conscientious, well thought-out work.

Students realize that not only they, but also their professors, are severely constrained by time, and cannot afford to spend much time outside of class with students discussing non-academic matters:

> I wouldn't really say I have many close relationships with faculty. I have good relationships, which is positive. You know, they know me by name, and I can go in and say hi; but close, I mean I've never, I've never really gone looking for help outside of class. Like outside of class material, I've never gone to a faculty member asking about, you know, I have a girlfriend and she did this to me, and so forth . . .

> I just try to keep it pretty academic because I know they're busy people, and, half the time I'm seeing them, there are two people behind me, and two people in front of me, so it's not like they have a bunch of time to just sit around and hang out. [Jim 04-05]

Women at the College almost universally – at least among these students – looked for professors who showed a personal interest and concern; while a sizable number of men – not all, certainly – stated that they had no interest in having a professor as a friend, and that they only wanted "professional" student-professor relationships. No women made similar statements. This "professional" approach was fine for many males, but some like Tom felt by senior year that "one of my regrets is not having very strong relationships with the teachers". [Tom 04-05]

PERSONAL RELATIONSHIPS WITH PROFESSORS: MENTORSHIP

The learning curve for orientation during the first semester is quite steep, and is often accelerated when students make early connections with a member of the faculty. All students experience some of the range of good or bad teachers; all experience "professional" relations with most professors. But many students move soon to a closer connection in which they develop a personal relationship with a chosen professor (or perhaps two) – moving often to a true mentorship.

Around 40% of students in our study at some point reported that they had at least one professor with whom they have a personal relationship, which we define as having one of more of the following characteristics: 1) The student spends time with the professor outside of the classroom, often during the professors' office hours. The student continues to do this even when not taking a class with the professor. 2) Their discussions go beyond academic material, and may include social, extracurricular, or other non-academic issues. 3) The professor, effectively, acts as a mentor or adviser for the student, giving advice—likewise, the student seeks out this person for advice. 4) The student and professor participate in some kind of extracurricular activity together, for example, the student starts a club and the professor acts as advisor, or the student works for the professor in some capacity, as a teaching assistant or perhaps by house-sitting. 5) The student and professor work closely on some kind of project, often emerging from a scholarship, summer fellowship, or grant.

As we will see, these relationships arise "organically" through the simple exposure of students to professors, not through the formal assigning of advisors to students. Further, these relationships have academic, intellectual, professional and social benefits, especially for students, but also for the professors as well. For a significant number of students, their relationships with a even just one professor – but fairly often two or more – prove more important to their success and development in college than the content of the classes they take, or the academic material they study. The relationships, not the disciplinary content, are fundamental.

Several foundational factors affect the probability that a student will form a close relationship with a professor. The clearest factor is *class year* – freshmen rarely have these relationships, simply because they have had the least exposure to the faculty, and hence the fewest chances to form a relationship. Older students have taken more classes with a greater array of professors, and thus have met more people they are likely to "click" with, and have simply avoided professors they dislike. It is during the junior year that they are most likely to develop. While only one student discussed developing these relationships in their freshman year, three sophomores, five juniors, and no seniors discussed such development during their respective class years. [get real numbers from HEDS]. Junior year is key academically because students have chosen their majors, and spend this year taking a good portion of their classes within it, focusing not only in their discipline, but their professors as well. Seniors most frequently report having these close relationships, for the simple reason that they have had the most exposure to faculty. Seniors, while older, are wrapping up their academic careers, and are likely taking a majority of their classes with professors in their major, most of whom they will already have developed a relationship.

The second most significant factor affecting the likelihood of these relationships is *gender*. By their senior year, 70% of females report having a personal relationship with a professor, while only around 30% of male students report one – and of these, many name a team coach, not an academic professor. Indeed, a sizeable number of males told us that they prefer to have *only* "professional" relationships with professors, and are not

interested in "making friends." Almost no female students say this. Male students, in general, reacted far more negatively to the idea of a professor being more than just a teacher, and some male students seemed actively hostile to the idea.

There are three likely possible causes for this discrepancy: 1) women tend to perform better academically than do men, and as academic skill is positively correlated with likelihood of developing a close student-professor relationship, women would logically be more likely to have these than men; 2) males are less likely to report this kind of relationship than women; 3) men are far more likely to view academics as an individual pursuit than women, who tend to be more open to socializing their work. The reality is probably some combination of the three of these.

An obvious factor affecting whether students develop relationships with their professors is the character and personality of both the students and the professors in question. Simply put, some students and professors are willing to develop friendships with their professors, and some are not. This factor is not easy to measure, and appears mainly through students' language when they discuss their professors, such as when Hannah says: "I feel like I tend to develop relationships with professors who are really honest with me; who offer criticisms about my work, but also [talk] about college politics and sort of like vocal about what's going on on campus," suggesting that the development of these relationships is both a factor of who she is, and what kind of person the professor is.

Finally, ethnicity, race, and nationality are other important factors in student-professor relationships: far fewer foreign or non-white students reported having a personal relationship with a member of the faculty. [The reasons for this are unclear – might relate to different opinions of what the role of professors are? **Numbers in our panel? Use HEDS, etc** – save major discussion of this for section on diversity, or fill in here late?]

The Characteristics of Personal Relationships

A few lucky students develop personal relationships with their professors as early as their first semester, such as with Ruttiger, speaking in his first year:

> I think for me my favorite is Professor Roberts. She's a Philosophy professor, and she really got me hooked on Philosophy. She got me into the History of Modern Philosophy, the Western Modern Philosophy class just because of, you know, she knows my interest in Philosophy, and what areas I find amusing and interesting. And so she has kind of [given] me hints as to where I might find my, like my philosophical drive... And so for me she's my, been a great help, but she's also someone that I can just talk to, to you know, like just chill with basically, which is really neat.
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> I'm not sucking up or anything, it's just really cool to talk to her about some of the stuff that she's very well versed in and can, you know, help

> me out with. And then we share, like, similar reading habits. We just talk about books too, which is pretty cool. Not many kids I know read all kinds of books that I do, so it's kind of neat.
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> My dad had hip surgery a couple of months ago, in like September, and he had like a reaction to the drugs and was in pretty bad shape for a couple of days. And I was too busy making sure that he was okay to get a paper done. And she was totally understanding, and she just said, you know, take two or three days, get it to me, it's all fine. You know, family takes precedence. And I found that her accommodations for me was very, was very nice first of all, but I thought it also seems that, you know, you're not here to bust down the students. You're here to help them, and she exemplified that perfectly with that situation. [Ruttiger 01-02]

Ruttiger touches on several interesting points regarding student-professor relationships in this quote. First, he acknowledges that this type of friendship might be construed by some students as "sucking up," or simply flattering the professor to get better grades, and distances himself from this kind of behavior: "I'm not sucking up or anything, it's just really cool to talk to her." Second, he notes how students like him, who "read all kinds of books," may be unusual. Both of these points suggest that Ruttiger's behavior might have stigmatized students in high school, but in college, is more acceptable. To share his enthusiasm with a professor is reinforcing. Finally, her personal concern – and

recognition of the student's life beyond the classroom – strongly reinforces his sense of trust in her.

A professor's availability for informal discussion is a key component in a close relationship as when students frequently dropped by their professors' offices "just for a chat".

> Some of the best things about, you know, really knowing professors is seeing them outside of class, and then you know, feeling that they actually do think of you as a person. So . . . I could just see a professor in Café Opus or something, you know, we could sit down and talk for five minutes or an hour . . .

> My adviser . . . he's just a really nice guy. I mean, he… asks about things outside of my course work and stuff . . . When I came back from abroad, he wanted to hear about what I'd done there, where I traveled, all things like that…I would say the thing I value most about my relationships with professors is really just being able to approach them at any time, not just when they're sitting in their office or when they're packing up their stuff at the end of a lecture. So I think that's the best part. [John 04-05]

The *informality* of the discussion is what is key – the personal relationship is not based on the typical formal structures of most teacher-student relationships, but takes on its own social form, and becomes more defined by the norms of friendship than anything else.

We see this as well in the *content* of these informal discussions, which are not limited to academic material or work in this kind of relationship. Speaking about a professor, Jim commented that "he was great at advising me. Like, I quit football three weeks in and I went to him and talked about my position; and he really gave me some good insights on what I should do, depending on what I'm feeling and what I really want to do". [Jim 02-03]

In his sophomore year, Murphy met a professor he clicked with, describing an early example of getting to know a professor better through a class project:

> I'm starting my final project, and I came to him with this whole idea, and he's like, he never thought that I couldn't do it. He's pushing me to make it even harder . . .
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> That's kind of cool because he puts that faith in me that I can make it really good, and he's willing to go to that distance with me. I need plywood and stuff, and all this stuff for my project, and he's like 'We'll go get it'. And, you know, I need a special kind of clay so he taught me how

> to make clay. And he thinks that I could use glass in mine, and I've never blown glass, but he has so he's going to teach me how to use it.
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> He's just really willing to go that extra mile with you on it, and that was awesome. [Murphy 02-03]

Murphy's experience is exemplary: students repeatedly find that their project-based work, whether alone or in groups, is not only memorable in itself, but also the most socially gratifying, since students often seek out advice from and work with other students and professors. (The same holds true in laboratory courses, for instance.) Further, the work is *theirs*, not merely a homework assignment where they fill in the *professors'* questions. They are more personally involved in the process, and much more involved when working with others on it.

Working on a junior-year project with a professor whom he met even before freshman year, Ruttiger **[all men? I thought women were typical]** had a similarly rewarding experience.

> The first professor I ever met at Hamilton was Professor Pryor. We – my dad and I – were up for an [admissions] interview, and I sat down and had lunch with him and we chit-chatted about Byzantine History and Greek and Roman Military History for a couple hours. It was a great time. And

I'd always wanted to take a class with him on that subject, but I couldn't because of the way scheduling worked out and all that.

But you know, I kept in touch [with Professor Pryor] when I was in Oxford, because I was thinking of going to graduate school, like getting a doctorate in Byzantine History. It's not going to happen now because you need to know about eight languages, and I just can't afford that much schooling at this point. But yeah, he and I always chit-chatted about it. And I began thinking about what I wanted to write on while at Oxford because they have a wonderful Byzantine department. And . . . we e-mailed back and forth. I sent him some ideas. And then we showed up and got right down to it. And it was great. We were feeding off of each other ideas, you know, we were trading books.

[Professor Pryor] and I talked about what I kind of wanted to work on; and then he and I independently looked up potential books and some books that I had already read at Oxford, and we exchanged the book titles. He contacted some people that he knew . . . and then I just started reading.

I'd hand in 20-30 pages here and there; and periodically, I'd give him like, you know, detailed outlines. Or we'd just sit down, and I would just talk. And it was a really good collaboration, you know. It's not like it's a group

> thing . . . I wrote it. But like, you know, he was like the mentor I guess you could say. [Ruttiger 04-05]

Students who get the chance to work with professors on their work often find it the most memorable academic experience of their college career, not just because of the high level of work, but because their professors treated them more as colleagues than students. **[example]** A number of students who had close relationships noted the "colleague" feeling, regardless of whether they worked on a research project with their professor or not:

> I think that Professor Jensen and Professor Howards in particular treat their students – or at least students that they really can see like, you know, moving ahead in that field – as future colleagues, rather than someone who is just sitting in their class with their hand on their cheek, falling asleep and not really wanting to be there. [Hannah Morrill 02-03]

Students also bond with professors in completely non-academic ways, by working for them or simply by doing favors for them such as Madeline and Murphy:

> I do definitely have a relationship with at least one professor, [doing his] house-sitting, dog sitting. [Madeline 04-05]

> I spent last summer here at [college] working for Bill and Sally, and you know, I had nothing to do for the summer. I didn't know where I would get a job . . . I don't know that they really needed an assistant, but you know, they would never like leave one of their students out in the cold. [Murphy 04-05]

In both these cases, the work the students did provided a more formal structure to the student-professor relationship, and also simply increased the time the student spent with the professor(s) – again, exposure is key.

Self-selection is also significant here – students who had good relationships with professors commented that they often took more classes in that field, or even changed their major because of their good relationships with professors in that department.

> I: And have you formed kind of close relationships or worked closely with any faculty members?
> S: I have, and actually, I gravitated towards those departments that did treat me like that. [Jay 04-05]

Benefits of personal relationships:

Students report that having a professor as a friend has clear academic and social benefits – it gives students opportunities to work on their professor's research projects, to

design independent studies to replace or supplement normal coursework, and to network with professionals in their field of study, in addition to providing the practical benefits of having an academic and intellectual mentor. These professors can also be references for students applying for research grants, fellowships, and even jobs, not to mention the fact that many students learn about such opportunities through these professors themselves.

Survey data directly and unequivocally supports this. Looking at two indicators of outcomes for students, 1) GPA, and 2) job offers/grad school acceptances, and how they correlate with the number of hours students report spending with faculty per week (2 hours or less, 3 to 5 hours, or 6 hours or more), we see positive correlations across the board.

Self-reporting "A" students are around 10% more likely (regardless of gender) than B or lower students to report spending 3 to 5 hours a week talking with professors, though it is unclear which way this correlation goes – is it the case that spending more time with professors has positive results for GPA, or that having a high GPA will make it more likely for students to spend (more) time with their professors? More than likely, judging from interview data, it is somewhat of a reciprocal relationship – yes, students with high GPAs will be more interested in the material and in maintaining their high GPA, and hence go in to professors' office hours more frequently, not because they need the help, but because they are interested in the material. At the same time, it is also the case that students who feel they need more help in their coursework, benefit from increased time spent with faculty.

That a student's GPA benefits from greater time spent with faculty is also supported by the fact that other outcomes – namely, job placement or graduate school acceptance – which necessarily occur late in the student's college career, and which come after they spend time with professors, benefit from the student spending increased time talking to their professors.

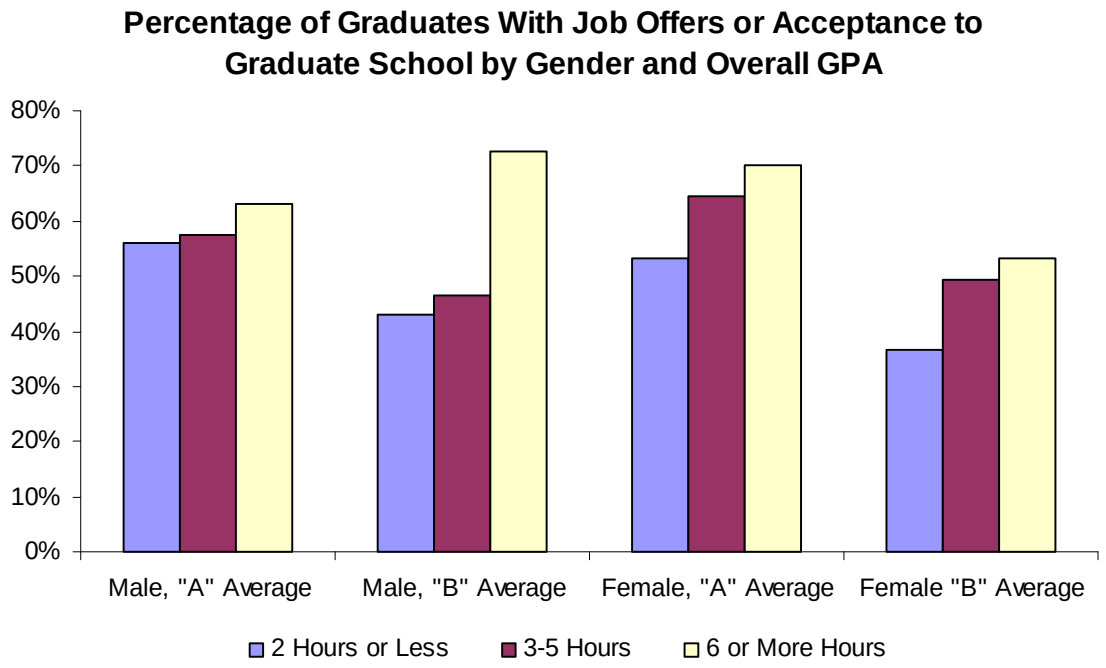
There is a clear "professional" benefit to having a strong relationship with faculty members outside of class. Controlling for both overall GPA and gender, students who spend a greater amount of time talking and meeting with faculty during their senior year are consistently more likely to have job offers or to have been accepted to graduate school.

Percentage of Graduates With Job Offers or Graduate School Acceptances by Time Spent Talking and Meeting with Faculty by Overall GPA by Gender

		2 Hours or Less	3-5 Hours	6 or More Hours
Male	A	56%	57%	63%
		(69)	(31)	(17)
	B	43%	46%	73%
		(148)	(52)	(24)
Female	A	53%	64%	70%
		(103)	(74)	(21)
	B	37%	49%	53%
		(172)	(90)	(32)

As shown in the graph below, spending time meeting and talking with faculty has the greatest impact among good ("B") students regardless of gender, and among the top female students. For men and women who report a "B" average, the relationship between offers and acceptances and time spent with faculty is significant at the .01-level. Among

the top students, this relationship is marginally significant for women (p=.06), and among the top men, the relationship is again positive but it is not statistically significant. [2]



Our interview data is full of individual examples of students benefiting academically and professionally from close student-professor relationship. Oftentimes, the help comes in practical forms, such as advice about courses, pointing out academic or professional opportunities, or simply helping the student get a better grasp on course material. Some students noted how their closest professors go out of their way to help them, reminding them of deadlines and course requirements or helping them to raise their grade in a certain class:

> Personally, if I could pick my top professors, it would be the ones who took the extra effort to help me out or to like help students out generally. I

[2] Analysis, table, and graph: Shauna Sweet, 2007.

> took a psychology class with Professor Cohen, and I had been struggling in class. I asked to see him during office hours, and I laid out my plan, like here this is how I'm going to get my grade back up to a B. He was like okay, and if anyone's in class who can do it, it's you. [Jonathan Thompson 04-05]

Marcy discussed how talking with her professor during class trips to the state senate helped her to get to know the professor better as a "friend."

> Most of our class was hands-on, like going to . . . meet representatives and senators and having dinners and lunch with them, and just talking to them back and forth and stuff. And so that made me able to [see how] she's not just a professor, she's actually a friend, you know. That's really helped me. [Marcy 04-05]

One time Amy's professor, at the end of an email about a class discussion wrote,

> "You know I was reviewing your transcript and just wanted to make sure you know that you need this one more class…before you can graduate," which was definitely, I mean I knew I needed it, but it was nice that there was someone who was checking up on me and looking out for me. [Amy 04-05]

The best professors "looked out for me" just as a friend would, though perhaps with more of an eye towards academic matters:

> She's been really, really supportive. Our Chinese program for the summer got cancelled because of the SARS epidemic, so like last week I sort of like threw up my hands and was like okay, I haven't found a job, and I'm supposed to be in China, and now I guess I'll be in the United States. I don't really know where I'll be. And she ended up calling me and saying hey, I found these like three options that you can do, if you want to like do something else this summer that's really cool. It looks like I'm going to be going to Indiana University to take a crash course in this random Central Asian language that I'm really interested in. [George 02-03]

Similarly, some student explained how their closest professors pointed them in the direction of other professors or classes that they might not otherwise have know about:

> I came with the intention of majoring in Creative Writing… And I came here, and I was really disappointed with the English Department as much for the students involved in the department as for the professors. I mean the professors that I encountered were all engaging, but it's hard when there's just a general lack of interest or participation in the class. The English major here is a place where a lot of people end up, and I didn't get a chance to pursue creative writing...

> I kind of fell into the Philosophy Department, or took a course with a professor there, and it was unbelievable. And my writing and my experience in the department was beyond that of my classmates so he invited me in the spring to a senior seminar**.** I was a freshman, and I was a little intimidated at the senior seminar, but it worked out because it kind of clenched for me that I was going to pursue that as a major. He also started to serve as sort of my surrogate adviser outside of the English Department. So he pointed me towards, you know, Professor Howards in the Anthropology Department. I worked with both of them and they both agree about getting me into classes that they think I'd like. [Hannah Morrill 02-03]

Sarah spent her freshman year, as many freshmen do, by taking courses in a broad variety of fields in order to find and explore her interests. After a short time in a sociology class on Latin America culture, she discovered not only a field that fascinated her, but a professor who shared her interests, who Sarah quickly asked to become her adviser (her previous adviser had been in the French department). In her words, "Even when he wasn't [my adviser], he just became my adviser but. Like just as my teacher, he would advise me". [Sarah 02-03]

After realizing that a class her adviser taught on Mexican culture wasn't being offered during her sophomore year, Sarah asked him if he might oversee an independent

study with her and two other interested students. He agreed, and the next semester, the four met weekly for lunch, planned their next lesson, and discussed course material. Meanwhile, Sarah continued to take Spanish, and another class on Latin American culture, and she also expanded her interests to her extracurricular, where she joined the Spanish Club.

Sarah had planned on concentrating on Spanish in college, and had no intention in majoring in anything else. However, after taking in introductory sociology class, then a class with her adviser, and then the independent study, she found interested in how she could apply sociology to her interest in Latin American and Spanish culture:

> I always knew I wanted to be a Spanish major, I guess, because I mean now it's my main issue. And then Sociology, I just took freshman year and liked it. Actually, I think I decided because I took a Latin American Society class, which was kind of a combination, I mean a combination for me in my interests. So that was kind of the deciding class. [Sarah 03-04]

Further, having found a professor who shared her interests, she had a mentor and adviser who could guide her studies.

As she had been planning since high school, Sarah went abroad to Spain for a semester: "In high school I went to Spain through an exchange program and I just loved it, and always knew that when I came to college I wanted to go abroad to Spain too. So I

just always, I mean I guess that was one of the like my goals to go to Spain again". [Sarah 03-04] Through the rest of her junior, and on into her senior year, Sarah only focused her interests as she continued her education, essentially finishing her Spanish major by her junior year, helping lead the Spanish club, and volunteering at an after school program in town by working with Latino immigrant children for a class, which was a formative and challenging experience for her.

S: So it was really, really hard. It was probably the hardest exam you could take because a lot of them spoke with an accent, with an accent in Spanish. I was having to like talk to them in Spanish, which was hard enough, and tell them don't do that. And... use like the command form... so that was really hard. But it was definitely a good experience, and really hard kids to work with, with a language barrier. That was really good.

I: Can you just describe what was really hard to work with?

S: It was just, I mean they were from pretty low economic status. So this was a, just kind of a benefit where the kids could go after school, and they were just really, you know, they were fighting a lot. They had to do their homework for an hour at the beginning [of] each day, so it was hard to get them to, you know, they were fighting and like, you know, hitting each other. And there I was, with one other, there was another girl who was Spanish, and so if she left the room at all, they'd like go crazy and I'd be like stop, and trying to, but they didn't really take me as seriously too. They would make fun of the way I spoke to them, and they were

> correcting my language. So they were just a little harder kids to work with. They weren't really students, but we were doing kind of lessons and had them trying to do plays and stuff that. And they just weren't, they just wanted to run around, you know. And then just another one like that, I'm taking an immigration class right now, and we, I teach ESL once a week for that. So that's kind of different.

Throughout this, her adviser was in continual contact with her: "He's helping me... I'm going to try to apply for a grant, and we've been in touch like when I was in Spain... I talked to him about the internship I was doing there. And you know, so we're always in touch." Even when he left for a year during her senior year, he offered to help her with her thesis, and kept in close touch with her.

We know from survey data that students who report being satisfied with student interaction with faculty have higher GPAs. This correlation may not just be one-way, but could be reciprocal – good students may find that they have better relationships with their professors (and find more venues to foster such relationships such as joint student-faculty research projects) than poor students, and students with close relationships with their professors may feel more inclined to work hard, revise their work with their professors, and make full use of their professor's availability, which might well help their grade. [explain; expand; quantify?] In any case, close student-faculty relationships seem to have a very positive effect on student experience, work, and satisfaction with college.

But it is not just the best and brightest students who benefit from these close relationships. Many self-identified "B" and "C" students, or those not as academically motivated, knew at least one professor with whom they felt comfortable "dropping by to chat", or seeking out advice from. In fact, our HEDS survey data above suggests that women in the "B" range may benefit most from close relationships with professors, in terms of graduating very satisfied with their experience. While "A" students may have more formal ways of meeting new professors and developing relationships with them (through research projects, being known in a department, etc…), other students seem to have very good access to professors as well, and almost regardless of the academic skill of the student, they can develop good relationships with these mentors.

That being said, nearly *all* of the students we interviewed who self-identified (and who seemed, by the things they talked about and way they talked) as Hamilton's best students, had at least one, and normally two or three close professors; while the self-identified weaker students typically did not have even one. The important point here is that "weaker" students, however identified, *can* have these close relationships and benefit from them, and that they seem to *need* them more than any other group of students.

So what do we now know about mentorship, how it grows, and its affect?

1) Classes are the setting for students and professors to meet, and professors – not courses – are the relevant factor to student's own ideas of success. When asked about academics, students described teachers, not

courses or majors. And – from alumni – a relatively small number of professors account for a large proportion of such relationships.

2) While most students at the College want and find close relationships with professors, a sizable number either don't want (men, many international students) or don't find (racial and ethnic minorities) such mentors.

3) Students who enjoy the College, and those who earn higher grades, are more likely to have mentors among the faculty, but it's unclear which comes first. Sometimes, the contact clearly comes first: students who have been invited to a professor's house for dinner – the largest numbers probably as part of a class – are significantly more likely to be satisfied with their college experience, according to surveys. Alumni anecdotes strongly support this finding.

4) Finally, survey analysis also shows that the greatest effect seems to be on mid-level (by GPA) students, especially women. They want faculty contact; they respond to it. It probably benefits everyone, but it certainly benefits this group.

Students want to know that someone cares about them, as a person. It's not just being known as a student in a course; it's the recognition as a human being. And the fact

that it seems so small to outsiders shows how rare it in fact is – and therefore how meaningful.

Whether through bad luck or self-isolation, some students have been unable or unwilling to meet and/or befriend professors who might have helped them gain interest in academics. Similarly, students such as these may have either had no good professors, or simply did not react to them as most other students do. Students such as these, in our study, had the highest dropout and transfer rate of any students. Unfortunately, as a byproduct of their leaving the sample, they also had the lowest response rate to our interviews, and so we know the least about them.

[Quotes from Alumni about the impact of professors—will get these as interviews come in]

- A *few* relationships of many are the ones that matter for any one student.
- They develop organically; can't be assigned; you play the odds – not connected to assigned adviser.
- Therefore, early exposure is critical.
- For teachers, two things matter: good teacher, good person.
- What year is this??