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THE UNDERGRADUATE EXPERIENCE

Survival of the Fittest

By JOHN MERROW

LIKE most large universities, the University of Arizona is a virtual city: 37,000 students and nearly 14,000 employees on a sprawling campus in Tucson of 174 buildings and 11,000 parking spots. Also like most of the country's colleges and universities, it is not particularly selective. Arizona admits 83 percent of its applicants, although most graduated in the top half of their high school class. They sit in numbing lecture halls with 500 classmates; the only instructor they may know is a teaching assistant, and they are, for all intents and purposes, anonymous.

This is not exactly the popular image of ivy-covered higher education, but it's the truth of it. Most students do not go to an Amherst or a Williams. They go to enormous public institutions like the Universities of Arizona, Iowa, Connecticut, Minnesota: more than five million undergraduates attend an institution with at least 15,000 students. The freshman class alone exceeds the population of a small town, and the course catalog is the size of a phone book. Mike Morefield, a junior at Arizona, remembers his first year: "It's like somebody comes along with a pin right after high school, pops your bubble, picks you up, throws you naked into some college, and you've got to figure it out."

Mr. Morefield figured it out, but 1,291 of his freshmen classmates - 23 percent of the class - did not. In that way, too, Arizona is typical. The University of Kentucky lost 22 percent of its freshmen last year; the State University of New York at Buffalo about 15 percent. Three of the four University of Massachusetts campuses lost at least 24 percent. Eastern Michigan University lost 28 percent. And six years after entering Arizona, only 57 percent of freshmen will have earned degrees - slightly better than the national average of 54 percent.

Those numbers have roiled state and federal officials from President Bush on down. In a recent survey, education policy makers in 27 states said that financial support for higher education should be tied in some way to a university's ability to keep and graduate its freshmen. Governors of seven states - Arizona, Arkansas, Michigan, Minnesota, New Mexico, Ohio and Virginia - say they are making a priority of increasing the accountability of colleges and universities that receive public money, according to the National Governors Association. And when Congress takes up reauthorization of the Higher Education Act later this year, it is expected to consider how to persuade or compel colleges and universities to create what Education Secretary Margaret Spellings calls "common language and metrics" about their performance that will give prospective students and their families better tools for deciding where to invest in their education.

How can colleges help students stay the course? Educators subscribe to the idea that students need a sense of belonging and commitment. To nurture it, campuses try to create pockets of intimacy - say, residences for students of similar interests, like women in science and engineering. Arizona also provides special orientation and counseling for Hispanic and American Indian students. And the

university's new Integrated Learning Center, built underground at the heart of the campus, is promoted as a "home base" for freshmen and sophomores. Open 24 hours, it offers academic advising, access to tutors and computers and 14 classrooms, from auditoriums to seminar rooms, where faculty are supported with multimedia technology.

"WE put vastly more money into advising today," says Peter H. Likins, the university's president. "With the Integrated Learning Center, we've made a massive commitment in terms of physical facilities and the advising that goes with it." But, he adds, "it is a more Darwinian environment, a public university of this character." Of foundering students, he says: "We always have the feeling that if we had the resources to recognize them as they fall through, to pick them up, in the way that a liberal arts college does, we could keep them from falling. But we don't have those resources."

Even though a university opens the door, it can't make an adolescent walk through it. However lost they may be, college students may never seek out an adviser. Intimidated, shy or alienated, they don't drop in during faculty office hours. Parents out of sight, they struggle with their newfound independence, starting with the freedom not to wake up before midday or to eat pizza any hour of the night - and again for breakfast - or to put off reading assignments until cram time at finals.

The latest results from the National Survey of Student Engagement - of 160,000 freshmen and seniors from 470 institutions - show that one-fifth of undergraduates are "disengaged." To the survey's director, George D. Kuh, that means they do not take part in campus cultural events, do not sample the wide choice of available courses or put much energy into their studies. Nor, he says, do they have to.

Richard H. Hersh, former president of Trinity College and Hobart and William Smith Colleges, refers to this situation as a "mutual nonaggression pact." Professors see teaching as a requirement they have to fulfill to do the research they prefer, he says, "so the professor goes into class and doesn't ask much of students, who in return don't ask much of the professor. The professor gives out reasonably high grades as a way of camouflaging that this bargain has been struck, his evaluations will be satisfactory, and students don't complain about grades or about whether they've learned much."

In the view of Dr. Hersh, a proponent of accountability in higher education, students have to be held responsible for their own initiative, but low standards allow them to coast through their college years with minimal involvement. "That's the real disgrace," he says.

The experiences of five young people at the University of Arizona - four seniors and one who would have been - illustrate different aspects of the campus experience. For one extraordinary student, college has done exactly what it should: illuminate the possibilities. For another, it has been one long party, little more than a steppingstone to a job. For all, learning seems to be optional.

If This Is Boozeday, This Must Be College

STUDENTS have names for certain days. Tuesday is Boozeday, Thursday is Thirstday.

At 9 p.m. on a Boozeday last fall, Robin Bhalla and friends are downing shots of vodka at his off-campus apartment. "We save money that way," he explains to a reporter watching the ritual. "Get a buzz on at home, then go bar-hopping." Sufficiently buzzed, the students who are of drinking age drive to a popular bar near campus, where they chug beer and do more shots. "I like to get drunk, not blackout drunk, but I like to get drunk," Mr. Bhalla says. "You're able to talk to girls a lot more. And I like girls." By 1 a.m. he is "fubar," which politely translates as "fouled up beyond all recognition," and is asked to leave the bar. He spots a student who he is sure insulted him earlier that evening and rushes

him, intent on fighting. His friends pull him away, and Mr. Bhalla reels around the parking lot, cursing.

Late the next morning, Mr. Bhalla wakes up on the floor of a vacant building, a shuttered fraternity house. "I was so depressed, and I looked at my face and my hands," he recalls, now sitting in a dormitory lounge for an interview. "I was just like, 'What am I doing with my life?' " But that moment of reflection soon passes. "If I sat there for days like that, what good's going to come out of it?" he says. Mr. Bhalla professes not to remember the altercation the night before.

About the purpose of college, he says: "You go so you can get a job and make money when you're older. But at the same time you get life experiences that are priceless, like networking." He expects that to pay off: "I've made so many connections I never would have been able to make without it, and these are all my friends and people that I know from the bars and from classes and, you know, people that I've hung out with that later in life I'm going to be able to call on and be like: 'I know you have a job with this company. Do you know if they're hiring, or can you get me an application? Can I use you as a reference?' "

Mr. Bhalla, 22, a psychology major with a minor in business (grade point average 3.0, on a 4.0 scale), says he stopped going to most of his classes after sophomore year and drank excessively four nights a week: usually Tuesday, Thursday, Friday, Saturday. Nonetheless, he made the dean's list last spring. He says he has rarely given more than an hour a night for all his courses. "Teachers say, 'For every class you should do a certain amount of reading,' but I never do that," he says. His routine: toward the end of the semester, scan the readings, review notes to see what the teacher said was important, get the teacher's study guide. He believes he is not alone. "A lot of people just try and coast by, and don't do the readings. They try and cheat off the homework, copy their friends'.

"Now that I look back on it, it's not really hard work," he says. "I think anybody, if they really sat down and tried to do the work, could do it."

Mr. Bhalla, who grew up in the Los Angeles suburb of Oak Park, chose Arizona to get away from the ground rules of home. "My parents always needed to know where I was, what I was doing," he says. " 'You can't do this, you can't do that.' And they'd always be hounding me to do my homework. So I always had someone to tell me what to do." He went "a little crazy" with his new independence. "My parents are, you know, 1,000 miles away," he says. "Other than phone calls, they can't really watch me, or see what I'm doing. Here it's: 'We're not going to watch you. Turn it in if you want; if you don't turn it in, we don't care.' "

Charles M. Tatum, dean of the College of Humanities, says he understands how tough it can be to make the transition from high school to college. "In high school there are direct consequences for not doing your homework," he says. "You lose points on your final mark. In high school there's instant feedback. You're in a class of maybe 25 or 30. Here, you walk into classes where suddenly you're not expected to show the teacher on a daily basis you've done your homework. You're told: 'There's going to be a midterm, and maybe a paper and then a final exam. Go forth and make the best of it.' You'd better believe that certain students can't handle that."

Mr. Kuh, who in addition to directing the student engagement survey is a professor of higher education at Indiana University, Bloomington, describes students like Mr. Bhalla as "maze smart" - they have figured out what they have to do to get through: buy the book, find out what's going to be on the exam and stay invisible. "They'll pick large classes," he says. "They'll go through the distribution of grades in different majors and pick the easiest one. Then they tend to hang together." He says these students miss the point of college: "These are people with enormous potential and talent. We just need to identify

them." That colleges can't get such students more involved in their education is "inexcusable," he says.

Is it really possible to get through a major university with so little effort? "As much as I would like to say, 'Absolutely not!,' yes, it is possible," says Melissa Vito, dean of students at Arizona. "We have a lot of students whose motivation for coming here is to get a good job. They think, 'How do I get the grades?' instead of trying to learn."

As for drinking, Dean Vito says problems often start in high school, sometimes earlier. "Students come here with more habits than they used to," she says, and alcohol is the substance of choice. "It's what causes students to make those bad decisions." At one point Mr. Bhalla's drinking caught the university's attention. He was sent to an alcohol education class in sophomore year after being caught driving under the influence. He did not get caught again.

At the end of a three-hour interview, Mr. Bhalla is asked if he regrets anything he has done at Arizona. "These are the years that I'm not going to have back," he says. "And I don't want to be 30, 50, looking back and wishing I'd partied then because I can't do it now."

A month after the interview, in December, Mr. Bhalla graduated after four and a half years in college. He moved to Miami to room with a college friend. He has just started working for a pharmaceutical sales company (base salary: \$30,000). For the most part, he says, he goes out only on Friday and Saturday nights. "I definitely miss my college days," he says. "They were the best four years of my life!"

Getting Off the Community College Track

WHEN Melanie Martinez first ran into former high school classmates on the Arizona campus, it jolted her. "Instead of giving a hug to someone with a Wildcat backpack, I was hugging construction workers wearing hard hats," she remembers. "It was sad and a little frustrating." The first thing they would ask: Did she have children yet? "A lot of people I went to high school with did start off going to college," she says. "We all entered Pima Community College together as a group, but about 90 to 95 percent are no longer in college. People have bills, people have babies and families."

At the beginning, Ms. Martinez had fit the national profile of Hispanic students. She attended a high school that was 75 percent Hispanic, then a two-year college. Hispanics enroll in college at the same rate as white students, according to a study by the Pew Hispanic Center and the University of Southern California, but one in three attend community colleges, compared with one in five white students.

Ms. Martinez had wanted to attend the university since she was in kindergarten. "It was instilled in me early, the U is prestigious; it's the place where I need to be," she says. But in her senior year of high school, with the distraction of the student council and cheerleading, she took "a less stressful schedule," she says, and wound up lacking some admission requirements. Students in the top half of their class are automatically admitted to the university if they have taken three years of math, three years of science and two years of a foreign language. To earn a high school diploma, they need only two years of math, two years of science and no foreign language. Her less stressful schedule had kept her out of the university, so she went to Pima Community College with her high school friends.

Beginning next fall, the university will be more selective, limiting automatic acceptance to the top 25 percent of a high school class. The hope is to increase graduation rates by, Mr. Likins says, "admitting into our freshman class students who may have a better prospect of success."

After two years at Pima, Ms. Martinez transferred to the U and signed up for business and public administration, the university's second most popular major. "I wanted to make money and be successful," she says. But dry accounting courses convinced her she did not like the field. And there was social opportunity - she had just turned 21 and was living away from home for the first time, "making my own rules." Three-quarters of the way through the first semester, she stopped going to class. "I didn't officially drop the classes, but I didn't take the final exams, either," she says. She somehow got a C in one course: "How I managed that, not even taking the final, I still don't know."

Thinking back over why she wasted a whole semester, she says she missed the close contact she had had with teachers at Pima and disliked the "e-mail relationship, if there's any connection at all" with professors. Also, "at Pima I was in the majority, but here, walking around and seeing so many blue-eyed, blond-haired people was a huge shock," she says. "It made it hard to be comfortable."

The university's Hispanic enrollment is 13.3 percent, though the state is more than 25 percent Hispanic. Nationally, only 23 percent of Hispanics who start college finish with a bachelor's degree, and only 18 percent who start in a community college and transfer to four-year institutions finish at all, according to the Pew Hispanic Center. The University of Arizona's record is considerably better - 47 percent graduate - and it is working to attract more Hispanic students, sending representatives into elementary schools to talk to parents about how to prepare for the U.

Ms. Martinez's mediocre academic performance - a 2.75 G.P.A., dragged down by the semester of goofing off - taught her a lesson: "I had to be my own drill sergeant, because nobody else was going to discipline me. No report card to Mom, and nobody to check on whether I went to class."

Now 24, she has switched her major to elementary education and is student-teaching in her old school district. Like Mr. Bhalla, she says that no matter how many courses she has on her schedule - or how many hours she spends at her part-time job at Pima County Community Services (now 8 a week, down from 25) - she has spent only an hour a night on homework. She will graduate in December, seven and a half years after starting her college career. "I thought it would be a lot more intense and a lot harder," she says. "I'd always thought that people who went to college were these brilliant people who had to stay up hours and hours studying and reading, but I'm not a genius and I'm doing just fine."

Mr. Kuh says his surveys find that most students start out with high expectations, which are rarely met. "They expect to read more, write more, spend more time with faculty, and study more," he says. "They expect to be writing three, four or five papers, but students, particularly at large institutions, can get through their first year of college without ever having written a paper at all."

When No One Knows Your Name

LIKE many young people, Keith Caywood equates a college diploma with a higher salary. "You go to college because you don't want middle- and lower-class jobs, because you don't want to sit there making \$20,000 to \$40,000 a year," he says. And that, he adds, necessitates "that piece of paper."

So when students come to the Trident, a wood-paneled bar papered with Wildcat memorabilia and photographs, he's sure that some of them look down on him. When he arrived at the university in fall 2000 from Enid, Okla., he expected to be on the other side of the bar, ordering drinks instead of serving them. If he had followed the path of the average Arizona student, who takes 4.7 years to graduate, he would be getting his diploma this academic year. Today, at 22, he's a dropout, managing the Trident, just across East Speedway Avenue on the north side of campus.

Mr. Caywood remembers how overwhelmed he felt when he arrived on campus, the "classic nerd" with a map and no idea where Old Main was. Course offerings were dizzying. "You didn't have someone, you know, leading you by the hand," he says. "No one actually sat there and grabbed me and said: 'Hey, you know, this is a scary place. Come with me, and we'll talk this through.' I went ahead and just kind of jumped in, grabbed a schedule and took what I thought was needed."

Reminded that the university offers enrollment advice, he acknowledges that he knew that. "I thought I was, you know, more mature than most of my colleagues, but I really wasn't," he says.

Mr. Caywood took several large lecture courses whose instructors, he says, did not know his name. He did not do well. "I fell asleep a lot," he recalls. "I got bored and I would talk with my friend. There was no interaction, no one making sure I was obtaining the knowledge that I should have been getting." He remembers one class in particular, with 60 or 70 students, taught by a graduate teaching assistant. "We never actually saw a real professor," he says, "just people who were either working on their graduate degrees or in between jobs, people just three or four years older than I am." As he relives the memory, his voice rises in indignation, and several customers look up from their drinks. "We're reading a book and giving our insights, but how can you get a good view of people's insights when there's 60 people in there?" he asks. How can a T.A. read 60 papers over the weekend and give each a fair shake? "It would have been nicer if I had someone more credible, someone I had to call 'professor' who's finished his degrees and has published books."

Mr. Caywood's recollections do not surprise Lee S. Shulman, president of the Carnegie Foundation for the Advancement of Teaching. "The great enemies of learning are anonymity and invisibility," Mr. Shulman says. "People who are invisible don't learn. In no sense are they accountable, in no sense are they responsible, and therefore they can simply turn off."

Mr. Likins, the president, calls the large lecture class "an unfortunate economic necessity" at a time when the state Legislature has cut funds by more than \$50 million over the past several years. The student-teacher ratio at Arizona is high - 19.4 to 1 - but not unusual. It's 18 to 1 at Penn State, 17.3 to 1 at the University of Kansas and 22 to 1 at Texas A&M. By contrast, Amherst has one professor for every nine students. Economic realities dictate that universities rely on T.A.'s to reduce instructional costs and to allow professors to concentrate on their research. Arizona requires T.A.'s to attend weekly training seminars in their first semester of teaching, and Mr. Likins says he encourages senior faculty to teach the general education lecture courses that undergraduates are required to take.

Mr. Caywood lasted until midterm exams and then enrolled at Pima Community College. "I had smaller classes, anywhere from 18 to 25 students," he says. "The teachers knew me by name and were willing to meet me after class and work on projects. It was a whole lot better." Still only 18, he got a job in a bar when he boasted to the manager that he could lift a full keg above his head. "She challenged me to prove it, I did, and she hired me," he says. He finished the year at Pima but dropped out to work full time.

Will he go back to finish college? He hedges, calling it a goal. But it's not going to happen soon. "I'm making good money right now," he says. "I'm a responsible person paying health insurance and car insurance and rent on a timely basis. I could look back and think 'could of, should of, would of,' but if I keep dwelling on things in the past, that doesn't help." He hopes to buy his own bar someday: "I'm moving on to better things, I believe."

When Everyone Knows Your Name

ANONYMITY is not an issue if you're a 6-foot-11 African-American basketball player on a campus that is mad about the Wildcats and whose student body is only 3.6 percent African-American. The state's high school player of the year, Channing Frye began his freshman year on an athletic scholarship. Easing the acclimation to campus life, he roomed with a teammate, and two others lived across the hall. A junior on the team, Jason Gardner, gave him the A B C's. "Channing, here's what you do," Mr. Gardner told him. "You find the hottest girl you can find and you ask her where your class is, even if you know where it is. That's just how you break the ice and, you know, get comfortable with it."

Among athletes' privileges is an academic adviser to see that they stay on track to graduate (and eligible to compete). An assistant head basketball coach, Jim Rosborough, drives around campus in a golf cart monitoring class attendance. One professor says he is asked twice a semester for updates on the academic performance and attendance of athletes in his class.

An assistant coach and the adviser helped Mr. Frye select classes. They told him which professors to avoid. "To be honest," he says, "I think it's better both for the athlete and for the professor, if the professor doesn't want to adjust the rules or, you know, be a little more lenient toward the athlete and his schedule." During the season, players may miss classes and tests two or three days a week because of road trips. "Sometimes you can't take a test," Mr. Frye explains, "because you can't open your eyes because you're so tired from getting back at 2 or 3 in the morning." He does not think athletes get a free ride; he says they walk a tougher path than the conventional student because of the responsibility they shoulder.

Lynne M. Tronsdal, the university's assistant vice president for student retention, wishes regular students could enjoy the hand-holding extended to athletes. "If we could do for the non student-athlete what we do for the student athlete, we would have a retention rate that is incredible," she says. Asked to describe the athlete's path, Ms. Tronsdal smiles. "They are wooed, from the time they can shoot a basket or play with a ball, whatever it is they do," she says. "They're told, 'You're valuable; we want you to come.' Once they're here, they have academic advisers who work with them on a one-to-one basis, looking at their schedules, arranging tutoring, making sure their classes don't conflict with practice. And if they have an athlete who can't write very well, they have a writing tutor come in to help. They work with professors on the athlete's grades, and if the grade isn't good enough, they'll help petition the grade. They help with deadlines, give career advice, even teach them how to speak with the media."

The media training seems evident when Mr. Frye, 21, is asked how many hours a night he spends on schoolwork. His first answer is "an hour, maybe an hour and a half." Then he pauses, smiles and amends his answer, "Two hours, maybe two and a half." He estimates he spends 20 percent of his time on academics, 10 percent "enjoying college life" and 70 percent devoted to basketball.

As a senior, Mr. Frye started every game, averaged more than 15 points and 7.5 rebounds a game and was selected to Basketball Times' All-America team. He scored 24 points, grabbed 12 rebounds and blocked 6 shots in his last collegiate game, a 90-89 overtime loss to Illinois in the quarterfinal round of the National Collegiate Athletic Association tournament. The coach, Lute Olson, says Mr. Frye represents all that is good about college athletics: "He is a four-year starter, a wonderful representative within the community and a bright young man."

A switch in majors - from physical education to interdisciplinary studies, which allowed him to pursue interests in both religion and African-American studies - put Mr. Frye one semester behind, he says. And his G.P.A. - 2.396 - is low. But that's still ahead of the game. Arizona's record with student athletes, despite the hand-holding, is not good. Since 1995, only five basketball players on scholarship have graduated; nine have left early to play in the N.B.A. The most recent is Andre Iguodala, who

dropped out at season's end last year and signed for \$9 million with the Philadelphia 76ers. The Arizona team's overall graduation rate is 25 percent; only 14 colleges in the 65-team N.C.A.A. basketball tournament this year had a worse record.

"I've often thought what we need to have are athletes who play for a municipality," Ms. Tronsdal says. "Call them the Tucson Wildcats and let them get paid. And then we can all just stop fooling ourselves."

The N.C.A.A. is also concerned. Next year it will begin penalizing teams whose players are not progressing toward graduation with their original class and whose graduation rate falls below 50 percent. Mr. Frye did consider leaving for the N.B.A. last year. But, he says: "I felt like last year, both on and off the court, I wasn't mature enough to step into the real world. I don't know who I would be if I had left last year." Mr. Frye is certain to be drafted by the N.B.A. in June, one term shy of graduation requirements. He promises to "finish the job" through online courses.

The Open Mind

BRITNEY SCHMIDT was hunched over a spectroscope in a small physics lab, peering into the eyepiece and scribbling numbers in a notebook. No one is more surprised to be there than she is. She arrived on campus in fall 2000 with a clear plan: because she loved creative writing and horseback riding and was active in the Future Farmers of America, she would study English and agriculture. Now she is a fifth-year senior majoring in physics (3.5 G.P.A.) and heading for graduate school in planetary science. "I owe it all to my educational identity crisis," Ms. Schmidt, 22, says with a laugh. "I always knew exactly what I wanted to do. I was independent, I was going to go get it, and I was just going to do amazing things."

College was a disappointment. Professors gave her the impression they would rather be someplace else. Their attitude was, "'O.K., well, I've got to teach, but I really am interested in research, or I'm really interested in what I'm doing after class,'" she says. "They'd come for an hour and give their lectures and leave. There's not that ownership that you feel in high school. There, I knew all the teachers and all the students. And then I got here and was one of 37,000 people on campus, and really not an important one. I didn't know where I fit in the picture."

All of a sudden, she recalls, "I was just like: 'I have no idea who I am. I don't know what I'm going to do. I don't know what I want to do.' I was getting A's in all my classes, but I wasn't being challenged, and I wasn't thinking about new things." She decided that she needed to start over somewhere else, but meanwhile, she enrolled in a semester's worth of general-education requirements - "sampling," as she puts it. Students must take 11 courses in different areas: math, composition, a second language, natural science, humanities, art, non-Western studies, traditions and cultures and individuals and society.

A natural-science class caught her imagination and she began staying after class, talking with the teaching assistants. She had never met a scientist before. "I began to feel like I really belonged," she says. "I would ask the T.A.'s what they were researching, and why. I asked all these questions I'd always thought about but never had the opportunity to ask." As the semester progressed, she felt comfortable enough to approach the professor, Robert Brown.

Professor Brown remembers Ms. Schmidt as "just a face in the crowd" of 160 students until she showed her passion, and then he invited her to get involved in lab work. "Students like Britney who have that extra motivation usually take leadership roles," says Professor Brown, who gave up an appointment at NASA's Jet Propulsion Laboratory to combine teaching with research. "I like to challenge them, to make sure they use their gifts." Ms. Schmidt recalls the day he challenged her. "One day, Dr. Brown sat

me down and said: 'Look, you're independent enough to come in and ask questions. In my experience, that level of independence is someone who does really well in science. You should really think about giving it a go.' "

She appreciates the university's general-education requirement, she says, although "everyone complains about it." It is important for two reasons: "Students who may have found what they want to do are forced to get a deeper understanding, so they get more context to explain things to others. And students who don't know what they want to do can experiment and study lots of subjects."

Ms. Schmidt ended up having the experience that Arizona administrators would like all students to go through. "We don't want our students to feel like they came here and just got a trade, but that they left here educated," says Ms. Vito, the dean of students. "Even if you're going to be a scientist, it's important to have some experience with the humanities and other traditions and cultures." The university's fundamental belief is that being educated means, she says, "having a sense of wisdom and culture, which is different than just being prepared to go into a job."

In Ms. Schmidt's estimation, that would be more probable if students were more responsive and if more teachers reached out. "I was lucky," she says. "I took a class from somebody who really cared, who thought that teaching a general education class gave him a chance to interact with more students of different varieties."

Tom Fleming, a senior lecturer in astronomy on a yearly appointment with the university, is another professor who sees value in trying to shake up the reluctant underclassmen in a required course. "I can't sit here and rant and rave and complain that, 'Oh, our standards are low and the students don't learn in high school what they used to.' The fact of the matter is I have 135 students here now, and I can't go back and change history as to what sort of high school education they received. If I publish a paper in the *Astrophysical Journal* and 12 people in the entire world read it from cover to cover, that's a high readership. On the other hand, every semester I can affect the lives of 100 to 150 people, and it's much more gratifying."

In Mr. Fleming's classes, there is no hiding in the back. He is just as likely to call on those in the last row as in the front as he moves about the auditorium. If students are reading *The Daily Wildcat*, sleeping or text-messaging on their cellphones, "I ask them to leave the room," he says. In his lectures, he poses problems that students answer with hand-held transponders supplied by the university: if students understand the concept, he moves on; if not, they discuss it in small groups and then revisit the problem. Understanding is the goal, he says, not "coverage" of a topic.

Ms. Schmidt has been accepted at the University of California, Los Angeles, in planetary physics and at the University of Chicago in cosmo-chemistry but has not decided which graduate school to attend.

She offers this advice to incoming freshmen: "Get out of your comfort zone. You learn so much more when you have to change what you're doing, than if you just came in and said, 'Well, this is me and I'm always going to be like this and I'm always going to study this.' If you think that way, then you never stop to question whether that's what really you're supposed to do. Relax. You haven't lived 20 percent of your life. What's the rush?"

John Merrow is a visiting scholar at the Carnegie Foundation for the Advancement of Teaching and reports on education for "The NewsHour With Jim Lehrer."

Correction: May 1, 2005, Sunday:

An article in the quarterly Education Life section last Sunday about the undergraduate experience at a large public university misstated a retention figure for the State University of New York at Buffalo. About 15 percent of freshmen who enrolled in the fall of 2003 did not return in the fall of 2004 - not 22 percent.

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