Learning Through Internships

One evening on the commuter train, I chatted with an entrepreneur whose son David was failing out of his suburban high school. Private tutoring wasn’t helping, and the son refused to create more study time by quitting his after school job at a bait-and-tackle shop.

Then I heard the details of the job. David had built a close relationship with the owner, who was ready to retire. While David’s friends splurged on used cars, David had banked $12,000 of earnings and had negotiated with the owner to buy the shop in 6 months when he turned 18. He believed that he could increase profits dramatically by increasing sales even slightly, because the store was hovering near the break-even point. With his father’s help, he had drafted a marketing plan that they believed would boost sales and triple profits once he took over the shop.

And this is a student who is failing high school. If David had been at the Met, his work at the bait-and-tackle shop would have become his internship—the hub of every student’s curriculum. The marketing plan would have been a starting point for studying math, computers, and English. Other studies might have focused on the physics of a fishing rod or the social and economic impact of a local oil spill. David’s father was crestfallen when I told him, as we pulled into the Providence train station, that his son was probably too old to transfer to the Met.

Chasing Darth Vader

MediaTech has a tidy sales counter up front and a computer-strewn workroom out back. Three programmers sit shoulder to shoulder, each intent on a computer screen. They’re behind schedule on a graphics CD-ROM that must be Fed-Exed to a major corporation in 6 hours. A customer walking into the store would never know that one of the programmers is a ninth grader.

Jamar’s passion was computer graphics, so, with help from his advisor, he found MediaTech for his ninth-grade internship. (Met internships are known as LTIs, an acronym for Learning Through Internships.) Bill and Edward—MediaTech’s founders and only two employees—were relieved to have another partner for their start-up company. For the first few weeks Jamar helped them figure out new software packages and design custom graphics. After that, he sat down with Edward and his Met advisor to plan a multimedia project that would strengthen the company’s marketing efforts.

“Ever since I saw Star Wars Special Edition,” Jamar’s proposal began, “I’ve wanted to learn graphic design and create 3-D special effects myself. I’ve already started by designing a little 3-D guy who walks around on the computer screen.

“For my LTI project, I’m going to create a multimedia production that displays MediaTech’s full capabilities to its customers. First, I will learn a lot about what each of MediaTech’s application programs does and why they use it. Some of my questions are: What type of market is MediaTech trying to target with their products? How can I create a product that is better than industry standards? What are the industry standards? How can you design an interface that can be changed while the program is up and running? And many smaller questions that are still waiting to be found.”

In addition to graphics skills, Jamar’s project required math, logic, and communication. Back at the Met, his advisor supported each of these needs. “Some of the math was hard for him,” she says, “especially being able to explain what he was doing. That’s something we emphasize at the Met. Sometimes Jamar will write something that is brief and well crafted, but if you don’t know enough about computers then you don’t understand what it means. So I push him to break it down and walk me through.”

Sitting in front of his computer one day, Jamar hit a major snag and Edward slid over to help. They spoke quietly, plumbing each other’s intertwined knowledge of the project. Jamar moved to Edward’s computer and began checking an Internet database.
Then Edward asked Jamar to check something in a manual. A while later Jamar identified the problem and told Edward what to change. They had spent the morning as colleagues, completely focused on thinking and problem solving.

In junior high school, Jamar lost papers, forgot assignments, and couldn’t get organized. These problems began to improve at MediaTech when he began to suffer the real world consequences of being scattered. “His projects would fail because he had jumped right in without the proper planning,” Edward says. “He got really frustrated, so now he’s learning to think things through before he starts.”

One evening in mid-March, Jamar presented his multimedia project to the adults on his learning team. Afterward, his advisor wrote, “Jamar has learned a tremendous amount. He has become more confident, serious, and focused, but he needs to improve on using his daily planner to manage projects and appointments. He is learning the beauty of designing a meaningful education for himself. His mentors have entrusted him with real work, and he has taken that opportunity and run with it.”

“It makes me feel so proud of my son,” Jamar’s mother added. “He’s become so valuable to MediaTech. That’s why he’s working hard now—because he feels important and valued. After the exhibition he talked about his future goals for the first time ever, about going to college. He mentioned MIT and the Rhode Island School of Design. We had never talked about that before. I was really touched. I just looked at him and thought ‘Wow!’”

Edward wasn’t surprised to hear Jamar talking that way. “Jamar is learning the crucial, hands-on stuff that we can’t even find in the college graduates we interview. Not to mention that he’s using our cutting-edge equipment, while college kids are paying top dollar to learn on obsolete systems. A lot of RISD kids come in here to get things printed, and they’re amazed when Jamar shows them what he’s doing. They ask him ‘What college do you go to?’ It’s kind of funny.”

**Getting Physical**

The sunny main room at Atlantic Physical Therapy has massage tables, a lumbar pillow with Holstein cow spots, and a berry aroma wafting from a candle. Solana’s fascination with physical therapy began after her mother had knee surgery. She called dozens of physical therapists and found an LTI by October.

Solana’s mentor was Esther, the clinic manager and a natural teacher. Solana attended consultations, helped patients with exercises, did office work, served as a Spanish interpreter, and worked out on the exercise equipment. She wanted to learn more about health and science, so Esther suggested a project on fibromyalgia, a painful syndrome that afflicted many of the clinic’s patients. Esther had been meaning to assemble some educational materials for these patients, but she hadn’t found the time.

After some research and fine-tuning, Solana wrote, “My project is to develop a pamphlet on fibromyalgia and stress management. I will look at causes, prevalence, demographics, symptoms, and physical therapy. When people learn to manage stress well, their fibromyalgia often improves or even goes away. I need to read the articles I’ve gotten from Esther and the Internet, interview a doctor, make a printing budget, and learn PageMaker publishing software. Esther is depending on me getting the pamphlet out to her patients.”

Solana also made forays into anatomy, physiology, and kinesiology. “We talk about those topics with patients all day,” Esther explained. “Bones and muscles, ligaments and tendons. The three types of levers in physics, and how your body becomes part of the lever. Why lift with your knees instead of your back? How do people conserve energy when they’re moving through space? Each day I show Solana something about the science underlying my work with patients, and then I give her pages from my textbooks to study with her advisor Emily back at school.”

A key communication tool between Solana and Emily was the journal that Met students are expected to write in three times per week. It motivated Solana to jot down thoughts or questions whenever they came up, rather than waiting until Emily was available. Then Emily would respond in person or comment in the journal.

One day Solana’s journal entry said, “Did I tell you that I called the community college and they have a program to train physical therapy assistants? I am ZOOPED! They’re going to mail me some info. I hope I can do it. Now onto my project and its progress:
brought her mother up front to demonstrate the torque experiment. After some questions from the audience, the formality gave way to congratulations and sadness about the end of her special relationship with Esther.

"The Met wanted Solana to learn academic and personal skills through her work with me, but not necessarily to become a physical therapist," Esther said after the exhibition. "But then one day she announced that she wanted to become a physical therapist, and after that her motivation really changed. Now when she doesn’t know something, she pushes to learn more and more."

**Learning Through Real Work**

The Wiesner Building at MIT has an oddly decorated exterior, a pattern of white squares with black outlines. One of the exit doors is blended so carefully into the pattern that a casual passerby notices only the wall, not the door. Once, sitting in the adjacent pavilion, I was startled to see the wall open and a person emerge. Only then did I notice the hinges.

An important role of LTIs is to open hidden doors in what appear to be walls. One time when I visited a student’s LTI, she was engrossed in writing a grant application to obtain funding for her host site. She was 15 years old. The first time I applied for a grant, I was nearly twice her age. Until then, grant-writing was a daunting mystery. But Met students learn early on that with hard work they can gain access to many of the world’s elusive resources.

"Things really take off when students find an LTI they love with a mentor they love," Dennis says. "That’s when they get the most out of the Met. For 20 years I was the principal of schools with caring advisors and interesting projects, but it wasn’t enough. When students do all their projects inside the school building, their inspiration eventually drops off. But when they work in real-world settings with a great mentor, they shoot up to the next level. They get so proud and their learning takes on such meaning for them. We’ve had dozens of students who were ready to drop out until they got turned on by an LTI. And students who are already thriving get turned on too.

"Two of our students who have been in trouble on the street come to mind. John had an LTI at the corner’s office, so it’s a very
serious place. One day his mentor was at the Met and saw him running down the hall fooling around. The mentor couldn't believe it was the same kid—and it wasn't the same kid. They're different when they're out in their LTI sites. Then there's Martin, who has an LTI at a middle school. He does lunch duty there, and he told me very earnestly, 'I'm a counselor for all those kids.' It's so perfect for a kid like him. At lunch duty all the kids want to talk to him and get his advice about their problems. And I bet he's really helping."

On average, each Met student has one LTI per year. It begins in the fall, meets during school hours on Tuesday and Thursday, and lasts for 5 or 6 months. But that's only an average. LTIs have lasted from 3 weeks to 3 years, started in April or August, and taken place on all days of the week. Some LTIs have crunch times when students spend 40 hours per week at the host site, and some students spend an entire year without having an LTI at all. (They do other types of projects, as described in the next chapter.) The Met's flexible schedule is designed to accommodate the ebb and flow of personalized projects and real work.

LTIs combine the "academic" and the "vocational"—labels that drive an illusory wedge between two deeply intertwined domains. When properly designed, hands-on learning can lead to academic learning, as the LTIs of Jamar and Solana illustrate. Moreover, LTIs are not vocational. They are designed to foster general skills, not to prepare students for specific vocations. One student did LTIs with a computer programmer, a judge, and a dance instructor.

Giving students the opportunity to follow different interests over time is essential to the Met's approach. "In that respect, we're very different from career academies," Dennis says. "Career academies are getting more popular in the United States, but the problem is that most of them attach students too strongly to a single vocational track—management or computers or something else. One student at the Met did two culinary LTIs but then got interested in politics and did two great LTIs with lobbying groups. At a career academy, it would have been very difficult for him to make that switch."

A prominent evaluation of 10 career academies supports these concerns, reporting that about one out of four students lost interest in their academy and left before graduation. An additional group of students (percentage not reported) stayed until graduation but never took part in work-based learning activities because they opted not to, failed to meet the academy's eligibility criteria, or couldn't be placed due to the limited number of available slots (Kemple, Poglinco, & Snipes, 1999).

Learning through doing is as old as humanity. The artificial rift between classroom and hands-on learning is a modern invention whose fallout is becoming apparent. Researchers and employers are finding that students—even those who have earned top grades in challenging courses—often make fundamental errors when asked to apply their classroom knowledge to real world situations (Gardner, 1991).

Textbooks seldom pitch the curve balls of real life, so students don't learn how to swing at them. Instead, they sit alone at their desks and work through neatly packaged problems. The teacher already knows the answers, and the "right" strategy just happens to be found on the textbook pages that were covered in class that day. In contrast, solutions to the significant problems of real life are unknown at the outset and often require collaboration with others. They usually involve searching for information, devising and modifying strategies, and persevering until the problem has been solved or abandoned.

Solana's original project was to figure out why her mentor was seeing more cases of fibromyalgia in Rhode Island than she had seen at a previous job in Florida. She searched the website of the Centers for Disease Control and Prevention, contacted a fibromyalgia specialist (who never responded), and spoke with personnel at the Florida Census Bureau, the Arthritis Foundation, and the American Fibromyalgia Association. Eventually she concluded that the data she needed didn't exist. But in the process she developed research skills and learned how to change directions after facing an insurmountable problem.

Modern cognitive scientists have demonstrated the importance of combining hands-on learning with more conventional approaches. Howard Gardner's research shows that humans have many "intelligences"—ways of learning about and interacting with the world. The eight he proposes are linguistic, logical-quantitative, spatial, musical, bodily, interpersonal, intrapersonal, and naturalistic (1999). Most schools emphasize just two of these intelligences—linguistic and logical-quantitative. This narrow focus harms not
only those students whose strengths lie elsewhere, but also those whose strong linguistic and logical abilities mask important deficits in other areas.

LTI s are designed to tap all eight intelligences and take advantage of their synergy. Phil had a keen mind and was passionate about boating and carpentry, but he was unable or unwilling to learn from books on those topics. His LTI was at a yacht restoration school. His mentor began by saying, “Here’s some wood. Spend some time with it. Just fool around with it and figure it out.” Later Phil worked on various yacht design and repair projects. Before long, his Met advisor noticed that Phil was able to discuss and write about woodworking in ways that had previously eluded him. Paradoxically, his route to better linguistic skills had been more spatial than linguistic. Similar crossovers happen often, as with Cesar’s work at a recording studio or Shawn’s acrobatics with a traveling circus.

“Many times you have to let go of the academic to get to the academic,” Elliot says. “We’re slowly coming to understand this. Too often we’re uptight and don’t let students feel their way through. Most of us have gone through conventional schooling, and we’re trying to change our world view to trust different ways of doing things. Lots of students just won’t succeed using traditional methods, even though they’re intellectually powerful with their hands or in other ways. And even with students who can get there the traditional way, we still need to do the real-world piece. Once they’ve actually used calculus, they move to a much higher level of ability and understanding.”

In his book The Hand, neurologist Frank Wilson traces the evolution of the hand and its influence on culture and learning. Consistent with the Met’s philosophy, he argues that schools make a critical error by sequestering students in classrooms where knowing is separated from doing.

“The hand speaks to the brain as surely as the brain speaks to the hand,” Wilson says. “The old mind-body separation does not stand up to careful scrutiny, even when one considers the most complex forms of culturally derived behavior. High levels of achievement in purely ‘physical’ skills like juggling and competitive athletics depend on a mastery of both procedural and declarative knowledge, and achievement in those domains follows the same developmental course observed among highly successful mathema-

ticians, sculptors, and research scientists. The clear message from biology to educators is this: The most effective methods for cultivating intelligence aim at uniting (not divorcing) mind and body” (1998, pp. 289, 291).

“That’s why we have LTI s,” Elliot says. “Knowing informs doing, but doing also informs knowing. Both parts are essential, but conventional schools mostly ignore the second part. Whether it’s basketball or biology, students need to spend some time doing in order to really understand.”

LTI s may have an additional advantage for students who enter the work force directly after high school. A survey of 3,000 American companies showed that most are “afraid to hire young people, viewing them as unreliable workers” (Schorr, 1997, p. 293). This becomes a self-fulfilling prophecy for many recent graduates whose eagerness and persistence fade after years of drifting through several low-wage, dead-end jobs. The Met believes that skittish employers will be reassured by students’ LTI experiences and by endorsements from satisfied LTI mentors.

Finally, LTI s bring youth into closer contact with adults inside and outside the school. Summarizing several prominent reports on American education, Cremin (1976) notes that 20th-century high schools “managed increasingly to isolate young people from the rest of society, organizing them into rigidly defined age groups . . . that have little contact with either younger children or adults. In the language of one report, the schools have effectively ‘decoupled the generations.’ As a result, the reports conclude, the ordinary processes of socialization have been weakened, confused, and disjointed, and the symptoms are everywhere apparent” (p. 63). Cremin then cites a series of proposed reforms “all designed to increase opportunities for children to associate with adults in realistic social situations where they could undertake genuine responsibility for worthwhile tasks” (p. 65). That is the heart of learning through internships at the Met.

Finding and Developing an LTI

Finding an LTI starts with exploring interests, as described in the previous chapter. Students do research to identify people who are involved with the student’s interests. Then they develop lists of
questions and interview the people they’ve identified. This process helps students find LTIs while also building life skills such as persistence and presenting themselves well.

Shadow days are the next step. After a student identifies a potential LTI site, she spends a day there “shadowing” the person who would be her mentor. The Met offers these suggestions to the potential mentor:

- Provide a workplace tour and describe your organization’s main objectives.
- Tell the student why you chose your work and why it’s important to you.
- Demonstrate your work rather than just talking about it.
- Share what you do to keep up-to-date in your field.
- Explain how your work fits in with the overall organization.
- Show them the fun side—laughing together is a great equalizer!

Some students do several shadow days before finding an LTI that interests them. Most find an LTI by November, but for others it takes longer. “Loretta was scared to make calls,” her advisor says. “With the help of a fellow student, she set up informational interviews with some stores she liked at the mall. I gave her the name of someone there who had mentored another Met student, but she had left for another job by the time Loretta called. Loretta was so upset that she walked out of school for 2 days. After that she refused to make calls for a few weeks until her friend stepped in to help. Eventually she did some interviews that went well, but right before her first shadow day the business closed it off because of her grunge-style clothing. Loretta was devastated. She’s a great artist though, and in the end she got an LTI with a graphic design company.”

“We need to do a better job with students who are struggling to find an LTI,” Dennis adds. “If it’s taking a while, we should be quicker to get them doing other kinds of projects. Take a student like Tony, who dropped out of high school 2 years ago and is just returning. It’s taking him too long to find an LTI, and we’re losing him. We need to work together as a staff for students like him. We need to discuss their interests, shoot out lots of different ideas for

LTIs, and then help them follow up on as many leads as possible. We have lots of ways to help students learn through their interests, but we believe that LTIs are the best way. So for the few students who just won’t do what it takes to get one, even with the tremendous support we give them, it’s a problem. We’re now requiring students to have at least one serious LTI before they can be promoted to 11th grade.”

LTI development is supported by the Met’s workplace coordinators. They cultivate relationships with local organizations, help advisors find LTI sites, train and support mentors, collect data and write reports about the LTI process, and develop personal and academic relationships with many Met students.

Once the student identifies a potential LTI site, the Met decides if the mentor is a good match with the student, and if the workplace would be an appropriate learning environment. Potential mentors speak with the student’s advisor, watch a 15-minute video, and receive a notebook describing the LTI process in depth. They also agree to undergo a background check, and on the few occasions when it has revealed a criminal record, the school and parents have decided together about the appropriateness of the placement.

There is no ideal mentor profile. Inez and her mentor were both bubbly and loved chatting when time permitted, whereas Jamar’s soft-spoken style meshed better with his mentor’s quiet intensity. But dissimilar styles can be productive too—an outgoing physician helped Julia overcome her shyness, a formal banker helped Miguel tone down his smooth talk, and a no-nonsense chef occasionally succeeded in pressuring Tony to finish his schoolwork.

The first few weeks of a new LTI are for the student to begin getting to know the people and routines of the host site. Then the student, mentor, and advisor begin planning a long-term project that benefits the host site and advances the student’s learning goals. These projects have three elements: (1) an end product for the host site, (2) the investigation related to that product, and (3) the student’s critical reflection on the learning process. The Met calls these three elements the “nested egg,” a label poached from the children’s toy of the same name. As explained in the Met’s curriculum materials, “the nested egg places the real work for the LTI site at its center. Investigation surrounds that work, and reflection encompasses the whole project.” The nested egg label refers not
only to LTI projects, but also to the other types of projects discussed in the next chapter.

One day I shadowed Maya, an 11th-grade advisor, during visits to the LTI sites of four students in her advisory. The first stop was an upscale café, where Luther was dressed in a white chef’s outfit. His project was to use the scientific method to reduce the calories and saturated fat of several recipes without sacrificing taste or aesthetics. Using FDA nutrition guidelines and dietary software, he proposed recipe changes that seemed promising. Then he cooked the modified recipes, analyzed the results, and tweaked the dishes through several rounds of improvement.

Next we drove to Kaufman-Parlow Architects, where we met with Lucia and her mentor in a newly furnished conference room filled with blueprints for a new housing development. At this same LTI the previous year, Lucia developed a scale model of the Met’s new campus. The project used skills that she had just acquired from two college classes on architecture and computer-aided design. This year she’s helping to draft floor plans for a nearby clinic. When Lucia arrived at the Met, she was withdrawn and tongue-tied, but her passion for architecture gave her direction and self-confidence. In 11th grade she spoke about the Met at an educator’s conference and later won a $5,000 scholarship in a national design competition for high school architects.

Next we drove 20 miles west, into forests and farmland. Cathy’s LTI is with a retail store that sells horse-riding equipment. Her dream is to be a horse trainer, but she knows it doesn’t pay well, so she chose an LTI that would expose her to the business side of riding. She hopes to spend her life around horses while still earning a good living. Walking past ornamented saddles, riding crops, and the Jackasses 2000 wall calendar, we found Cathy and her mentor Lena with the store’s account ledgers spread out on the front counter. Cathy’s project was to learn the store’s accounting software and then write a training manual for future employees who need to use the software.

The phone rang, and Lena answered it. “Good afternoon. . . . Yes, we sent that out yesterday—you’ll have it very soon. . . . Bye bye.” Lena turned to Cathy and rolled her eyes in amused exasperation. “It was that saddle sale—I told you they’d call!” They both laughed at the inside joke, and a flicker in Cathy’s private eyes betrayed her pride at being in the know.

Then a second project idea emerged. Lena needed to decide which Florida horse shows to attend, based on several aspects of each show that affect her profit. Maya suggested that Cathy could learn Microsoft Excel back at school and design a spreadsheet that would estimate the profitability of different shows. Lena quickly agreed, saying maybe it would be good for business. “Sometimes I forget that you’re only 17 years old,” she said to Cathy. “Maybe someday we’ll have a job for you here doing the books.”

Back on Route 95, we landed in a traffic jam. We took the first exit and Maya phoned ahead to say that we would be late. Isabel’s LTI was with the parent liaison at a local elementary school. Her first language is Spanish, so she helps with oral and written translation for conferences, home visits, and report cards. She still struggles with basic literacy, and working as a translator has helped. During our meeting, two project ideas were hatched. First, Isabel would collect data on family involvement at the school and graph month-to-month changes in response to new outreach efforts. Second, she would interview the parent liaisons at five nearby schools and prepare a paper on effective practices that her host school might benefit from trying.

Six hours after Maya and I set out, we returned to the school. She had helped her students launch projects, but her job was far from over. Advisors also need to build relationships with the mentor and host organization in order to keep the partnership productive over time.

At one LTI meeting, the mentor arrived very upset. The Met had thrown a celebration to honor mentors but had accidentally mailed his invitation to the wrong address. Their mistake had cost him an opportunity to be honored in front of some high-level city officials—exposure that could have helped his business. Afterward the Met sent a card saying, “We are so sorry for our mistake. If it’s any consolation, please see on the enclosed program that your name was listed as one of our honorees.” But the program wasn’t enclosed, and the mentor was irritated. For 2 years he had carved mentoring time out of his frenetic schedule, and he deserved better treatment. Waving the empty card at the advisor, he muttered something about an infected root canal and said, “So let’s get started.”

At that moment it was the advisor’s delicate task to preserve the relationship, and fumbling it wouldn’t have been difficult. But with grace, sincere apologies, and superb people skills, she steered
The Power of Mentoring

During my visit to Luther’s LTI, it became clear that he had not planned his work well and was now feeling overwhelmed. His advisor asked him to take out his notebook and begin fleshing out a work plan and timeline. Then his mentor jumped in, “Believe it or not, you’re already having a road map.” He added, “Once you have an outline and a plan, it’s like feeling relieved. I didn’t realize how much I was feeling overwhelmed and paralyzed, just like you’re feeling now. But once you have an outline and a plan, it’s like feeling better.”

Luther’s stress level decreased visibly, and suddenly he was asking for advice and organizing his work. His mentor talked about the importance of planning and getting organized. Research has shown that planning and organizing can help reduce stress and increase productivity.

His mentor had shared similar advice many times, but coming from the mentor, it was different. Research has consistently shown that the social and educational benefits of mentoring for students are significant, especially in environments where students feel isolated or overwhelmed.

The relationship between mentor and student is a vital component of the LTI experience. The mentor becomes an additional source of support and guidance, enhancing the student’s confidence and sense of belonging.

The mentor, a key figure in the student’s success, is not just a source of knowledge but also a role model. By sharing their experiences and offering constructive feedback, mentors help students develop the skills and confidence necessary for success.
are great, and that's where I make most of my money, but being on the road gets exhausting after a while. Things are finally getting a little easier—after 2 years I'm beginning to make a profit and hire some help."

These reality checks also help to clarify student values. During Julia's LTI at the zoo, she realized that her views on animal rights conflicted with her ambition to become a veterinary researcher. Her interests quickly shifted away from veterinary medicine and toward pediatrics.

I envied her early wake-up call. It wasn't until my final year of college that two incidents jolted me away from electrical engineering. First, I toured a weapons facility and was offered a job designing night sights for cruise missiles. Most job openings in electrical engineering were defense-related at that time (Berlin was still divided and the Internet boom was years off), but I had never been close enough to the technology of warfare to experience the revulsion it evoked in me. Touring the facility changed my long-held stance that "someone else will build weapons if I refuse, so my refusal is meaningless." The second jolt came during a summer co-op job, when I had to scrap several days of work because the circuit I had just designed was too slow by less than one billionth of a second. It finally became clear to me that despite the status, salaries, and stock options, these were not the problems I wanted to spend my life solving.

Such experiences come far too late for many students, even those in vocational schools. School-to-career expert Larry Rosenstock notes that only 27 percent of high school students who are trained for specific careers ever spend even a single day in their chosen field or a related one (in Washor, 1999). The Met hopes that first-hand exposure will help students develop a more realistic sense of the world's challenges and become motivated to learn.

Making LTIs Work

Before the Met's design was approved by the state, one of the toughest challenges was convincing legislators that enough adults would volunteer to become LTI mentors. Elliot likes to point out that Rhode Island has 13 adult workers for every high school stu-

dent, and that more than 400 mentors have already worked with Met students. There's no mentor shortage yet, but the upper limit of their availability is still unknown.

"Being a good mentor takes way more time than we realized at first," Dennis says. "It's hard to have a kid by your side and find time for meetings with the student's advisor. Some mentors find that it's too much for them. Other mentors can't get enough of it."

And since good mentoring often determines whether an LTI sizzles or fizzes, it's important to understand why mentors voluntarily add this demanding role to their busy schedules. The most straightforward instance is when the student's work dovetails with the needs of the organization. When that happens, the student's main project advances both the organization's agenda and the student's learning.

At other LTIs, the student makes a contribution to the site but not by way of his main project. Luther contributed to Dante's Café by preparing and serving food, which also advanced his goal of attending culinary school. But his main project—experimenting with the aesthetics and nutritive value of recipes—was of no value to the restaurant. LTIs like this one benefit both student and mentor, but they are not the Met's ideal. Because of the forced fit, I call these LTIs "shoe horns," in contrast to the "dovetails" discussed in the previous paragraph. Shoe horns do feature two key aspects of LTIs—following student interests and providing real-world experiences—but they also retain some of the contrived quality that LTIs are intended to avoid. The Met believes that over time, with an expanding pool of host sites and project ideas, it will be possible to reduce the number of shoe horns and to design dovetails for almost any LTI site.

Some mentors believe that their students add value to the host site that adults are unable to provide. "We have tunnel vision," said Jamar's mentor at MediaTech, "because our ultimate task is to make money. Jamar's imagination isn't constrained by having to pay the rent, so sometimes he'll get curious and ask a really insightful question that we never would have asked. And I'll be like 'That's brilliant—I can use that!'"

Anne Smith at Community Networks adds that "none of the adults here can think like a ninth grader, so we put Carlita on
projects that need a ninth-grade perspective. If you were a fly on
the wall at our meetings, you wouldn’t know whether Carlita was
an intern or a paid staff member, except for her obvious youthful-
ness. Her contributions are as valuable as anyone’s, and she walks
away with her fair share of the work. Then, during the days when
she’s at school, her teachers help her build skills to make the LTI
academically relevant. Whatever it takes, they make sure she’s
supported.

“We did have one problem though. I wanted Carlita to help
us develop a survey for the kids in our Saturday program, but
our research director insisted that he could do it better and faster
himself. I insisted that we would end up with a higher quality
product and save time in the long run if he would just invest some
time working with her up front. But he couldn’t fathom it. ‘Just
get her to do some Spanish translation,’ he said. I refused, because
she was up for a bigger challenge than that. To make a long story
short, she put together a fabulous survey—drafting questions, col-
lecting data, learning how to use data analysis software, and writing
a report. And when she started, she didn’t know how to type or
even turn on a computer. Seriously. Her perceptiveness was off
the chart. Better than a lot of my staff, and there are some really
bright people here. It’s incredible what you can get out of a kid.

“Just knowing that I was involved with Carlita helps me put
my head on my pillow at night,” she continued, sounding a theme
that was echoed by many mentors. The following mentor comments
come from an HMO executive, a retail store owner, a banker, and
the director of an art gallery:

“I’m making an important investment in the community. I’ve
always wanted to be a mentor and was delighted to find a program
where I could make it part of my work day.”

“If I don’t break the chain and start creating other avenues
for the youth in our community, then nobody will. That’s my
drive.”

“I grew up in the projects, but I had a good family structure
and there were always mentors keeping me on the right track.
Now it’s my chance to give something back.”

“I take it seriously because I believe that these relationships
can do wonders for adolescents—and they make my life richer as
well.”

These sentiments may sound suspect in our materialistic times,
but social interest appears to motivate most LTI mentors, whether
they come from nonprofit organizations, small businesses, or large
corporations. Many of these organizations also view mentoring as
a way of developing a high-quality work force for the future. Many
Met students have landed paid summer jobs at their LTI sites,
which clearly suggest their value to the organizations.

“A final motivation for some mentors,” Elliot says, “is simply
that they find a kid who really likes what they like. Matthew’s
stained-glass work is a good example. I think his mentor’s main
motivation was just that he takes pleasure in passing on the craft.”

Despite its merits, the LTI system has obstacles to overcome
in addition to those already discussed. In some cases the student
has not made a meaningful contribution to the site, either because
he didn’t follow through on expectations or because the student,
advisor, and mentor were unable to design an appropriate week-
to-week role or long-term project. Occasionally a student has alien-
ated a mentor by neglecting important duties, or, in one case, by
stealing property from the LTI site. More typically, a student’s
missteps are small and innocent, such as when Jamar changed
some settings on his mentor’s computer. “He was trying to show
us that he knew what he was doing,” Edward says, “but it took
me hours to fix. That was early on, and he quickly learned not to
do things like that.”

A second difficulty occurs when projects overshoot a student’s
abilities or a mentor’s resources. “Sadly, that happens pretty often,”
one advisor said. “Sometimes you develop these great projects that
end up falling short of the original plan. But important learning
almost always happens anyway. We’re realizing that you need to
plan ambitious projects and then work hard to make them succeed.
The most ambitious projects—whether they succeed or not—are
often the most educational and exciting for students.”

Planning overly ambitious LTI projects mirrors the real world,
where people overcommit and then scale back. When Met students
take on too much, they begin to understand their limitations and
how to make commitments they can fulfill. As for mentors who
overcommit and then fail to come through, three conclusions can
be drawn. First, the Met should minimize this problem by continu-
ing to refine its procedures for selecting mentors, sites, and projects.
Second, the school should avoid burning out good mentors by sending them more students than they can handle. Third is the simple fact that educating students is not the primary mission of LTI host sites. Regardless of how skillfully the Met refines its procedures, this reality will inevitably intrude on some student projects. The Met believes that such problems are offset by the advantages of work-based learning.

Finally, the Met needs more effective strategies for placing students whose LTI searches are taking too long. “Part of this problem has been a function of the school’s newness,” Elliot says. “It’s getting easier now that the school is 5 years old, because we have mentors and host sites that like to take students year after year. We also have students who return to the same LTI they had last year, and we’re always designing better procedures for getting students out. One way to avoid the lulls would be to have pre-arranged projects and sites, but that’s not the Met model. Projects need to come from the student’s interests and efforts. It may not be possible to get the high points without the search period, and we see that tradeoff as educationally sound. Students learn a lot from the search process, and while they’re looking for an LTI they’re also taking part in the Met’s many other learning activities.”

5 Learning Through Everything

At the Met, the word *extracurricular* is almost an oxymoron. While most schools offer credit only for a few strictly defined subjects, such as math and English, the Met offers credit for almost any activity that helps students achieve the school’s learning goals. To illustrate the diversity of student work, I recount below one of the many days I spent at the school.

**A Day in the Life**

It’s Monday after Thanksgiving break, and students start trickling into school a half hour early to eat breakfast, chat, read, and surf the web. The morning staff meeting focuses on how to work more effectively with social service agencies. After some muffins and a few hurried decisions, it’s time for morning assembly.

Known as “pick-me-up,” the daily assembly starts with announcements and ends with a presentation. Today Leah reports on her trip to the National Youth Advocacy Conference, a gathering of “gay, lesbian, bisexual, transgender, and questioning youth.” She says that in middle school she was harassed and ostracized because of her sexual orientation. This hasn’t happened at the Met, and she thanks everyone for their support. Leah’s advisor, knowing the topic of today’s pick-me-up, invited a diversity educator who stands up and says, “I think Leah is really brave to get up in front of you and talk about this. I’m a lesbian too, and I have two daughters in the Providence schools. Could you raise your hands if you have a gay friend or relative?” Half the students and all the advisors raise their hands. She asks several more questions that deepen the discussion, and after a few minutes pick-me-up ends, and students disperse to their advisory rooms.