Putting Education First

Final Report
Student Advisory Committee
Task Force on Student Life and Learning

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1.0 Introduction

1.1 Executive Summary

This report describes how MIT may integrate the three areas of the Educational Triad - academics, community, and research - to develop an educational product that can serve as a model for elite universities around the world. The Educational Triad involves treating research, academics, and community as equal contributors to the education students receive here, integrating them as much as possible to create a coherent, unified educational product not available elsewhere.

The report's recommendations fall into seven areas, listed as follows:

- We recommend that the residential environment be integrated to bring together faculty (especially junior, senior, and single faculty), graduate students, and undergraduate students into more of the same spaces and facilities.
- We urge the MIT faculty to take the lead in rearranging its own commitments. If the Educational Triad is to succeed, faculty members must play a more prominent role in the community, and must apportion more resources toward excellence in teaching, both inside and beyond the confines of the classroom.
- We recommend a new system of governance for MIT that is more in line with our commitment toward learning-by-doing through participation in the community.
- We recommend changes in MIT's basic curriculum. We recommend the adoption of a humanities core, a minor program for doctoral candidates, and changes in the way MIT deals with pace and pressure.
- We recommend that MIT take steps to alter its public image, both within the MIT community, and among applicants and potential staff and faculty, to increase the focus on obtaining an overall life education.
- We recommend MIT address campus divisions that prevent adequate interaction between its diverse community of scholars.
- We recommend the creation of a formal, required, and integrated comprehensive student development program that all students must complete to graduate.

The casual reader may be tempted to look at the recommendations first, ignoring the philosophy behind it as fluff, but we believe this is the wrong way to approach the subject. Ultimately others will have the choice of whether to accept our recommendations, and their leadership and creativity will determine what the street-level MIT will look like 25 years hence. Our role is to encourage MIT's leaders to think on the same scale as we have: to accept the Educational Triad philosophy, and to integrate its three areas, and to create a unified educational product. This implies something more than a new program or department. A cultural shift is needed at MIT - a shift some may find uncomfortable, but one that will ultimately make MIT the crucible for a new and better type of education.

1.2 Visualizing the Educational Triad

The concept of the Educational Triad is easy to visualize in three dimensions as a pyramid. As shown below, a student's education consists of a combination of academic, research and community related learning. These types of learning combine to provide an education which prepares students for life. Therefore, students' education can be envisioned as being at the apex of a pyramid with the Educational Triad as its base. A description of how each of these areas interacts is provided in the philosophy of the Educational Triad. By thinking of the Educational Triad in terms of a pyramid with the apex being the students' education, the importance of blending these elements becomes apparent. Only an education that mixes the three elements of research, community, and academics will be able to approach the apex of the pyramid. A ratcheting effect occurs whereby better education in one component, such as community, leads directly to better education in the other two areas because many skills useful in one can also be employed elsewhere.

Finally, an important element of educational philosophy is deciding how to make institutional decisions. The Educational Triad does not directly provide a principle by which options can be compared. The Institute needs a value hierarchy. The value statement which is most in line with the concepts of the Educational Triad is the simple design principle of putting education first. This statement clearly delineates MIT's mission and should be reflected in the incentive structure of the Institute. Most importantly, a cultural shift must be achieved so that the community is operating with the mindset of putting education first.

1.3 Tales From the Triad, a one-act play

Since the Student Advisory Committee originated the idea of the Educational Triad, many people at MIT have bandied the expression about. The idea of a triangle with three equal elements, all contributing to students' education, is a powerful one. Many have expressed different, more limited conceptions of the Triad - conceptions that differ from our own. The following fictional stories are an effort to explain the power of the Triad as a strategic vision for what MIT can become. Although some specific proposals are discussed, the stories are intended to illustrate how MIT might change, not to advocate specific changes in particular.

Scene I: Aaron, Class of 2020

Aaron is a sophomore in the Department of Alchemy. In high school, Aaron participated in several extracurricular activities, "mostly for fun, but also as an exercise in resume-building." When he came to MIT, he assumed that getting a technical and practical training in alchemy would take up most of his time. "I came here to get a high-paying job as an alchemist, after all," he says, "so I used my AP credits to get out of the frosh classes and went straight to the upper-level subjects. Result: I was completely hosed."

During his first few months at MIT, however, Aaron began to see his education unfolding differently than he expected. About midway through September, Aaron had an interesting talk with his advisor, Prof. Mehta. Mehta expressed satisfaction with Aaron's advanced courseload, but cautioned him against

over-concentrating on academics. "After all," Mehta said, "today's alchemy industry is highly competitive. Sure, there'll probably always be high-paying gold-making jobs out there, but they're not very rewarding. What alchemy and alchemy-related firms are really looking for is someone who knows how to solve alchemy problems, but can also lead, take important decisions outside of pure alchemy topics, and work well in teams."

It took a while, but Aaron began to see that he wasn't just at MIT to take classes. During his second term, Aaron's advisor helped him get a UROP in one of the department's research groups where he worked with two undergrads, two grad students, and three professors. Right away problems cropped up. The team needed Aaron's help putting together presentations and reports for the group's sponsor, Elemental Systems, Inc. As a result, Aaron found himself in a couple of communications classes, learning about public speaking and scientific writing.

At the beginning of his second year, Aaron was having lunch with a couple of the professors in his research group. They were chatting about an incident that had occurred in Aaron's dormitory - some windows were broken at a party and some Institute property vandalized. One of the professors, a faculty resident at North House, asked Aaron if he knew what could be done about the problem, and Aaron had an immediate answer. Then the professor asked why Aaron hadn't gotten involved already. "After all, we're all involved in the MIT community, and that's part of what people expect of you after you get out of here." Again, Aaron realized his view of what MIT was about had changed. He had just as many ideas about how to run his dorm as the rest of his peers. That same term, he ran for and won a position as social chair on his dorm's house committee.

Today, Aaron admits his MIT experience has taken a radically different form than he expected. "And not only that, what I want from MIT has changed as well. The people I look up to here, the professors, aren't just mad Rasputins making gold in their towers. They work together to solve problems, and I can be a part of that. They participate in the community - my community - and they expect the same of me. Being an alchemist doesn't mean seceding from the real life. Academics are still important, but they're integrated into everything else we do here: research, teamwork, and solving problems."

"The thing is," Aaron adds, "what I've learned helping run the dorm has helped me work better with the people in my team-based alchemy classes, not to mention in my UROP. I can't imagine how I could succeed here if I hadn't gotten involved when I did."

Scene II: James Mehta, Professor of Advanced Aural Processes

Professor James Mehta came from the Old School. After getting a PhD in alchemy from MIT in 1984, Mehta went to work for Goldeneye Labs, doing cutting-edge research in industrial gold-making. His ultimate dream was to return to MIT as a tenure-track professor, a dream that seemed fulfilled when he was hired as a Professor of Advanced Aural Processes at MIT's prestigious Golden Labs in 1995. Mehta's job was essentially to continue his previous research, sponsored by the same industries he'd worked with in the past.

Three years into Mehta's work at MIT, a major change came over Golden Labs. The director of the lab, Carol Hubert, called the faculty, staff, and researchers together for a strategy meeting. "I've got good news and bad news. The bad news is that I've just met with the provost, and he says our department has to make some changes to conform more closely with MIT's strategic vision. We do good research, he says, but we're not participating at all in the other two areas of what he calls the 'Educational Triad,' namely academics and community. The good news is that the provost and I have come up with a plan that will not only meet MIT's strategic needs, but help us in our work as well."

During the next few years, Mehta's lab transformed itself into a model or "pilot department" for others to copy. First, the lab integrated its own structure and facilities with the Department of Alchemy, which offered many classes, and performed research similar to that done at the lab. The lab also met its target for hiring and training new teaching professors, while the Alchemy Department relieved some of its poor teachers, returning them to research positions. Some of Mehta's own colleagues who had previously concentrated on research took classes on how to teach so they could take advantage of the incentives offered for good teaching and teaching training. A couple of staff members were given grants as "departmental community chairs": for a couple of years, they would be funded for their teaching and participation in the student community, after which time they would return to their research projects. Finally, both the lab and department made sure to hire a number of professors who saw their contributions primarily in the teaching and community areas of the Educational Triad.

Although at first Mehta saw the changes as competition for his few hours of spare time, now he feels more philosophical about the transformation: "Why did we change? Because society changed. You can get smart people together and do research, but doing that and teaching a little on the side is not enough to educate students for the world they face today. When I was in industry, they needed hard-core researchers, but more and more they need leaders, team members, communicators, creative thinkers, problem solvers, and so on. Heck, if all students wanted was to learn about gold-making processes, they could do that on the Internet. Why, some of my own friends in other universities' alchemy departments went off and made a bundle working for online universities. But the thing those online folks can't teach is, how do you become a well-rounded person? How do you interact with others to solve the problem at hand? That's where MIT comes in. That's why people are willing to pay so much to send their kids here, and that's why firms hire our students. If I don't prepare them for that, I'm not doing my job - even if I'm not personally one of the faculty members employed as a teaching and community professor this year."

Scene III: Carol Hubert, Dean of Education

Carol Hubert, former head of MIT's Golden Labs, is now Dean of Education at MIT, the highest post in the newly reorganized Dean's Office. She reports directly to the president and provost. Underneath her are the research, academic, and community deans who keep her informed of how well the academic, administrative, and operational departments - and student activities as well - are integrating the three areas of MIT's Educational Triad. Hubert was hired for the position after her stellar performance reorganizing Golden Labs around fulfilling MIT's strategic vision. What are her biggest challenges?

"The biggest challenge is integrating the three areas as much as possible - that's always been the challenge, even if we didn't realize it. But the competition is scarier now. We're competing with the online folks for good teachers and students, and with the big corporate research campuses for good researchers. We fill the only real remaining niche: We put community, teaching, and research together into the same product. Students want that because they know they need the broad skills we provide to get ahead in today's work environment. Students need more than just information, because information is cheap now. They need problem-solving skills, but many of those are provided over the Internet. Students need to come out of here knowing how to communicate, work together, and think creatively - otherwise our product is no better than our competitors'.

"For faculty and grad students the equation is more complicated. The rest of the world hasn't caught up with us yet in many respects. Other schools haven't used their faculty to teach what we teach. So introducing faculty and grads to our approach can be difficult. We've brought in so many good teachers, and we've built new integrated housing for grad students and junior faculty so we've created a real community feeling here. People realize that this is more than a job or a leg-up on an academic career. It's a model community: we have a whole life-cycle of education, starting with the undergrads, and on up to the full professors. Everyone is contributing something to the educational product. They're teaching, leading research groups, advising, or just being good, helpful colleagues. Even the undergrads have something to teach: teamwork, leadership, cooperation - these things would be impossible if we didn't bring people together here on this campus."

Recently, when Dean Hubert was working on MIT's latest capital campaign, she took a call from an alumnus who graduated back in 1996. Although the alumnus said he was excited about how MIT had changed since he had left, he said he didn't quite understand why this hadn't happened when he was at MIT. Dean Hubert explained, "Before academics and research took place under departments, and anything involving the community was completely separate. The faculty and staff primarily interacted with students in rigidly-defined spaces: the classroom, the professor's office, or maybe the lab. Now everything is much more fluid: MIT coordinates departments, faculty, and staff so that strong interaction occurs in almost every physical space. Every part of the community plays a major role in each of the three educational areas. Before that wasn't possible because of the sharp divisions between areas, and between parts of the community."

Curtain

In the following sections, the Student Advisory Committee presents some of its own concrete suggestions for how MIT might change to become more like the model MIT presented in this introduction. Even if specific proposals are not adopted, however, the philosophy of an integrated Educational Triad remains as an ideal. Realizing that ideal will involve more than just following proposals: it will involve a long process of discussion, internalization, and action. The sooner we can begin, the sooner we will reach our goals.

2.0 Education for Life

2.1 Philosophy

Why MIT Must Change If MIT graduates are expected to be the leaders that make important contributions to society in the 21st century, an MIT education must better prepare students for life. MIT has a unique opportunity to prepare each of our students to make great contributions to society. The education of citizen leaders has been at the core of MIT since its founding. Traditionally, MIT has produced graduates with strong, specifically focused analytical and technical skills who have made great contributions to society in their own time.

The demands of the global workplace and the needs of society are changing rapidly. Students who have a narrow set of skills and are unable to adapt quickly to change are no longer desirable by employers and society in general. The leaders of tomorrow will be technically proficient, but they will also work well with others, adapt quickly to organizational and technological change, and understand the needs of the communities in which they work and live.

To prepare our students to make great contributions to society in the 21st century, we must help them develop a set of competencies that are not explicitly articulated in the GIRs or anywhere else in MIT's current educational model. This can be achieved through the establishment of a comprehensive Student Development Plan which will place MIT at the forefront of educating well-rounded, technologically and liberally schooled leaders in engineering, science, public policy, management, architecture, medicine and other fields. The realization of a Student Development Plan will reposition MIT for the next century as the preeminent educational institution - a residential research university devoted to producing citizens who are well prepared to make great contributions to society in the 21st century.

2.2 Recommendation: Student Development Plan

Our primary recommendation is that a new way of educating students for life should be MIT's top priority. In order to achieve this, every part of the MIT experience inside and outside the classroom should enhance its ability to educate students for life in the 21st century. Some programmatic changes - such as more programs like LeaderShape, FLP (Freshman Leadership Program), and MedLinks - will help. However, what is most needed is a radical change in MIT's culture and values so that the development of the whole student becomes the highest priority across all areas of MIT - faculty governance, curriculum , the research labs, residential units, student activities, community activities, student services, alumni services and even pre-enrollment services.

The educational program at MIT must change and expand to meet the needs of educating citizens and world leaders. Education for life in the 21st century includes the ability to lead change, think critically, work in teams, create and quickly adapt to new technology, be a self-managed learner, communicate effectively in a global economy, and understand the needs of the communities in which we work and live. Although some programs and services exist at MIT to educate students for life in the 21st century,

these programs do not reach out to all students, lack a philosophical grounding, adequate resources, coordination of programs to populations served, assessment of effectiveness, and full participation of all members of the MIT community. Most importantly, these programs are not seen as part of the central educational mission of MIT; many are seen as auxiliary, alternative, or optional components of an MIT education.

In order to provide a more coherent education for life, MIT must create a synthesis between the education received inside the classroom with that received through student participation in research and the community. The pedagogy needs to emphasize collaboration instead of primarily competition.

We must better prepare our students to be leaders. Nowhere in MIT's current educational program are students explicitly and intentionally taught how and why to lead change. Society, however, will demand that they are competent at being able to understand what change is necessary, why it is necessary, and how to most effectively lead change. Students should learn how to lead change through the acquisition of an array of leadership and teambuilding skills that are integrated with the extraordinary technical and analytical skills that are now the hallmark of the MIT educational experience. Students should learn why to lead change through a new curriculum of community. This curriculum will bring faculty, students, staff, and alumni together and prepare them to listen as the greater communities (MIT, local, state, national, global) articulate their need for change. MIT students will thus be prepared to respond to those needs with innovative ideas and the leadership required to implement change. MIT must become a model community so that students have the opportunity to learn through doing and have an appreciation for the future and for the unknown.

In order to achieve this, we recommend the creation of a formal, required, and integrated comprehensive Student Development Program that all students must complete to graduate. This program will include the following:

1. A person and place that owns the student development program, someone who will be accountable for the successful execution of the program, and a physical place as a home for the execution of the program;

2. A clearly articulated set of competencies that all students should learn and develop throughout their MIT education inside and outside the classroom, with appropriate metrics in place to assess what students have learned and by when;

3. A developmental model for what competencies each student should develop throughout their entire MIT experience and expected levels of attainment to be achieved at appropriate stages including pre-enrollment activities, orientation, freshmen seminars, classroom education, residential life, academic advising, student activities, other community activities, community service, athletics, other co-curricular activities, stand alone leadership development programs and workshops, on- and off-campus employment, experiential learning, and a new capstone project across disciplines;

4. A comprehensive menu of curricular, co-curricular, and off-campus (such as experiential learning co-ops and community service) offerings which will allow students to learn and develop these competencies and appropriate resources such as people, money, and space to support all offerings.

5. Resources such as money, awards, and recognition on a transcript and diploma to properly reward the "teachers" (faculty, staff, alumni, and students) and "learners" (students) for their participation.

6. Requirements that all members of the MIT community, particularly faculty and staff, actively participate in educating our students for life.

2.3 Justification

We believe that any investment in better educating our students for life in the 21st century is a strategic investment for MIT in the following ways.

2.3.1 Enhancing MIT's competitive advantage

"MIT graduates work for Harvard graduates" - this phrase is no longer acceptable. By properly educating all students for life in the 21st century, MIT graduates will have the leadership, interpersonal, and management skills which will allow them to rise to the highest positions in all organizations. MIT will become more competitive vis-a-vis its competition as its graduates break through the managerial glass ceiling. MIT will also compete successfully with on-line universities because most competencies of a good leader and manager can only be developed at a residential research university.

2.3.2 A strategic internal investment

MIT continues to attract more well-rounded students yet has not done enough to deliver a well-rounded educational product. Alumni complain about not having developed all the skills necessary to be successful. MIT will not only produce more successful graduates but graduates who give back more if it provides them with the proper well-rounded education they desire and need to succeed.

2.3.3 Increasing MIT's contributions to society

MIT is committed to making positive contributions to society. In the past MIT has contributed by instituting policies such as need-blind admissions, active recruitment of women and minorities, activism in national and global policy making, and meeting society's need for technically-proficient graduates. In the future, the technically skilled will be increasingly called upon to be leaders in society. They must be properly educated for life to be prepared to make positive contributions to society.

2.4 Untapped potential

MIT has incredible untapped potential for better educating students for life in the 21st century. An

enormous amount of ad hoc learning takes place outside the classroom. MIT has a tremendous opportunity to leverage the many programs, initiatives, resources, and offices already in place (see below) to achieve the goals of better educating our students for life in the 21st century. However, this is not enough. MIT must radically reorient its educational mission so that properly educating all students for life in the 21st century is the top priority of all areas of the Institute.

The following offices have helped foster leadership in the past and will undoubtedly continue to do so in the future. However, their programs are currently separate and largely uncoordinated. A Student Development Program would bring these exemplary programs together, broadening their reach to include all members of the community.

Academic Resource Center: This new office is creating partnerships with students and student groups (including the Course Evaluation Guide and Feedback Forum) interested in improving curriculum at MIT. Through this effort, students will learn valuable leadership and organizational skills while also improving the curriculum to make their classroom learning more effective.

Athletics: Students learn valuable collaboration, empathy, commitment, teamwork, communication, and other leadership skills through managing and participating in a variety of athletic teams.

Freshmen Leadership Program: This student created and managed program provides over 100 freshmen the opportunity to develop interpersonal skills and learn some strategies for making positive contributions to the MIT community.

LeaderShape: This highly visible program has received national recognition for bringing faculty, staff, and about 60 students together for one week each year to develop leadership skills and create visions that address needs of the MIT and broader community. Some successful programs that have grown out of LeaderShape visions are Alternative Spring Break, the Freshmen Leadership Program, and Project HOPE.

Office of Career Services and Preprofessional Advising: Through staff involvement in the Freshmen Summer Internship Program and Orientation '98, this office is helping students understand the skills they need to develop to have successful careers and how to develop them. This office also plays a crucial role as a liaison between MIT and the outside world through it's opportunity to collect valuable employer feedback and data on the needs of the global workplace.

Office of Minority Education: This office provides a variety of educational programs that reach out to students before they even enroll in MIT and supports them through their entire MIT experience with a holistic set of services. A great model for a developmental education.

Public Service Center: In addition to the many successful programs and services run by the PSC, this office has become a successful incubator of new student initiatives. Through participation with the PSC, students learn valuable entrepreneurial skills as well as an understanding of the need for all citizens to

use their talents and skills to make contributions to our communities.

Support to ILG's and Residential Halls: Student residential government leaders, particularly in ILG's, receive support and education on how to effectively govern and manage their living unit. Some successful educational programs on alcohol, gender differences, race relations, and others currently take place in some living units.

3.0 An Integrated Residential Environment

3.1 Philosophy:

As has been stated many times elsewhere in this report, community is one of the three areas in which MIT is committed to educating its students. MIT's residential campus already plays a powerful educational role in this area. Today's residential community provides students with some understanding of the responsibilities of and opportunities for the individual in society. Tomorrow's residential community may provide students not only with the opportunity to learn those skills by doing them, but also by following the example of older members of the community who will be able to teach by doing.

The educational benefits of the residential system are described in both the introduction and appendix to this committee's interim report, as well as in other documents. Living groups provide residents with sources of academic collaboration and tutoring, intellectual mentors, emotional support, and, of course, close personal friendships with peers. Living groups also provide students with the opportunity to participate directly in the governance of their community. Through this participation students learn leadership, interpersonal communications skills, and what the often-touted Ryer Committee report called "self-mastery."

Maintaining and augmenting MIT's strong and successful residential community is critical to fostering a commitment to educating its students for life. The residential campus stands at the center of MIT's current community; if the Educational Triad is to succeed, we must continue to house students and faculty on campus, and indeed increase our commitment to doing so. Not only should MIT remain committed to maintaining the current undergraduate housing system, but the Institute should recognize that increasing the involvement of graduate students and faculty in the residential system can augment the educational role played by the residential campus.

We believe the educational role of the residence system could be increased by bringing the different parts of MIT closer together within that system. Placing graduate students, undergraduate students, and faculty in closer proximity would increase the likelihood of natural, unprogrammed interaction between the three groups. It is through those interactions that students - especially younger students - are most likely to find role models in their own social, academic, and professional lives. For this reason, this committee has examined how and to what extent the undergraduate, graduate, and faculty residential communities might be integrated.

3.2 The present: Separate needs, separate lives

While today's residential campus plays a large educational role, the current residential community is a divided one, and these divisions have reduced and distorted the system's educational impact. The biggest division often cited is that between fraternities and dormitories, but this prominent division masks the even greater divisions between faculty and students, and between graduate students and undergraduate students. We believe that there are advantages to gradually integrating these three communities in the

residential system while at the same time maintaining housing options attractive to each group.

Faculty, graduate students, and undergraduate students each have unique housing requirements. Many faculty and graduate students have spouses and children. Faculty and most graduate students typically require apartment-style living arrangements, while undergraduates are compatible with dormitory-style arrangements. These requirements are real and should be maintained in new facilities.

At the same time, however, many housing requirements are held in common by all three groups. The convenience of living on or very near campus is certainly desired by many junior faculty and most students. To some extent, all three groups can benefit from common space and common facilities, such as dining halls, convenience stores, laundry machines, desk services, and entertainment. And while apartment and dormitory-style living arrangements probably should not be mixed within the same hall, entry, or "living group," there is no reason to believe they cannot at least coexist in the same building, let alone in the same general area of campus. Graduate tutors and housemasters already take advantage of such coexistence.

3.3 Proposal: Different facilities, integrated spaces

Residential facilities are expensive to build and maintain and, as such, individual and institutional economic considerations must play a central role in determining how students and faculty might be brought closer together on the residential campus. First, in order to continue to attract top-quality faculty and students, facilities will have to be attractive to those who would occupy them. Faculty housing would have to meet requirements for privacy and, of course, peace and quiet. For this reason, faculty housing might remain in the same structure as other housing, but in a functionally separate area of the building.

Faculty and graduate students with children - especially children of school age - will undoubtedly wish to remain in communities outside of Cambridge. This committee expects that on-campus faculty housing will be geared toward junior faculty, single faculty, and senior faculty.

New housing constructed on or near campus should be designed with the expressed goal of increasing the extent to which faculty, undergraduates, and graduate students are able to interact. Graduate, undergraduate, and faculty housing facilities should be located near to one another, and may share dining and other facilities in common. Where possible, the structures themselves should be shared in the sense that some common space be available to all groups.

Finally, the housing system should be able to support a greater variety of residence programming. In addition to housemasters and graduate residence tutors, academic departments and the Dean's Office may designate "community chairs" (see below) to play a leadership role in the residential community. Funds should be available for community-wide event-planning and community-wide activities such as sports, arts events, and other activities - many of which are known only as "student activities" in the current system.

4.0 Leadership and Governance

The men and women themselves who graduate from MIT are by far the most valuable product that we have to give to our country or to the world. They are, in fact, the essential reason for our being, and we shall be judged not only by the quality of their intellectual discipline, but equally by the firmness of their moral fiber, by their attitudes towards the whole of learning, by the manner in which they speak and act, and by their understanding of the obligations of a citizen.

- *Julius A. Stratton*

4.1 The present: Leadership unrecognized

Who runs MIT? A survey of students, faculty, and staff would elicit a variety of answers: the president, the corporation, the deans, the department heads, or the faculty. Each of these individuals and groups holds sway over a slice of institutional governance, and each participates to a greater or lesser extent in the overall governance of MIT.

Where do students fit in? Students today play an enormous role in running the MIT community: they largely run their living groups; they organize and lead student organizations that provide entertainment, network support, and news to MIT; they run arts and theater groups and sponsor events attended by the entire community; they run volunteer and charity programs that interface with our Cambridge and Boston neighbors; students run the primary programs that introduce new MIT students to the community; students participate in and help organize and run athletic activities and events. Although some of these operations are provided with Institute funds and programming support from academic departments and the Dean's Office, most remain essentially independent.

As we have already stressed, students gain valuable skills from participation in the MIT community. By running their own affairs, students learn interpersonal and management skills by direct practice. We have also already discussed how the educational value of community activities could be augmented through greater participation by the faculty. But does the existing community structure foster leadership skills?

Most emphatically it does not - instead, it devalues and discourages leadership.

Although students play a worthy role in the management of their own affairs, individual students are inclined to discount the value of the self-management of their community because that self-management is not recognized or validated by the rest of the Institute, particularly by those who are more or less perceived as "authority figures" on campus. Student leaders receive little or no recognition for their efforts as leaders - faculty members are typically not aware of which students are leaders in the community, and do not encourage participation. This non-involvement may be motivated by a perceived need for student independence and autonomy - a need we acknowledge. Yet non-interaction and non-recognition are counterproductive ways of achieving autonomy - they have led to a deligitimization of

student affairs among students themselves.

Although students already play a large role in governing their own affairs - which are at the center of what MIT is about as a community - the governance of the institute as a whole is kept separate and apart from what students do. This governance takes place at the level of the upper administration, the departments, the Dean's Office, the Institute committees, and the faculty. While students play some role in this governance structure, it is a minimal one, characterized by temporary membership on committees that may meet once or twice a semester. Although the Graduate Student Council and the Undergraduate Association theoretically coordinate student representation on committees, in practice this coordination amounts to little more than drumming up raw recruits for poorly-understood committees. Institute governance structures remain essentially apart from the student body and its leaders.

Existing student leaders are left out of decisions that impact their community - they are kept in the dark when decisions are being made by the MIT-wide governance structure. Not only has this separation of worlds led to conflict and distrust between the seemingly-monolithic administration and the student community, but it has led to a devaluation of leadership on campus. Students discount the ability of student governments to be heard on issues that concern them. Students who have leadership experience find that their ideas are not valued, and that their leadership has no impact on MIT. (Indeed, active participation in so-called "extracurriculars" may only come up when a student is in academic trouble, when an advisor suggests the student remove him- or herself from the activity in question. Participation and leadership are seen as a problem, not as a goal.)

This is not to say student leadership is ineffective - students are effective leaders within many community organizations. Many student organizations are exceedingly well-run, even those on shoestring budgets operated out of their members' dorm rooms. But because these activities are not recognized by the Institute as a whole, and because potential faculty mentors appear to place little value on them, good citizenship and participation are delegitimized and left on the sidelines.

4.2 Recommendations

How can MIT promote leadership instead of devaluing and delegitimizing it? In the outside world, democracy and participation is possible when people believe their ideas are being heard, and that their participation has value. MIT can promote leadership by mimicking these features of democratic communities. Our broad recommendations are as follows:

- Existing community activities and organizations should receive more recognition for the role they play in an MIT education. This recognition can take place through greater faculty involvement in the community, and additional awareness among the faculty and administration of who leads key campus organizations and what they are doing to change MIT. Recognition should take place in the form of increased interaction, not in the form of additional programs or awards. Other recommendations in this report such as the integrated residential community and greater incentives for faculty involvement in the community can help bring about these interactions.

- The governance structure of MIT as a whole should involve community leaders who are students - especially in decisions that have a direct bearing on student life and learning. This involvement has been urged upon the faculty and administration in the past, and will continue to be in the future. As much as student-involvement might seem a pipe-dream to many, as long as student leaders feel they are ignored and blindsided by decision-making processes that concern them, many students will continue to discount the value of participation and leadership, and will continue to regard participation in the community as a distraction from a more narrowly-conceived educational experience.

What would a system of governance that involves students in a meaningful way look like? We believe it would involve the following features.

4.2.1 Universality

The administrative areas that affect student life and learning should be subject to community governance, including academic advising and registration, admissions and orientation, capital planning in areas related to student life, career assistance, co-curricular activities, dining, discipline, housing, medical service, personal support, and teaching quality.

4.2.2 Involvement of student leaders

Any committee governance process should include students, faculty, and Institute staff. Even if a committee already involves student members, efforts should be made to contact leaders of relevant student organizations and student governments for consultation and inclusion. Committee members should be selected by the appropriate student and faculty governance structures.

4.2.3 Clarity and transparency

There should be exactly one process overseeing any one area. Governance processes should make summaries of their deliberations available to the community, and the community should have convenient ways of responding. Pending major decisions should be advertised to the community.

4.2.4 Community design

A committee's decision-making processes should be open to discussion and potential revision by student members.

4.2.5 Student responsibilities and compensation

The duties and expectations of any community governance process should be clearly specified. Student members of the governance processes should be held to the same levels of accountability and responsibility as their staff and faculty colleagues. A student who serves on a governance process should

receive compensation in the form of credit or financial support commensurate with the work involved.

4.3 Inadequacies of the current system

MIT lags behind its peer schools in the number of alumni involved in civic affairs, community leadership, and corporate leadership. Many students say they aren't interested in leadership or civic affairs (with the exception of business and management skills).

This lack of interest on the part of students and faculty has also meant that needed services have not been carried out (for example, the Course Evaluation Guide and HowToGamit), and positions on Institute committees have often gone unfilled.

There have been many instances in which efforts to improve campus life have been conducted by only a few groups, creating public outcry among students:

- Potter Committee (1989)
- INFACS, MIT Information Access Report (1989)
- Safety renovations to Senior House (1990)
- Mandatory meal plans in dorms (1992)
- Calendar Committee (1993)
- Safety renovations at the ILGs (1992-94)
- Strategic Housing Planning Committee (1994-95)
- Administration reorganization that placed all student services under the Dean's Office (1996)
- Design of the new graduate student dormitory (1997)
- Faculty proposal to house all freshmen on campus (1997)
- New alcohol policies (1997-98)
- Decision to place resident advisors in ILGs (1997-98)
- Orientation scheduling recommendations (1998)

4.4 Conclusion

Of all the parts of an education for life, MIT is most deficient in teaching leadership skills. The community area of the Educational Triad is already equipped to train students in this area, but is hobbled by the lack of recognition of student leadership where it exists, and by the separation of student activities and institutional governance as a whole. Increased interaction of faculty with student leaders would go a long way toward validating leadership at MIT. Eliminating exclusive decision-making processes and replacing them with a community governance system that places value on student participation would help remove the stigma associated with being a leader on campus, and would help bring students and faculty together in the community side of the Educational Triad.

5.0 A Faculty for the 21st Century

5.1 Philosophy

As leaders of the MIT community, the faculty play a paramount role in setting the values and direction of the community. If the ideals contained within the Educational Triad are to succeed, it is the MIT faculty who must play the leading role in implementing them and applying them in their own work. We believe that the Educational Triad implies major changes in four areas of faculty responsibility: faculty recruitment, tenure, advising and teaching. In improving these four areas, the faculty should embody the rich diversity of values and background of the community as a whole. The faculty must participate in all three areas of the Triad: community, teaching, and research. Faculty are already involved in the three areas, but their involvement is heavily weighted towards research. The faculty as a whole should play a key role in linking the three areas into a single educational product.

5.2 Recruitment, tenure, funding, and teaching and community chairs

The process of recruiting and granting tenure is the central mechanism for setting the priorities and values of the faculty. Currently, the easiest area in which faculty can distinguish themselves and earn tenure is through research prowess. If the faculty's energies are to be redirected toward the other two areas of the Triad, these processes must be examined. Specifically, these processes can encourage and promote involvement and excellence in community and teaching, whereas they are currently geared towards promoting excellence in only the research side.

Many faculty and junior faculty already excel at teaching in the classroom. However, because high-quality teaching is not generally rewarded in the granting of tenure or funding, it receives less attention and fewer resources. The system thus fails to motivate good teachers to become excellent teachers, and prevents many superior teachers from getting tenure at all.

If the tenure process gives faculty little incentive to improve teaching or recruit better teachers, it does even less to promote faculty involvement in the community as a whole. MIT encourages faculty to sit on Institute committees and participate in departmental governance structures, but these activities are essentially invisible to all but a handful of students. Faculty participate in few activities with students, and only a handful of faculty live in student living groups as faculty residents and housemasters.

What is the ideal model of faculty participation in academics, community, and research, and how can the tenure process help us reach that ideal? The 1949 Committee on the Educatinal Survey report (the Lewis report) set out high standards for the faculty, arguing that MIT should recruit "super faculty" who could do the best research in their field, interact in the community, and be the best teachers. An examination of the pressures facing today's faculty leads us to conclude that finding "super faculty" is beyond the capacity of both the organization and its individuals. Good research, strong teaching, and active participation in the community each demand something approaching a full-time commitment of those who would aspire to them. A half-century after the Lewis report, there are few "super faculty" at MIT.

The Student Advisory Committee therefore rejects the "super faculty" concept proposed by the Lewis report: we should not look for faculty who will commit their resources and energy to all three areas of the Triad, for to do so would risk mediocrity in all three.

Instead, we propose first that the faculty commit itself to excellence in all three areas: some professors must excel in research, some in teaching, and some in community participation. Some may excel in all three, but concentrate on only one area in a given year, while others may not demonstrate excellence in one or two areas. We would hope that those with weaknesses would have both the incentive and the opportunity to improve.

Second, the hiring and tenure process also presents an excellent opportunity to increase diversity in the faculty. A diverse faculty can play an educational role, both by increasing the opportunities for students belonging to underrepresented groups to find positive role models among the faculty, and enriching the entire community. MIT should continue its aggressive recruitment of women and minority candidates for faculty positions. The process of change recommended in this report presents greater opportunities to attract new and different faculty members, and to value their contributions more fully.

What is the appropriate level of faculty commitment to each area of the Educational Triad? Currently resources and energy are overwhelmingly devoted to research, with academic teaching a distant second and community participation barely qualifying for the race. Although the vast majority of funding will continue to flow through MIT laboratories and project groups, some reapportioning is clearly in order. The Student Advisory Committee believes that each department should be responsible for meeting an Institute-wide commitment to teaching and academics. The point should not be to find teachers for all the classes the department would like to offer, or merely to fill all the housemaster slots in the dormitories. Rather, the purpose should be to alter the culture as a whole toward offering a balanced, integrated educational product.

It is not the purpose of this report to endorse or design a specific method for increasing the faculty commitment to teaching and community involvement. We do have some ideas which will elucidate the types of actions we believe would help to reshape departmental commitments, and illustrate the scale of change we feel is needed. One way to reshape departmental commitments would be to allocate a portion of the funds to specific, prestigious teaching positions or "chairs": a professor holding a teaching chair would focus almost exclusively on teaching and advising. Departments would also allocate funds for a certain number of community chairs that would allow a professor to make a full-time commitment to participating and leading community activities, participating in Institute governance structures, and interacting with students outside the classroom. Such positions might be two-year ventures - a professor who took a teaching or community chair would keep his or her tenure (rather than being treated as a second-class faculty member or non-departmental Dean's Office employee), and would return to the research track after the term of the chair-ship had expired. Other chairs might be filled permanently, with all the privileges of tenure. The "chairs" system would create a recognized leadership position in each department responsible for making sure that the commitment to teaching andommunity involvement is being met. This would allow departments to meet existing research commitments while still offering students a balanced, integrated educational product.

Another option is to collect an Institute teaching and community funding pool, serving a similar purpose as research grants, that could fund professors spending a certain number of hours meeting teaching and community involvement requirements. Such a system could be used to support tenure for junior faculty who have demonstrated excellence in teaching and community leadership, or it could support a system of temporary "chairs" described above.

A final option, and one we view as particularly attractive to both students and faculty, is to emphasize faculty involvement in the community during the summer. Although many undergraduates, graduate students, and faculty members remain on campus during the summer, engaging in outside research projects or summer employment, those three months are treated as a kind of vacation from MIT for both groups, in spite of their continued presence. Because the level of stress and pressure is lower, and the recreational opportunities greater, the summer is an excellent time to encourage informal interaction between faculty members and students, planting the seeds for stronger relationships between the two groups throughout the year. The summer is also a good time for planning community activities for upcoming terms, and for evaluating the effectiveness of established activities. Yet faculty members have little incentive to engage with the community during the summer. If more funding for community involvement and community activities involving faculty members were available, we believe the summer could become more than a time for fundraising and escape.

It is not the purpose of this report to endorse or design a specific method for increasing the faculty commitment to teaching and community involvement. If the MIT culture is to change, individual upper administrators, faculty members, and students must make their own way toward altering the commitment. It is clear, however, that a major structural change is necessary to accomplish that end. And that change is necessary: if faculty members do not participate in the integration of the three areas of the Triad, nothing will change at MIT.

5.3 Advising

Building a faculty with greater diversity and commitments to the broader educational mission of the Institute will also enable the faculty to improve and augment its role as a source of advising and mentoring to students. MIT currently provides several tutoring and advising services geared toward minority students through the Office of Minority Education and other MIT offices. While some counseling resources are available to female students, academic advising is severely lacking. We recommend the creation of a women's advising program in each department to address this need. The program will involve designating at least one faculty member or academic administrator to serve as an advisor to female students in the department. This special advisor would not serve as the student's sole advisor but would function as an additional resource to those who desire it.

Ideally, an advisor is more than a source for suggestions about which subjects a student should register for. An advisor should be a source of information about life. How should the student prepare for career opportunities beyond MIT, and outside of the field in question? An advisor should be a source of

professional contacts within MIT, and outside of MIT, or should at least be able to refer an advisee to the appropriate person who can provide these contacts. An advisor should also be in touch with how the student is doing emotionally, intellectually, and financially at MIT, should the student need a resource in these areas.

The current system is hobbled by the norm that advisors be members of the faculty. Many faculty members are simply not knowledgeable enough about the undergraduate curriculum to adequately advise their students. In addition, many professors are either unwilling or unable to devote sufficient time to their roles as advisors. Separating academic advising from the stream of students' lives creates an artificial boundary between academics and the rest of the world, one that should be overcome in any new system. If advising were more closely linked with students lives beyond the department wall, it could serve as a strong tie between the faculty and the larger MIT community.

Clearly, if advising is to expand beyond its current, restricted domain, it must be more professional. For this reason, this committee recommends that departments allocate resources to create a smaller, more dedicated pool of advisors. This new pool of advisors might be composed of faculty, qualified graduate students, and academic administrators, and should be restricted to those with skills in mentoring and networking. Appropriate levels of funding should be available to faculty, graduate students, and staff who are part of the advisory program, and other professional commitments should be relaxed during the period of their involvement. These pools should be integrated with other advisory offices at MIT - such as the Office of Career Services, the Office of Counseling and Support Services, the Office of Minority Education, and the Office Undergraduate Academic Affairs - in order to provide an integrated advising service to undergraduates.

In order for an integrated advising system to succeed, adequate and systematic training should be provided to advisors. This training should be both departmental and general; advisors need preparation for advising about curricular matters, and about career and life issues beyond the realm of academics. Eventually, seasoned or experienced advisors would train and mentor newer advisors, building a self-sustaining advising organization.

Although this report emphasizes undergraduate advising, graduate advising should also be reviewed, with particular attention paid to the extent to which an integrated advising service would be useful for some graduate students as well as undergraduates.

5.4 Teaching and diversity

As an integral part of the academic leg of the Triad, the classroom experience is one of the most important aspects of a student's career at the Institute. There, a student gains knowledge, asks questions, makes presentations, and interacts with the subject matter under the guidance of faculty. Professors vary in their teaching styles, just as students vary in their learning styles. There is evidence that these differences are correlated with differences in gender. When a match occurs, the learning process is facilitated and occurs most efficiently. A student with a different style of learning may feel

uncomfortable under faculty with radically different teaching styles. Faculty should have an increased opportunity to participate in teaching master's workshops where they can experiment with new techniques and learn about how to work with a variety of teaching and learning styles. A more diverse faculty, with more diverse teaching styles, would go a long way toward improving the quality of teaching for all students.

6.0

The Future of the Curriculum

6.1 Introduction

This document outlines the Student Advisory Committee's ideas on some proposed policies to refocus the Institute's curriculum. Not all potentially beneficial policies have been considered here; our nonconsideration of any particular proposal should not be construed as our opinion that nothing need be done. We have concentrated on three particular proposals that were presented in the Discussion Group the Student Advisory Committee held in the fall of 1997, namely:

A Humanities Core

A Minor Program for Doctoral Degrees

Dealing with Pace and Pressure

The committee recommends that the Task Force and the MIT community consider these proposals as decisions on curriculum are made.

6.2 A Humanities Core

A thorough background in general expository writing and oral communication skills is essential to a mastery of communication and will serve our students well in any career. Students should not be allowed to place out of this requirement; rather, advanced activities should be available for students who come to MIT with considerable background in written and oral communication. Once students have mastered the basics of communication, they will be ready to apply this knowledge to communication in their fields; hence, technical subjects should give added emphasis to communication as well.

6.2.1 Communications requirement

The communication requirement can be structured in any number of ways. Possibilities include a stand-alone class, practica attached to current classes, required papers, and increased attention paid to writing in technical classes, as well as other creative possibilities that may be identified later. We think it best to leave the Faculty to decide on the most appropriate implementation. However, we do not recommend that a series of required papers (such as the current preferred method of satisfying Phase I), or relying on technical professors to emphasize writing, will suffice. We believe that a communication requirement should be a positive educational activity in its own right, not a tacked-on hurdle to be overcome before graduation. That is why we recommend that it be treated as part of the Institute's academic core, and that the Faculty should recognize its importance and take responsibility for its implementation.

6.2.2 Ethics

The second branch of the humanities core would teach students ethical values that will be important in their future work. If knowledge is power, then MIT's responsibility as a great institution demands that its graduates use their power of knowledge for good ends. Particularly in an era when technology has given humans unprecedented power to change the face of their world, and when major policy decisions from the environment to the military increasingly require technological sophistication, we believe that MIT must teach students about ethics and their application to real-world decisions.

We feel that students should be encouraged to study and discuss issues in the ethics of science that have arisen in current events and in recent history. Such a program will encourage students to consider the moral and ethical issues of their work, while also providing a grounding in the history of modern scientific and technical advancement. For example, students might study the issues around cloning and genome mapping, weapons of mass destruction, using humans as experimental subjects, global climate change, and whether and how technology improves society's lot, among many others.

The goal of ethics education should be to understand that the pursuit of knowledge is inextricably tied to ethical questions. Students should examine ethical decisions in the past and in current research, and be encouraged to decide for themselves if those decisions were good ones. Students should come away with an expanded awareness of ethics and morality, which should prepare them for scientific and technical work in which those issues will arise. Again, we feel that the Faculty should decide whether ethics education be done as a traditional required class, or in some nontraditional format. However, we recommend that it be considered part of the core education of MIT, for which the entire Faculty has responsibility.

6.2.3 The HASS requirement

We recommend that the current humanities requirement be restructured to ensure that all students receive the introduction they will need to certain humanities fields, while preserving enough flexibility to allow students to explore the humanities. In addition to the core, MIT should retain a HASS distribution requirement to ensure that students are exposed to a cross-section of fields in the humanities. However, subjects used for the distribution requirement should not be disallowed from fulfilling other requirements concurrently with the distribution requirement. The point of the distribution requirement should be to ensure that students take classes in a variety of HASS fields. It should not matter whether these classes simultaneously fulfill other requirements, and prerequisite structures should ensure that students take introductory classes for their distribution subjects.

Finally, MIT should continue to require students to complete additional HASS subjects of their choice, to retain a humanities requirement of at least eight subjects. These two subjects should fulfill the requirement if they are offered in the School of Humanities and Social Sciences, or if they appear on list of classes in other schools that are approved for the humanities requirement.

If our core program is implemented as two required humanities subjects, we recognize that this will no longer allow a humanities concentration to fit in the eight required humanities subjects. We believe that such a sacrifice would be justified and more than compensated for by the benefits of our plan. Alternatively, the plan could be implemented less traditionally; this would allow the humanities concentration program to continue, but care should be taken to alleviate student pressure if a new requirement is added.

6.3 A Minor Program for Doctoral Degrees

We recommend that MIT institute a program of minors for doctoral degrees. Too often, doctoral candidates are discouraged from taking subjects outside their departments. In the interest of allowing graduate students an opportunity to take maximum advantage of their time at MIT, the Institute should explicitly allow and encourage them to take classes outside their department. A minor program is an efficient way to accomplish this goal. We expect that, in addition to giving graduate students a way to broaden their continuing education, the minor program should effect a culture change that would leave the Institute more open to a broader graduate curriculum.

A required minor program would force faculty advisors to allow their graduate students to take classes outside the department. If the minor program were optional, it would be necessary to ensure that students are not prevented from taking advantage of it by the same dynamics that prevent them from accessing a broader educational program now. We feel that the student's minor should be noted on the degree, particularly if the program is optional.

Another possibility for broadening the doctoral curriculum would be an Institute-wide core program for doctoral degrees. Such a program might consist of Institute-wide seminars on topics of general interest, or on widely applicable skills such as communication. Areas in which everyone with an advanced degree from MIT should have a grounding are appropriate for inclusion in an Institute-wide core.

6.4 Dealing with Pace and Pressure

By "pace and pressure," we mean to refer to several different dynamics that make the MIT education inordinately difficult for some or all students. These dynamics can range from personal issues, including ineffective time management, to systemic issues, including degree programs that may simply be too ambitious to complete in four years within the framework of a balanced life.

We believe that a relatively high level of pressure is appropriate and beneficial to MIT as a top-notch educational institution. We are not for abandoning the standards of a rigorous academic program. We believe that MIT can and should offer an academic program every bit as successful as the current one and every bit as intellectually stimulating and demanding while lessening to some degree the requirements' bulk in terms of hours required. We reaffirm the central MIT value of hard work, but we nevertheless believe that the academic curriculum is in need of review under the rubric of realistically attainable educational goals.

We believe that MIT's academic program requires too much time to complete satisfactorily. We believe that a satisfactory completion of an MIT program is defined not only be the fulfillment of each of the formal requirements for the degree, but also by the student's comprehension and retention of the material he or she has been taught. While MIT plainly performs quite well for many students, we do not believe that we perform to our potential in this area, and we attribute this in large part to educational goals that prove unrealistic. This does not mean that students should have an easy time, but it does mean that the average student should be able to succeed, in general, by applying himself or herself. Hard work is necessary, but the struggle should not be so central to the student's life as to detract from other important areas, including other classes, physical and mental health, and a modicum of social development.

We identify the following issue areas as contributors to pace and pressure. It is our opinion that they all contribute to the problem, and that action should be taken to remedy all of them. Some are more problematic than others; we recommend that the most significant problem areas be identified through a careful review, and that appropriate action be taken to remedy any problems that may inhere in the Institute's current culture.

- Some students are not exercising effective time management, making their requirements harder for them to meet. A related problem is that some students unwisely choose to take on too much.

- Some professors contribute needlessly to student pressure by violating their established standards of conduct. The Rules and Regulations of the Faculty exist in part to ensure that students face reasonable demands and can lead reasonably balanced lives. However, some professors choose to disregard them, causing inordinate additional pressure for their students.

- Some classes may try to cover too much, so that the top students manage to do well, but those who have a more limited background in the subject, or who are not among MIT's few most bright, encounter trouble.

MIT may require an excessive number of classes for a four-year degree in some programs; it may be that some programs cover material in sufficient breadth and depth to make more then four years necessary for their satisfactory completion.

- The General Institute Requirements may not accomplish their objectives with a desirable degree of time efficiency, which may be another reason that an excessive number of subjects may be required for the degree in some programs.

Pace and pressure is a multifaceted problem, and multiple policies will be necessary to address it. To address the systemic issues of pace and pressure, a thorough Institute-wide review of departmental programs and the General Institute Requirements will be required, along with departmental reviews of each subject offered, to ensure that the subject contains a realistic amount of information. We do not believe that the problem of pace and pressure will be solved without such a review.

At the same time, there are areas in which immediate action is possible and necessary. We recommend that MIT expand its programs to support students, particularly freshmen, whose time- management skills may be inadequate. We also recommend that the Faculty act to ensure that violations of the Rules and Regulations of the Faculty become significantly less common, perhaps by instituting meaningful penalties for professors with continuing patterns of violation.

Addressing the issues of pace and pressure will enable students to get the most out of their MIT education. Students will be able to retain more of the material they study, and will be able to concentrate on the material, rather than on the gamesmanship of deciding what assignment should be completed less satisfactorily given the impossibility of doing a good job on all. Far from preventing MIT students from learning as much as they can, addressing pace and pressure will ensure that they do.

7.0 A Diverse Community of Scholars

7.1 Philosophy

MIT has a proud history of serving the nation by providing a technically based education to its diverse community. By serving as a meritocracy which treats individuals as responsible adults, MIT has served an important role in higher education. The Institute has succeeded in bringing a diverse set of students to Cambridge and given them instruction. MIT is ostensibly a diverse place, full of women and men from different places, cultures, and socioeconomic backgrounds. People speak various languages and follow many different religions. Yet at MIT people tend to cluster among those like them. As a result the diversity at MIT is in many ways an untapped resource.

Diversity is an imposrtant piece of the Educational Triad: through contact with different people, students gain an understanding of themselves and their role in each educational area. MIT recognizes the importance of academia and research at the Institute and is successful in these arenas because it places definite emphasis on them in the way the Institute is run.

Accordingly, MIT needs to be upfront in tackling the reality of a diverse yet splintered community. There is much to be gained from learning in diverse surroundings. In this globally networked world, everyone is engaged in the enterprise of learning how to function in a diverse society. Undoubtedly, the working world has become international and being able to function in it requires knowledge of and tolerance for diversity. While this can be taught in the classroom, the highest potential comes from working and speaking with a diverse set of people. Exposure to and interaction with different people helps us learn tolerance, see common values, and even appreciate disparities.

7.2 Recommendations

In order for MIT's community to reap the benefits of its diverse nature, there must be a concerted effort to increase social and intellectual interactions beyond the familiar groupings and relationships which confirm and reinforce our previous life experiences.

There is no perfect solution. It must be communicated to the MIT community that diversity is something that should be valued and experienced at MIT. Various programs and policies, outlined below, will move MIT in the right direction:

- Greater involvement of the faculty in reading admissions folders. This means that the faculty have a greater investment in the future students. Increasing the level of information that faculty have about the student body should serve to help the two groups interact.

- MIT must make clear that its admissions policy is (or should be) based on demonstrated excellence, strong potential, and the need to seek an increasing array of talents and diverse interests which support the development of the whole person. Fallicies need to be debunked, and a key time to do this is during

orientation.

- Development of a more deliberate strategy for monitoring and changing the demographics of undergraduates, graduate students, and faculty.

- Call for extensive studies to investigate the effects of the changing student body demographic and the performance of groups whose size has increased at MIT (i.e. women, minorities, non-science and engineering majors). The results of these studies would provide important information which can be used for evaluation of past processes as well as being the basis for future planning.

- Increased accessibility to alumni/ae, especially those from groups who have few role-models at MIT.

8.0 A Reputation that Pushes the Envelope

8.1 Philosophy

As MIT enters the 21st Century, its reputation will continue to define which students and faculty inhabit the Institute. Just as the world has seen dramatic change over the last 50 years, the probable career paths of MIT graduates have been significantly altered. In earlier epochs, the pursuits of science and technology were largely restricted to industrial and academic settings. In our time, the effects of scientific and technological activities are pervasive and profound, affecting all areas of human activity. The still-incomplete activity of our age is to integrate technical and scientific systems with natural and social ones to satisfy human needs and to increase human potential. Therefore, our graduates should be educated so as to fulfill their social responsibilities and capabilities. This requires an education which prepares them to handle dynamic, complex, integrated problems in all their dimensions. Only an integrated approach, learned through an integrated education, will allow our graduates to function effectively in the coming century.

Embracing the Educational Triad at an Institute-wide level provides a more flexible base for the Institute's reputation. Further, this educational schema will constitute MIT's competitive advantage over other educational institutions in the future. Historically, MIT has designed its educational processes so as to build its reputation almost completely around the research enterprise. MIT has succeeded in producing the highest quality researchers and engineers, yet many of its students lack the necessary skills to be good managers and leaders. This technical focus has created a damaging stereotype of students, and has led many to career trajectories that don't reflect their true potential.

While the accomplishments of MIT's graduates and faculty have been impressive, the potential for greater societal impact and leadership is large. MIT should develop its reputation based on its Educational Triad, increasing the reach of MIT's graduates while maintaining the Institute's classical grounding in the sciences and their application.

8.2 Recommendations

- Build MIT's reputation around its educational processes in addition to the reputation built by our research enterprise.

- Leverage the success of alumni/ae toward an active public-relations campaign to expand the image of MIT's capabilities, similar to the Bankboston study of MIT alumni/ae.

- Market a public-relations effort which is reflective of the broader educational mission of the Institute.

- Conduct surveys of first-year students (undergraduate and graduate) to identify their reasons for attending MIT. Survey longer-term students to identify MIT's areas of excellence and alumni/ae to evaluate the MIT experience and describe MIT's public image.

- Feed this information directly into the public relations plan in order to make sure the plan reflects reality.

- Implement an educational-assessment mechanism in order to justify claims of educational improvements and to benchmark progress.

8.3 Justification

More than any other measure, students and faculty rely on reputation as the decision making metric for attending a university. Large numbers of the best students are deciding to not even apply to MIT (much less attend) based on their negative view that an MIT education will limit their career options. This is evidenced by the fact that of the students who scored higher than 750 on the 1997 SAT Math and Verbal sections, respectively, 14.3 percent (2320 of 16244) and 7.5 percent (1138 of 15174) applied to MIT. This view that an MIT education will limit a career is inaccurate, and we believe that it will be decreasingly accurate in the future.

Increasingly, incoming students are becoming more interested in the type of education that they will be receiving and how effectively it will prepare them for life. Therefore, continuing to offer an education that does not embrace the Educational Triad can be utterly destructive to MIT's reputation and consequently its future success. The belief that MIT's reputation will always derive mainly from its research enterprise is the largest inhibitor to change in its educational processes.

8.4 Mechanisms

In order to influence public perceptions of the Institute, one must identify which organizations shape MIT's public-relations position. We have identified five key sources of public-relations information, described as follows:

President: The president has the opportunity and the obligation to tell the nation and the world about the diversity of our student body and how it affects our educational product. Historically, referring to the great scientific progress at the Institute has been sufficient to build reputation, but MIT's educational program and ideals are worthy of public note. By being a public spokesperson for the policy of putting education first, the president can take a leadership role in the educational process at MIT as well.

News Office: The News Office now has the opportunity to push forward new types of stories about MIT. Some of this occurs already, but there are many opportunities to tout the accomplishments of MIT people beyond those achieved in the laboratory.

Admissions: This office has tried to provide an up-to-date view of the Institute. Admissions should continue to improve the currency of its Viewbook and should improve efforts to entice members of the MIT community to become involved in the recruiting process.

Career Services: This office has access to some statistics about alumni employment patterns, information that should be publicized at least within the MIT community. Information about changing career demographics can help the community understand where society is putting MIT graduates to use, and where students are finding opportunities for leadership.

Alumni Association: This entity contains much of the information about the accomplishments and status of MIT graduates. The Association has the opportunity to push forward the same kind of information about career paths as Career Services. However, an additional public-relations responsibility lies with the Alumni Association: it is incumbent upon them that they educate the MIT community about the character of the alumni/ae population. This is best accomplished by bringing the alumni/ae back to campus and getting them involved with the community when they are here.

9.0 Concluding Remarks

A year ago, when the Student Advisory Committee released its interim report, we coined the phrase "Educational Triad" to describe our vision for a new, model MIT. In our conception, research, academics, and community - the three educational areas - are integrated to create a new, better, and unique educational product. At present, the three educational areas are treated as separate countries, to be kept apart whenever possible. Faculty and undergraduate students interact at the academic level; faculty and graduate students interact at the research level. The community region does not intersect the other two areas; the very real education students receive through involvement in the MIT community is kept apart from the rest of the MIT universe.

How can we continue to compete as a major educational and research institution? If we continue to treat research, academics, and community as separate worlds, and if we continue to keep faculty and students apart except for during brief, stilted classroom or advising encounters, the product we offer will be outpaced by large research institutions, online teaching, and other up-and-coming educational institutions.

This report has outlined a philosophy of how MIT can create a better educational product that will not only make us proud of our achievement, but also stand as a model for other universities around the world. What is MIT's role in the world? It is greater than developing and demonstrating professional excellence in science, technology, and engineering: MIT must produce leaders to satisfy the growing demand for technically proficient, analytically rigorous, and socially adept men and women who can guide the world through the next century.

10.0 Appendix

10.2 Acknowledgments

The Student Advisory Committee gratefully acknowledges the following groups and individuals, whose works were drawn upon for section 2 of this report.

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