TASK FORCE on student life and learning

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MIT

The Massachusetts Institute of Technology is devoted to the advancement of knowledge and education of students in areas that contribute to or prosper in an environment of science and technology. Its mission is to contribute to society through excellence in education, research, and public service, drawing on core strengths in science, engineering, architecture, humanities and social sciences, and management. This mission is accomplished by an educational program combining rigorous academic study and the excitement of research with the support and intellectual stimulation of a diverse campus community.

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1 MISSION & PRINCIPLES

1.1 INTRODUCTION

In July of 1996, President Charles M. Vest appointed the Presidential Task Force on Student Life and Learning to undertake a comprehensive review of the Institute's educational mission and its implementation. The last review of this scope was carried out by the 1949 Committee on Educational Survey, known as the Lewis Commission, which examined MIT's education in light of the changes taking place in the aftermath of World War II.

Fifty years later, MIT has reached another historic crossroads: science, technology, and human organization are all undergoing rapid and dramatic changes. The present technical and political forces parallel those at key points in MIT's history. The information revolution, even in its infancy, has changed industry, economics, and society on a similar scale as the industrial revolution, which precipitated MIT's founding. Information technology introduces new methods for teaching and reduces the barrier of distance, challenging residence-based education. Investment in science and technology has shifted from a national defense basis to one encompassing economic viability, environmental concerns, and health care. Finally, students who come to MIT will participate in an increasingly global economy, whatever their career choices, and more leadership will be expected of them. The Task Force was charged with determining how an MIT education should reflect these changes.

In addition to technical and societal factors, the Task Force has considered the complex nature of problems facing society today, concluding that technical and scientific problem-solving must be linked with a broad, sophisticated understanding of these complexities. For our graduates to

serve the needs of today's society, they must have an education that prepares them to handle such problems with flexibility and confidence.

MIT must also consider the changing demographic factors that impact student life and learning. The MIT community of students, faculty, and staff will continue to diversify as it has for the past several decades. The career trajectories of our alumni are also changing. Due to longer working lifetimes and the rapid pace of technical and social change, we must prepare our students to be successful in multiple career roles.

Finally, economic forces also motivate MIT to evaluate its educational mission, markets, and processes. The real costs of higher education will continue to rise, outpacing tuition and government sponsorship. Historically, the educational and research missions of the Institute have been of sufficient national priority that the federal government made significant investments in MIT; the endowment filled the gap between outlays and revenue from tuition and sponsored research. Today, budget pressures and shifting national priorities have decreased the commitment of the federal government to higher education in general, and to MIT in particular. Hence MIT must look strategically at its educational mission. An MIT education must be valuable enough to warrant the investment of our future students, sponsors, and donors.

1.2 TASK FORCE CHARGE

In light of these historical and current forces for change, the Task Force on Student Life and Learning was charged with the following four goals:

- Review and articulate MIT's educational mission
- Evaluate the interaction between student life and learning at MIT in the context of that mission
- Evaluate MIT's current educational processes and identify changes that would enhance the educational mission
- Identify resources that would be required to support the educational mission including proposed changes

This report is organized along the lines of these four goals. In the first section, the Task Force presents its formulation of MIT's educational mission, along with the eleven principles that define MIT as an institution. The subsequent sections contain the Task Force's findings and recommendations concerning the interaction between student life and learning and the design of MIT's educational processes.

1.3 TASK FORCE PROCESS

Following its creation in July, 1996, the Task Force began its review by gathering input on strategic issues related to student life and learning. The Task Force's members examined a multitude of historical and current reports, analyzed numerical data, and conducted surveys of students, faculty, and alumni. The Task Force organized a special event for junior faculty, and held internal meetings with a variety of MIT administrators, sponsors, and faculty committees. Members participated in the 1997 retreat hosted by the Committee on the Undergraduate Program, and met with department and school heads and other undergraduate officers while there. Members also met and corresponded with hundreds of other groups and individuals inside and outside of MIT. Sources of input included faculty, students, student organizations, staff members, Institute committees, alumni, and external individuals and organizations.

The Student Advisory Committee to the Task Force, composed of roughly two dozen graduate and undergraduate members, met regularly during the two years when the Task Force was active, providing it with substantial input and feedback. The Student Advisory Committee published a preliminary report in the summer of 1997 and a final report, entitled "Putting Education First," in the spring of 1998, both of which articulated how the concept of an educational triad composed of academics, research, and community could be implemented at MIT. The Task Force has endorsed the educational triad concept, and it is included here as one of the eleven principles of MIT.

The input received by the Task Force has been enormously valuable, and it has shaped every part of this report. Like the Lewis Commission before it, the Task Force has found the task of examining MIT's educational processes as a whole to be both daunting and enlightening. It is our hope that this kind of examination will become a more regular activity at MIT, and that those who have met with the Task Force to discuss strategic issues will continue to be engaged by members of the faculty and administration who implement the Task Force's recommendations.

1.4 MIT'S EDUCATIONAL MISSION

The first item in the Task Force's charge was to develop a statement of MIT's educational mission. The Task Force has reviewed the mission statements of the Institute's various departments and units, as well as the Policies and Procedures of the Institute, and has identified the principles that define it as an institution devoted to education and research. The following is the Task Force's formulation of MIT's educational mission:

> *The Massachusetts Institute of Technology is devoted to the advancement of knowledge and education of students in areas that contribute to or prosper in an environment of science and technology. Its mission is to contribute to society through excellence in education, research, and public service, drawing on core strengths in science, engineering, architecture, humanities and social sciences, and management. This mission is accomplished by an educational program combining rigorous academic study and the excitement of research with the support and intellectual stimulation of a diverse campus community.*

1.5 THE ELEVEN PRINCIPLES

A mission statement can only go so far in defining an organization as complex as a modern university. MIT stands out, but what makes it unique among its peer institutions? Part of what has made MIT an effective and coherent educational institution is a common ethos and set of educational principles. But MIT has been a dynamic institution as well, and its ethos and practices have grown and changed to meet the needs of society. The Task Force has identified a set of eleven principles that define MIT. Four of these principles derive from the vision of MIT's founder, William Barton Rogers. A second group of four principles was articulated by the Lewis Commission in 1949. The Task Force has contributed a third set of three principles. We believe that these eleven principles will help carry MIT's mission into the next century.

1.6 THE FOUNDING PRINCIPLES

Principle 1:
The educational value of useful knowledge

The central principle of MIT's founding was the educational value of what William Barton Rogers called "useful knowledge." In a clear dissent from the common view of higher education of his day, Rogers believed that in an industrial society science and technology were legitimate foundations of higher knowledge, and that students would benefit from the motivation of striving toward a useful goal.[1] Today, the value of education based on useful knowledge is accepted worldwide.

Principle 2:
Societal responsibility

When Rogers founded MIT in 1861, one of his key principles was that "a place must be made for the young man [or woman] who wishes to apply the fruits of scientific discovery to the satisfaction of human wants."[2] Employing "useful knowledge" to harness the power of technology was at the heart of MIT's important contribution to society in the latter half of the 19th century. Today, the goal of discovering and applying knowledge for the benefit of society remains at the center of MIT's mission.

Principle 3:
Learning-by-doing

The principle of learning-by-doing was a third founding principle of MIT. Rogers believed that students should appreciate concrete conclusions drawn from factual data. He emphasized active learning through which students must seek out new information, thereby converting personal experience into knowledge.[3] Since its founding, MIT has been a leader in the educational use of laboratories, shops and computational resources, as well as the inclusion of undergraduates in research activities. Today, MIT remains committed to the principle of learning-by-doing.

Principle 4:
Combining a liberal education with a professional education

From its founding MIT has sought to provide a balanced education which combines professional education at the undergraduate level with components of a liberal education. Rogers believed that the development of technical proficiency was not enough, and that higher education ought to enable a person to participate effectively in "the humane culture of the community."[4] An integral educational program that balances quantitatively or analytically based professional education with liberal education continues to be a principle of undergraduate education at MIT.

1.7 THE LEWIS PRINCIPLES

Principle 5:
Education as preparation for life

Education is more than intellectual development: as the Lewis Commission noted, "education is preparation for life."[5] To provide students with an education that better prepared engineers to function as professionals, the Lewis Commission recommended that MIT broaden the curriculum and the create a School of Humanities and Social Science. The Lewis Commission recognized that the total environment in which a student's education takes place is important, and it remains so today.

Principle 6:
The value of fundamentals

The Lewis Commission emphasized that a technical or professional education should be based on the fundamental principles in each field, quoting Rogers, who wrote, "The most truly practical education, even in an industrial point of view, is one founded on a thorough knowledge of scientific laws and principles."[6] MIT has consistently strived to keep its educational programs focused on the fundamental principles which underlie the specific field of study. Keeping the curriculum focused and constrained has been a constant challenge. The continuing expansion of knowledge creates pressure to expand the curriculum. The information revolution exacerbates the need to focus on fundamentals. Because information will be cheap in the future, our students will need a fundamental basis to evaluate information and apply knowledge.

Principle 7:
Excellence and limited objectives

The Lewis Commission articulated the principle of excellence and limited objectives to help guide the expansion of MIT that followed World War II. The principle was stated in three parts: "First, in accordance with Rogers' belief in the dignity of useful knowledge, the educational program has been designed at all times to fit men [and women] for direct contribution to the needs of the society of their day. Second, effort has been limited to fields that could contribute to or profit from an environment in which the predominant concern is with science and technology. Third, major activity has been confined at all times to those fields in which there appeared to be opportunity for the Institute to use its resources effectively." [7]

Principle 8:
Unity of the Faculty

One attribute that distinguishes MIT is a single Institute-wide Faculty. This unity of the Faculty is based on mutual professional respect and a shared educational responsibility. As the Lewis Commission stated, "there is a common Faculty responsibility for educational policy and operations in all phases of educational work at the Institute."[8] The Commission affirmed that the entire MIT Faculty was responsible for the education of undergraduate students. The reasons for this are twofold: first to ensure that the undergraduate program is balanced, and, second, to ensure that the undergraduate program keeps pace with intellectual frontiers represented by the research activities of the entire Faculty.

Principle 9:
An integrated educational triad of academics, research, and community

1.8
TASK FORCE PRINCIPLES

An MIT education should prepare students for life through an educational triad composed of academics, research, and community. Academics establish a place for rigorous study of the fundamentals of science, engineering, social science, and the humanities, as well as a format for developing problem-solving skills, familiarity with quantitative and qualitative analysis, historical and literary insight, and an understanding of the scientific method. Participation in research develops both the foundation for professional competence and the opportunity for learning-by-doing. Through interaction with faculty and students within the community, students become familiar with the responsibilities of citizenship, hone communication and leadership skills, and gain self-mastery. Although each component of the triad is a distinct area of a student's education, the contribution of each reinforces and adds to that of the others. To provide a uniquely excellent education, MIT must bring students and faculty together to learn from one another through academics, research, and community

Principle 10:
Intensity, curiosity, and excitement

One of the fundamental principles of an MIT education is the intensity, curiosity, and excitement which, in part, define the ethos of the Institute and propagate into all of its educational activities. Intensity, curiosity, and excitement are an important part of the MIT experience, and more than anything else they represent a shared rite of passage for its students and faculty. Although some aspects of the curriculum's pace and pressure should be examined and revised to ensure that student time is allocated wisely, MIT recognizes that the overall level of intensity, curiosity, and excitement represents a defining value of the Institute, and of an MIT education.

Principle 11:
The Importance of Diversity

The Task Force believes that diversity of the students, faculty and staff of the Institute is critical to the educational mission. MIT has always been and should remain a meritocracy where intellectual achievement and capability are paramount. Within this context, diversity of the community will serve to enhance the educational experience through interaction and exposure of people with different experiences, beliefs and perspectives. This will become an increasingly important aspect of the educational experience as society and industry become more diverse and international. In striving to encourage diversity within its community, MIT must also strive to maintain an environment in which such diversity is appreciated and every student has a sense of place.

1.9 CONCLUSION

These eleven educational principles define MIT as an institution, and the mission statement developed here charts a general course for the future. In the following chapters of this report, the Task Force responds to its charge to evaluate MIT's educational processes and recommend changes to them.

2 STUDENT LIFE & LEARNING

2.1 THE ATTRIBUTES OF AN EDUCATED INDIVIDUAL

The central item in the Task Force's charge was to evaluate MIT's educational processes. In general, the purpose of higher education is to produce educated graduates, but what attributes will distinguish the educated individual in the 21st century? In consultation with students, faculty, and staff, the Task Force has examined this issue, and has found that the attributes of an educated individual fall into three broad categories: reason, knowledge, and wisdom. The following paragraphs capture these qualities and articulate the Task Force's vision for the ultimate goal of MIT's educational processes.

An educated individual possesses well-developed faculties of critical and rational reasoning. She understands the scientific method and other methods of inquiry and hence is able to obtain, evaluate, and utilize information to pose and solve complex problems in life and work. To this end, she has a strong grasp of quantitative reasoning, and has the ability to manage complexity and ambiguity.

An educated individual has a sound foundation of knowledge within a chosen field and has achieved some depth and experience of practice in it. At the same time, he is able to relate this knowledge to larger problems in society, and he has an appreciation for the interaction between science, technology, and society. An educated person is intellectually curious and motivated toward continuous learning.

An educated individual possesses the qualities associated with the best in the human spirit: a well-developed sense of judgment, an aesthetic sensibility, and the flexibility and self-confidence to adapt to major change. She has a

knowledge of history and an understanding of the spectrum of human culture and value systems, and she combines this knowledge with her strong sense of judgment to think critically about moral and ethical issues. Her ability to communicate clearly and effectively enables her to work well with others and to employ all of the above attributes in making a positive and substantial contribution to society.

Many of the attributes of an educated individual are timeless, while others must be adapted to the social and technical environment of the current times. The paragraphs above also reflect the value MIT places on quantitative rigor and education based on useful knowledge. How can we help students develop the qualities of the educated individual? The principles that have guided MIT in the past, combined with the three new principles outlined by the Task Force, must light the way.

2.2 THE CENTRAL FINDING

Given the challenge of helping students develop the qualities of the educated individual, it is appropriate that the Task Force was asked to examine the interaction between student life and learning. *The Task Force's central finding is that the interaction among these elements of the student's experience is fundamental.* The combination of structured learning and unstructured or informal education is critical because it enables us to educate the whole student. It is this very combination that results in MIT's reputation for providing a world-class education, as opposed to a merely skill-based or knowledge-based education.

The central and distinguishing feature of an MIT education is that it incorporates the three elements of its educational triad—research, academics, and community—into an education that is greater than the sum of its parts. The concept of the educational triad was first brought to the Task Force by students, which demonstrates the widespread recognition that the higher education of the future must go beyond classroom learning. As the Task Force's Student Advisory Committee writes, "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."[9]

Although the combination of formal learning and informal learning already takes place at MIT, the relationship between them is sometimes undervalued in the way we think about education. The two are often treated as separate, perhaps because they tend to take place in different physical spaces and times, and they often involve different groups of people. Yet MIT remains a campus-based university, and the value of maintaining it as such lies primarily in the degree to which its students *learn from one another.* Collaboration among students and interaction with faculty, whether

they take place in formal or informal settings, are the distinguishing qualities of the academics, research, and community activities that take place at a campus-based university.

In the future, information will pervade society. As the costs of providing a residence-based environment increase, and as distance-learning technologies become more effective, the importance of integrating the formal with the informal will loom larger, and MIT must be prepared for this change. The challenge is to use existing strengths in research, academics, and community to better accomplish the integration that is essential to the future.

2.3 CONCLUSION

The Task Force's substantive findings and recommendations are presented in the following three chapters on academics and research, community, and strategy and structure. It has been necessary to present the material relating to the three elements of the triad in two separate chapters for the sake of readability. However, in the spirit of integrating the learning that takes place in all parts of the triad, the Task Force emphasizes that the following findings are all intricately interdependent. The ultimate goal is to bring students, faculty, and staff together in pursuit of the common educational enterprise, and doing so entails recognizing the relationship between what happens within the classroom or laboratory and the informal learning that takes place outside.

3 ACADEMICS & RESEARCH

3.1 VISION

The Task Force believes that MIT's educational principles can and must be adapted to meet the new needs of its graduates. An education grounded in the fundamentals of science and engineering remains the best preparation for further professional study and development. Combining a liberal education with technical education, and providing education through research, academic study, and participation in the community, will continue to create new avenues for the intellectual development of students while maintaining MIT's excellence in its core fields.

3.2 FINDINGS: CHANGING NEEDS

1. Changing career trajectories

Perhaps the most compelling argument for change at MIT stems from the dramatically different roles its alumni play in society as compared with the role of graduates in decades past. In the past MIT has sought to deliver a professional education through the undergraduate curriculum. Today, however, most undergraduates do not treat a Bachelor of Science as terminal degree; more than 60 percent go on to seek further degrees.[10]

At the same time, career paths for our graduates are more varied than ever before. Engineering is becoming an integrative and global profession, requiring skills in management and economics, as well as understanding of other cultures. In fields beyond pure science and engineering, MIT's graduates are increasingly in demand for their analytical skills and problem-solving abilities. This demand has attracted many more Ph.D. recipients to careers in business, law, or public policy than in the past. Even bachelor's

degree recipients have also been in increasing demand for non-traditional jobs by an economy that puts a premium on problem-solving ability, good judgment, and leadership.

It goes without saying that the increasing demand for MIT's graduates has been a blessing, but it also raises new questions. Should MIT still attempt to provide a professional education for undergraduates in four years? How should undergraduate and graduate curricula be altered to provide the broader skills demanded by students and society? Are faculty adequately prepared to advise students who may well end up in professions far afield from their academic experience? Some of these questions are addressed in this report, whereas others will require more detailed examination by others.

2. Changing demands for skills

MIT has a well-established and rightly-earned reputation for teaching problem-solving and analytical skills. Like most engineering-based educational institutions, MIT has been criticized for not providing adequate preparation in skills like teamwork, communication, and leadership. Many alumni report that we have failed to help them develop the skills necessary to apply their intellect effectively.[11] While the informal development of curricula to improve writing, communication, and team skills has worked for many students, much remains to be done. As MIT's bachelor's and advanced degree recipients play new and more diverse roles in society, their need for communication and team skills will only increase. Individual departments have begun to recognize this need, and some have offered more subjects that include team-based problem solving and elements that emphasize the ability to communicate effectively.

3. Pressures to expand the undergraduate curriculum

An educational program designed to develop the qualities of an educated individual cannot, within the limited time of four years, endow them with fully realized professional competence. An MIT education must not attempt to impart knowledge of as many facts of professional practice as possible, but rather impart fundamental knowledge that supports a life-long self-education. The motto "Less is More," coined by the architect Mies van der Rohe, can be a guide to the design of undergraduate curriculum. A limited number of fundamental concepts and professional topics well learned and understood serve the future professional better than a multitude of facts briefly covered.

Although MIT is dedicated to the principles of excellence and limited objectives and a curriculum rooted in the fundamentals, internal and external forces create pressure for expansion of MIT's curriculum. Undergraduate programs at other major universities have gradually

expanded their requirements and offerings in mathematics, science and engineering—traditional MIT strengths—leading to increased competition for the best students in these areas. Many MIT faculty members wish to include a wider variety of subject material in their classes and departmental programs to keep pace with professional developments in their fields. Both of these pressures are healthy ones; there is no question that MIT must continually reevaluate its core offerings in the context of students' professional needs.

At the same time, however, it is more difficult to prune topics or requirements than to introduce new material. As departments and subjects introduce new topics without necessary adjustments, pace and pressure increases and the overall structure of the curriculum is damaged. Unchecked curricular expansion is at odds with MIT's commitment to excellence and limited objectives, and to teaching the fundamentals of science and engineering. To deliver the best education, MIT must remain focused on the fundamentals, adjusting topics and preventing increases in courseload. MIT must continually assess and revise its whole curriculum, rather than adding requirements piecemeal.

4. The General Institute Requirements

MIT's undergraduate curriculum begins with the General Institute Requirements, or GIRs. The GIRs serve several purposes: they provide a background in the fundamentals of science and the humanities; they represent a shared cultural experience that helps define the MIT community, and they provide exposure to a variety of problem-solving methods. A major strength of the current GIR system is its balance between subjects in the humanities, arts, and social sciences, and subjects in mathematics and the physical and life sciences. The balance between these broad groups embodies MIT's commitment to combining a professional education with a liberal education. The balance of formal requirements serves MIT students well, although there is room for improvement in terms of the degree of intellectual commitment students make to non-technical subjects.

At the same time, however, the actual content and structure of the GIRs are not timeless: changes in the way scientists and engineers understand the world demand that the GIRs be continually reviewed and updated. In general, reviews of the GIRs—whether of the HASS or science curricula—should ask how well the current subjects contribute to the development of the educated individual. When MIT added the requirement for one subject in biology, it recognized the increasing relevance of the biology in society, and the new demand for graduates who have knowledge of this growing field.

Another societal change that the GIRs have hardly begun to account for is the increasing use of computers in science, engineering, and society. Today's students arrive on campus with far greater proficiency in computers than in the past, and most find ways to update and perfect their practical computer skills through the departmental programs. Computers are now indispensable to answering questions in science and engineering, and the science GIRs should respond to these developments to maintain their strength.

5. Educational technology

What is the appropriate role for new technology in teaching at MIT? There are many unrealized opportunities for enhancing presentations of new concepts via images, graphs, delayed viewing of lectures and lecture demonstrations, and via participation of students from other universities in joint projects, all of which modern technology can provide. Foreign-language subjects and some of the humanities subjects have taken advantage of the versatility of new computational tools. The future will bring library resources, course materials, and instructional tools online, and MIT must be prepared to take advantage of these capabilities. Even further, computers can help people come to terms with difficult, abstract visual problems.

At the same time, however, we must not devalue human interaction. Other universities have the capacity both to compete and cooperate with MIT in offering learning based on educational technology such as distance-learning. MIT's contribution will be the way it brings together the best people with the best technology to produce excellence in education. We must focus on this goal, rather than on the technologies themselves.

6. Teaching innovation

The MIT Faculty is deeply committed to excellence in teaching. With respect to teaching, the research university has both great advantages and disadvantages. Through research, faculty members gain insight into the questions at the frontiers of their fields, enabling them to build this excitement and focus into their teaching and coursework. At the same time, however, information about educational experiments and teaching innovation is not adequately disseminated Institute-wide. In our discussions about educational innovation with faculty throughout the Institute, we found that many exciting experiments were taking place, including a number of subjects that emphasized team-based learning and interdepartmental teaching. However, very few of these are being assessed, recorded, and communicated to other faculty. There is a need to create and support an environment of sharing and analysis of educational innovation.

7. The first year

One problem with the current undergraduate curriculum is the perceived lack of enthusiasm and excitement in the first-year program. Many students who come to MIT with exciting goals and ambitions rapidly become disillusioned about the education they receive here. There are undoubtedly multiple explanations for first-year cynicism. For some, MIT represents the first exposure to hard work. For others, the steady flow of problem sets presents a stark contrast to their expectations of working on interesting projects and to the dreams they came to MIT to fulfill. The large lecture format of many subjects, combined with the small amount of interaction between freshmen and faculty, means that many students have few opportunities to overcome the initial perception that MIT is about drudgery and requirements rather than the thrill of discovery and progress. Finally, many have complained that some of the material in the freshman core is presented in a dry and uninteresting way. Increasing the level of excitement in the first-year program should be a priority in the design of the undergraduate program.

8. Research

Exposing more students to research and laboratory experience at an earlier stage represents one way to increase the level of interest in the first-year program. Research is central to what MIT is about, but many students do not have real research experiences until late in their undergraduate studies, if then. Indeed, incoming students have had less hands-on laboratory experience in high school than students of a generation ago; they may be more comfortable with computers and calculus than with measurement error or the experimental method. Exposure to research is one way to overcome these deficiencies while adding to the student's overall experience.

There is substantial reason to conclude that bringing research into the curriculum at an earlier stage would improve undergraduate education. Earlier this report discussed the principle of the educational triad of academics, research, and community. In the future, emphasis on the interaction between learning that takes place in these three areas will differentiate MIT's educational product from learning available elsewhere. Studies have shown that students who have had intense interpersonal relationships organized around solving research and academic problems are the most successful.[12] Since its founding MIT has provided its students with hands-on laboratory experience, and more recently the Undergraduate Research Opportunities Program (UROP) has provided students with rewarding real-life research experience. Design experiences have also played an important role in undergraduate subjects and in undergraduate life: 2.70 (now called 2.007), 6.270, hacks, and the Tech Model Railroad Club are all legendary for bringing students together to solve design problems and have

fun at the same time. Today's challenge is to make research and design experiences an integral part of the undergraduate experience at the earliest possible stage.

9. Management education

More than ever before, students with scientific and engineering training eventually seek positions of managerial and operational authority. The preparation MIT students receive for these roles has not kept pace with the demand. Those in managerial positions require more than technical training in management subjects: skills in communication, problem-solving, and intellectual curiosity are all important. Recently, students have also expressed the desire to obtain backgrounds in the fundamentals of management. In discussions with faculty and students, we learned of the difficulty that students have in enrolling in management subjects, because of the disparity between demand and teaching resources. The Task Force believes that the interest in management subjects has not peaked. Bringing management education into the undergraduate curriculum in a more substantial way is consistent with the principle of the unity of the Faculty. All schools must contribute to the undergraduate program if this principle is to be upheld. In this case, the needs of our students demand it.

3.4 FINDINGS: INFORMAL SETTINGS

10. Informal learning

In many ways, informal learning plays a bigger role in defining an MIT education than the formal curriculum does; hence it is of utmost importance that MIT have an appropriate impact on this type of learning. Informal learning acts as a link between the three areas of the triad. Students who live, study, and work with one another realize the richness of the benefits offered by bringing together academics, research, and community in one place.

At MIT we are tempted to modify the tangible aspects of the curriculum, both because these are easier to grapple with, and because time is in short supply. However, informal learning takes place beyond the realm of the structured curriculum: at meetings between advisors and advisees; at social occasions among tutors, housemasters, and students; at late-night work sessions in the laboratories and computer clusters; and in the evenings in residential common spaces. Through informal, unstructured activities students set priorities and goals, learn the value of intellectual flexibility, make choices about career paths and future learning, and decide what to do with the rest of their lives.

11. Advising

Advisors and mentors who interact with students in all three areas of the triad unify the learning that takes place in each. Yet MIT has precious few advisors who are able to bridge the gaps between research, academics, and community. Students see problems with advising as MIT's greatest weakness, although it is a weakness MIT shares with its peer institutions.[13] Academic advising, career services, counseling services, research, and community activities remain largely separate, whereas they should work in concert. Faculty-student interaction—and advising in particular—will have to move away from the classroom and office, and into the physical spaces in which research, community activities, and studying take place if the informal connection among academics, research, and community is to be strengthened.

3.5 ACADEMICS & RESEARCH RECOMMENDATIONS

1

Expand the Undergraduate Research Opportunities Program (UROP), and institute a system of Freshman Advisory Research subjects (FARs) to include offerings from all academic departments.

MIT should set a goal of involving 100 percent of undergraduates in research experiences sometime during their four years on campus. Student participation in MIT's research enterprise is consistent with the principle of learning-by-doing, and is essential to implementing the principle of the educational triad.

To help reach this goal, MIT should institute a new program of Freshman Advisory Research subjects (FARs). The FARs should help increase excitement in first-year program, introduce students to various disciplines, and provide departments outside the first-year program with the opportunity to meet incoming students. Faculty members responsible for teaching FARs should design the experience to be both educational and participatory.

UROP should also be expanded to help meet the target of 100 percent undergraduate participation in research. The program should receive adequate resources from the Institute in terms of funding, staff support, space, and coordination. Providing these resources will enable more faculty members to participate in the program.

2

Provide formal recognition for undergraduate involvement in research, and for faculty participation in research activities involving undergraduates.

In addition to the goal of involving 100 percent of undergraduates in research at some time during their time here, MIT should provide formal recognition for that involvement. There should also be recognition for faculty involvement in programs such as UROP and Freshman Advisory Research subjects. Participation in such activities should be considered in the tenure and promotion process as part of a faculty member's teaching record, and departments should credit faculty members for their involvement.

3

Strengthen the advising system by creating collaborative advising teams.

At MIT, an advisor should be more than a source for suggestions about a student's subject selection: an advisor should be a source of information and guidance about life. Separating academic advising from the stream of students' lives creates an artificial boundary between academics and the rest of the world. To overcome this obstacle, MIT should create advisory teams that can refer students to those most qualified to handle questions related to field and subject choices, career paths, and life decisions. Teams might be composed of faculty, qualified graduate students, academic administrators, and other staff members. Where possible, alumni should play a role within the advising system. Advising should be a collaborative venture: advisors should meet regularly to compare experiences and challenges. Finally, advisory teams should be coordinated and supported with appropriate resources.

4

Institute a system for continually reviewing the undergraduate program.

MIT should institute a regular system of reviewing and updating the undergraduate program. This implies that the GIRs should be examined on a continual basis. Such reviews should seek to adapt MIT's curriculum to the changing needs of society. To cope with changes in particular fields, departments should assess their programs to insure that they remain focused on fundamentals, removing or condensing less important material as new topics become relevant. Finally, today's greatest challenge is to invent ways of integrating MIT's traditional academic program with the learning that takes place within the community and research elements of the educational triad. Doing so will require experimentation, a point that leads directly into the next recommendation.

Encourage educational experimentation, especially in the areas of the General Institute Requirements. 5

The Committee on the Undergraduate Program (CUP) and the Committee on Curricula (COC) should adopt practices which encourage educational experimentation, such as in the creation of alternative GIR subjects and in the integration of educational technologies. The review and approval process for educational experiments should be liberal in allowing faculty to try out new ideas, but should require assessment and dissemination of results during and after the experiment period. Many successful experiments are not well known and are often re-invented by faculty in other departments or schools. The COC should therefore keep records of experiments and publicize the successes—in an annual review of educational experiments in the Faculty Newsletter, for example. For this purpose, resources should be made available to enable assessment and dissemination of results to the faculty.

Conduct carefully designed experiments in distance learning and educational technology. 6

Communication links are improving dramatically while their cost is falling. It is not a question whether MIT as an educational institution should be involved in distance-learning and educational technology, but rather how much more and in what new areas. Experiments with educational technology should serve students on campus—giving them access to lectures, demonstrations, and course Web sites in residences—as well as students off campus on cooperative assignments. It is important that MIT develop distance learning methodologies in a rational and controlled way, of the quality commensurate with MIT's principle of excellence and limited objectives. In view of the still rapidly evolving technologies, a committed, yet cautious, process of experimentation, evaluation, and dissemination is the proper course of action.

Ensure that management subjects are available to all members of the general student body. 7

An extraordinary effort should be made to allow any student who wants to take management subjects to do so. MIT should ensure that adequate staffing for undergraduate management subjects is provided. Lotteries for management and management-related subjects should be replaced with open enrollment, subject to relevant academic prerequisites. In addition, MIT needs to examine ways of working communication and organizational skills into the curriculum across the Institute.

4 COMMUNITY

4.1 VISION

The word "community" has many connotations, each appropriate to its own sphere. Even at MIT the word has taken on a variety of meanings: there is the student community, the faculty community, and the MIT community—the latter including everyone from alumni to the immediate families of students and faculty members. Before presenting the Task Force's findings on community, the term must be defined. Here the term has a specific meaning: "community" refers to students, faculty, staff, and alumni who have come together on campus for the common purpose of developing the qualities that define the educated individual. Establishing a critical mass of intelligent people dedicated to excellence in everything they do is central to MIT's mission. Each of us is an example to our peers and colleagues; through professional, recreational, and social interaction with one another we build a culture of discovery and learning that distinguishes MIT from other universities. Hence informal personal interaction can be considered the life of the "community": student activities, casual social get-togethers, cultural events, and daily encounters with friends and colleagues are a few general categories of such interaction.

If the goal of an MIT education is to develop the elements of reason, knowledge, and wisdom that characterize the educated individual, MIT cannot rely on structured learning alone. In the past, MIT has drawn upon the research university model of Von Humboldt, who proposed educating students by exploiting the informal interaction between research and academic study. In the future, the third element of the triad—community—will play a larger educational role.

Two forces are driving this change. First, informal learning-by-doing through peer interaction at the community level can properly develop in students many qualities of the educated individual. Community interaction is an excellent preparation for life: paired with MIT's formal curriculum, it is a means to develop communication skills and the ability to think critically about societal issues, and it provides experience with cultural and intellectual diversity. Second, the accelerating changes of the information revolution are eroding the boundaries of place and organization. To add value to a technical education available elsewhere, MIT will increasingly have to rely on the value it can deliver by combining informal, community-based learning with structured, curriculum-based learning. The challenge facing MIT is twofold: First, how can we do more within the community we have? Second, how can we unite the learning that takes place in the community with the learning available elsewhere?

4.2 FINDINGS: STRENGTHS

MIT's present community has many strengths MIT should draw upon in an effort to augment its educational value.

1. Loyalty to Residence

A prominent feature of MIT's community is the strong feeling of loyalty that undergraduate students express toward their MIT residences or living groups. Residences at MIT are not just places of repose: in undergraduate life they are the central unit of student organization, and they act as a haven for social, cultural, and intellectual exchange among students. In surveys, students express a remarkably high level of satisfaction with their residential experience, particularly with the fraternities, sororities, and independent living groups.[14] Residences also provide a strong academic and social support group. Students from multiple graduating classes share the same living group, providing valuable opportunities for advising and mentoring.

2. Independence of Community Groups

The community ties that have arisen at MIT have done so with little conscious design or plan, and they have remained largely self-sustaining and autonomous. In its commitment to individual responsibility, free choice, and self-governance, MIT's community resembles society at large in many respects. Undergraduate students, who come to the Institute at a critical point in their personal development, benefit from the gradual but intense exposure to the independence and responsibility expected of them here. By interacting with their peers and colleagues within a framework of independence and interdependence, MIT students help fulfill the Institute's principle of learning-by-doing.

3. Diversity of Existing Community Groups

The large number of activities and groups is another strength of the MIT community. These include social activities tied to departments and living groups, performance and artistic ensembles, cultural societies, political groups, student government, community-service groups, athletic and recreational activities, student publications, and many other activities. The dedication and commitment displayed by students and faculty who participate in community activities is impressive given the demands of research and academics, and this dedication is more impressive given that such activities often go begging for funds and are seldom promoted outside their own venue. That such a system has evolved at MIT is a testament to the drive and diversity of interest found among those who are drawn to the Institute.

4. Athletics

MIT has demonstrated a positive and ongoing commitment to providing facilities, resources, and staff to maintaining a strong number of athletic activities. Partly as a result of this commitment, athletics play a powerful role in bringing students and faculty from across campus together in activities that teach teamwork, build self-confidence, and encourage perseverance, dedication, and personal fitness. MIT is now committed to building new athletic facilities, and to continuing its commitment to ensuring all MIT students have the opportunity to participate in athletics on campus. Overall, MIT's commitment to athletics plays an admirable role in fostering interaction among diverse members of the community.

5. MIT Staff

Although this report's findings focus primarily on faculty and students, it is important to remark upon the educational role played by MIT's dedicated staff members. Staff excellence is an integral part of today's MIT community. Across the Institute, in departments, programs, and administrative offices, staff members manage and run programs that contribute directly to student life and learning. Many staff members as advisors and mentors to students, and MIT's staff as a whole contribute to the Institute's educational mission in ways that go beyond their administrative functions. The Task Force has met and worked with numerous MIT staff members in the past two years, and this has reinforced the Task Force's feeling that staff play a tremendously positive role in keeping the MIT community together.

4.3 FINDINGS: WEAKNESSES

At the same time, many obstacles stand in the way of integrating the educational benefits of community activities with more structured learning.

1. Faculty Commitments

All activities at the Institute, including undergraduate education, revolve around the simple fact that MIT is a preeminent research university and a national and international resource. Research, teaching, professional commitments, family, and governance all result in significant time pressure for faculty. Time pressures have negative implications for interaction among faculty members, and there is little recognition of faculty who participate in community activities. There is a tendency for most faculty to treat community activity as the residual left over when everything else has been done.

2. Student Commitments

Students are equally beset by the time pressures of academic study. With little positive incentive to go beyond the Institute's academic requirements, students may conclude that "extra-curricular activities" are indeed extraneous and dispensable. This is not to say that students do not participate—they do. But although student participation in community activities is high, students may take these activities less seriously than if they were held in higher esteem.

In addition, entering students are presented with an abundance of choices and demands upon their time. It is the responsibility of MIT to communicate opportunities in a way that helps students manage their time effectively. Students should be inspired, not overwhelmed, by the opportunities presented to them.

3. Weak Campus-wide Community

Another possible obstacle to integrating formal and informal learning is the weakness of the campus-wide community. Many social interactions on campus take place in living groups, departments, or laboratories. Graduate and undergraduate students have few opportunities for informal interaction with each other, and students and faculty have even fewer. There is a sharp divide between the graduate student body and the undergraduate student body. Finally, MIT lacks a strong sense of Institute-wide faculty collegiality: faculty members have relatively few opportunities to interact with their colleagues in different departments.

The strength of MIT's diverse sub-communities has already been noted. However, the defects of the current situation are notable. First, the Institute's support structures have become fragmented and crisis-oriented. While many students receive ample interpersonal and professional support,

many others fall through the cracks. Second, the divisions among campus groups—such as among living groups, or between graduates and undergraduates—sometimes leads to intolerance and lack of understanding not in keeping with MIT's principle of diversity. Third, the physical design of the campus, which has evolved around its nuclear academic, community, and research groups, lacks space for community-wide interaction.

4. Orientation

It is through orientation that the existing community passes on its values to its newest initiates. Yet MIT lacks an effective orientation for all segments of the community. In general, undergraduate orientation concentrates too heavily on living group selection: the way undergraduates are asked to make immediate choices about living arrangements obscures larger choices and more important values. By and large, the current system of undergraduate orientation detracts from the sense of an overall community at MIT, and discourages faculty-student interaction. At the same time, entering graduate students receive a truncated orientation to the educational mission of MIT, new faculty do not always appreciate key cultural and historical features of the Institute, and new staff members often do not get the sense that they are entering into the support of an educational enterprise. MIT is a special place, with a distinct mission, history, and culture. Yet as the Institute has grown and become more complex, the mechanisms to transmit the sense of MIT as a whole community have atrophied.

5. Campus residences

A shortage of housing for both graduate and undergraduate populations has also presented difficulties. On the graduate side, although 50 percent request on-campus housing, only 30 percent can be accommodated. Recent increases in Cambridge housing prices have negatively affected the ability of MIT to compete for graduate students. In addition, a significant subset of graduate students desire a more programmed residential experience: the thoughtful programs that exist at Ashdown House are an example of how to bring about a strong sense of community among graduate students. Such housing is closely aligned to MIT's educational mission. In all cases, graduate student housing should be designed with close access to MIT's academic and research communities in mind, as well as access to junior and senior faculty.

MIT has long acknowledged the special value of the housing system for undergraduate education.[15] However, the educational mission of the housing system has been hampered by a lack of resources and programs. Crowding has been a particularly acute problem. On-campus housing has remained crowded despite new construction over the past few decades. In general, the undergraduate system has lacked the flexibility needed to address on their merits issues concerning the design of orientation and first

year housing. The system has barely coped with routine renovation and maintenance. Related programs such as dining and community spaces have also lacked resources, with negative consequences for the housing system.

6. Dining

The dining system is another setting in which community is created and sustained. Yet much of the dining system at MIT has been allowed to languish. Some of the dining spaces in the residences have been closed, and the remainder of the system is operated with a view to cutting costs rather than bringing people together. Yet some parts of the dining system have been successful at creating community, even in a small way. The well-designed Architecture and Planning Cafe attracts students, faculty, and staff who might have been tempted to eat lunch at their desks to a pleasant but informal common setting. The dining space at Walker Memorial brings many faculty, staff, and students on the east side of campus together. And personal cooking spaces within the residences, while they bring together smaller groups of people than dining halls, serve their function adequately. In terms of bringing diverse groups of people together, however, the dining system remains a largely underutilized resource.

7. Community Space

MIT has demonstrated a weak commitment to providing attractive and convenient space for community interaction. The lack of space for some activities, such as the performing arts, has had spillover effects with adverse consequences for other parts of student life. The degree to which students regard computer clusters as social space is symptomatic of the lack of areas where faculty and students can interact and work together. Construction of new community space, including performance space and athletic facilities, student activity space, and general event space would help MIT remain competitive in attracting top students and relieve pressure on an otherwise overloaded system.

8. The Performing Arts

The lack of space for the performing arts has been an issue both for the arts, and for student life in general. The performing arts serve a number of important educational functions. They provide a venue for community interaction, centered on cultural enrichment and enjoyment. Student participation in these activities is one avenue for learning-by-doing, and it enriches the cultural life at MIT. Yet the decreasing availability to students of performance and rehearsal spaces impairs the Institute's ability to create a rich, nurturing, and consistent educational experience. Faced with increased competition for Kresge Auditorium, large groups such as the MIT Symphony Orchestra and the theater groups must now reserve Kresge three years in advance. Given current projections, in five years Kresge will have to

be reserved four or five years in advance—before the students who will use it even graduate from high school. Short of performance and rehearsal space, many performance groups have taken over space intended for student activities, putting additional unwarranted pressure on student activities space.

Performing programs have proven their value to the MIT educational experience by drawing together the wider MIT community, breaking down social barriers, and providing opportunities for self-expression, growth, and leadership. Their excellence attracts students who have been accepted to the finest arts schools in the country. Failure to address the problem of lack of performance space will undoubtedly affect the quality of performance programs and their ability to attract students and maintain faculty.

4.4 FINDINGS: THE FUTURE

Bringing the community side of the triad to the same standard of excellence as research and academics requires a new commitment to community by MIT. Just as MIT's high-quality teaching and research enterprises are sustained, the successful contribution of community life to education requires MIT to marshal three types of resources—physical, human, and programmatic. For it to stand alongside teaching and research as part of the educational triad, the Institute must ensure that the resources devoted to community involvement are first-rate and suited to the task of educating MIT students.

Of the many difficult design problems MIT faces, promoting student and faculty participation in community activities is probably the most difficult. Nevertheless, given the goal of developing in students the attributes of educated individuals, the Task Force finds that the responsibilities of the faculty include participation in community, balanced properly with research and teaching. Student and faculty participation in community activities should be recognized along with achievements in academics and research. It is the responsibility of the Institute as a whole to ensure that the residence system (both graduate and undergraduate), dining arrangements, orientation programs, and physical layout of the campus encourage faculty-student interaction.

4.5 COMMUNITY RECOMMENDATIONS

1

Recognize faculty members and students who become involved in community activities.

If participation in the community is to become an integral part of the MIT experience, in accordance with the principle of the educational triad, the Institute must explore ways to recognize participation in the community appropriate to its educational role. Increased contact between students and faculty can help: students' priorities are partly determined by shared cultural values that can be transmitted through informal interaction. There is also a need for formal recognition. MIT might recognize student participation by listing selected activities on student transcripts. There should also be recognition for faculty participation in the community. For faculty, involvement in the community must be considered a part of good teaching. Community participation should be considered in the tenure, promotion, and performance review process as part of a faculty member's teaching record.

2 Make the residence system an integral part of MIT's education, and approach the issues of housing, dining, the first-year program, and orientation as part of a single educational program.

The residence system is at the heart of the MIT community. If MIT is to unite the three areas of the triad, it must inevitably begin with a conscientious approach to the design and programming of the residence system. The physical design of new housing, the advising and support structure within the residences, the dining system, the first-year program, orientation, and provision for new graduate, undergraduate, and faculty housing are all interdependent. A strategic approach to these issues is essential to making MIT's educational triad work; if they are approached separately, MIT will ultimately fail to bring about a coherent integration of community with research and academics.

To maximize the housing system's educational value, housing facilities for graduate students, undergraduates, and faculty should be properly supported with Institute funds. Costs associated with improving the housing system should be considered in terms of educational value in addition to customer service. This implies construction of new undergraduate and graduate housing—projects that have been delayed for too long. In general, the housing system should be flexible enough to address issues related to undergraduate education on their merits.

3 Phase in a system in which all undergraduate students are housed in residence halls during the first year.

A housing system in which all freshmen live in residence halls has distinct advantages, including the opportunity to build up the sense of an Institute-wide community through first-year programs, as well as to unite the three elements of the educational triad. It would encourage students to familiarize themselves with the MIT experience as a whole while developing ties to a residence. Combined with a well-designed first-year program and increased faculty-student interaction, housing freshmen in residence halls also offers a way to ease the transition to life in the MIT community. The need for a transition to life at MIT has long since been recognized in academics, where the design of the core curriculum, advising, and grades all help ease the transition to MIT's academic program.

As has been noted, however, the current system of housing in fraternities, sororities, and independent living groups (FSILGs) has many strengths. By providing more housing options, MIT makes room for the diversity of student tastes and needs. Smaller living groups such as FSILGs provide different ways of giving students intellectual, academic, and emotional

support, as well as creating different venues for developing a strong sense of community. If we do not take care to preserve these strengths during the transition, housing all freshmen on campus could result in a system much worse than today's.

To preserve the strong community spirit developed in the existing FSILG system, MIT should take steps to enable its FSILGs to survive as residences. In the short term, it may be necessary to provide some temporary financial support to FSILGs to offset lost occupancy.

Housing freshmen with older students provides incoming students with academic and emotional guidance and support, as well as a ready supply of role-models and mentors. For this reason, incoming students should be placed in the same residence halls as older students, rather than in a residence constructed exclusively for freshmen. In addition, MIT should take steps to bring advising—particularly freshman advising—into the residences to provide broader intellectual and professional support in an informal setting.

Make orientation about bringing undergraduates, graduate students, and faculty together into a shared experience.

4

The central purpose of orientation should be to create the feeling of joining a single, campus-wide community. Freshman orientation should consist of a program that continues throughout the first year, and should be filled with experiences that establish a connection between incoming students and experiences in academics, research, and community. To do this, there should be more activities that involve faculty, graduate students, and undergraduate students in shared experiences. In all parts of orientation there should be an equal role for academics, research, and community. Orientation events must be more than *pro forma* exercises to be endured. If each orientation experience has a constructive purpose, students could be expected to take them seriously.

5

Design the housing system to better encourage faculty-student interaction.

The housing system should enable and encourage faculty-student interaction. Ideally, informal faculty-student interaction over topics related to academics, research, and community should take place across campus, in nearly every space inhabited by students and faculty during the course of the day. For this to take place, MIT must take every opportunity to encourage faculty to interact informally with students in the residences, and appropriate common spaces should be available to make this possible.

The issue of faculty and staff housing is critical both for MIT's competitive situation and for the creation of a lively community on the MIT campus. Given the time pressures experienced by both students and faculty members, informal interaction is more likely to occur among faculty members and students who live near one another. All new student on-campus residential construction and renovation should include provisions for increased faculty housing, in addition to housemaster accommodations, to seed a more active on-campus intellectual community after hours. The Task Force expects that on-campus housing will be most attractive to junior faculty, senior faculty, visiting scholars, and other scholars who are new to MIT and have limited family obligations. The Institute should also explore strategies for encouraging more MIT faculty to live in Cambridge and adjoining sections of Boston.

6

Design the dining system to encourage community interaction.

The dining system offers one of the most attractive venues for fostering a greater sense of community at MIT. It goes without saying that a university's dining system should provide healthy, attractive, and affordable dining options. MIT's system should do more: it should be run with the goal of bringing people together for informal social interaction. Ways to encourage this interaction include reopening the dining halls in the residences where they were closed, designing and maintaining of cooking facilities to encourage interaction, and constructing new dining facilities in common spaces throughout campus where people are likely to congregate and socialize.[16]

Residential dining halls should be used actively to promote small-scale, informal community activities. The Dean's Office should coordinate the invitation of faculty and administrative staff to informal dinners where students might explore topics like choice of major, choice of careers, and discussions of current events. The Dean's Office should also explore strategies for encouraging faculty and administrative staff to periodically eat dinner in the residential dining halls as an effort to break down social barriers among students, faculty, and staff.

Provide more attractive and convenient spaces for community interaction. 7

All programs aimed at bringing faculty and students together over academics, research, and community activities will ultimately fail if there are not enough attractive spaces for such interactions to occur. MIT's design should encourage faculty and students to linger in areas they visit in common. All aspects of MIT's design—from laboratories, classrooms, and office areas, to dining, performance space, library space, and housing—should include space for informal interaction. Wherever possible, spaces for formal and informal activities should be intertwined.

Above all, more resources should be devoted to creating new common spaces and retrofitting existing facilities to create common space. Priorities should include building more performance space, bringing more casual dining options into areas where people might congregate, and creating space for informal faculty-student interaction in the residences.

Provide more funding for activities that encourage community interaction. 8

As has been noted, MIT has many strong groups that play an important educational role in today's community. Participation in community activities can serve as a means to bring students and faculty together in informal settings. Providing student activities and other community groups with appropriate funding is consistent with MIT's educational mission.

5 STRATEGY & STRUCTURE

5.1 VISION

During its review of MIT's educational processes, the Task Force has identified several fundamental strategic and structural dilemmas that must be addressed for MIT to fulfill its educational mission. The President has recognized some of these problems, and it has responded by appointing a Chancellor who will assume much of the responsibility for implementing and overseeing MIT's strategic educational vision. Because so much of this report's recommendations relate to the problems with MIT's current structure, the Task Force has chosen to present its findings regarding these issues under a separate heading, along with recommendations for how MIT might proceed.

5.2 FINDINGS: THE STRUCTURAL DILEMMA

The central structural dilemma at MIT lies in the tension between Institute-wide objectives and the heretofore largely independent schools and departments. Many of MIT's organizational problems can be traced back to tensions created when management and resources need to cross organizational boundaries.

1. Strengths of departmental management

Schools and departments are adept at allocating resources, fostering excellence in research, building new graduate programs, and designing rigorous undergraduate departmental curricula. Because resource allocation largely falls to departments, they must practice a version of MIT's principle of excellence and limited objectives internally by expending staffing and financial resources in areas where they can be most effective.

Moreover, departments bear the heavy responsibility of maintaining the reputation of their own research activities. This demand impels departments to seek out the best faculty, and also helps them design graduate and undergraduate curricula to meet the current needs of the field. This advantage of departmental management is crucial, because ultimately the continued success of MIT depends on its reputation. MIT's reputation for excellence in research and education allows it to attract students and faculty who will continue to enhance MIT's reputation for the future. This positive feedback cycle of excellence in students, faculty and reputation is MIT's most precious asset.[17] While the principles that guide the design of an MIT education are important, they cannot succeed if MIT ceases to attract the best students and faculty.

While much of MIT's reputation for excellence in research arises from the entrepreneurial activity of the departments and laboratories, most of its educational reputation derives from more central qualities such as the overall caliber of the faculty and the rigor of MIT's curriculum. Because MIT cannot afford to let its overall reputation falter, it must strike the appropriate balance between independence and coordination in its research and educational activities.

2. Weaknesses of cross-departmental activities

Unfortunately, important educational programs that demand constant management, assessment, resources, and decisive action often fall between departments. The needs of the undergraduate program transcend departmental barriers. The first-year program and the General Institute Requirements (GIRs) are currently shared among departments, administrative offices, and faculty committees. The balance between undergraduate and graduate education is trapped in the middle of Institute and departmental governance structures. Other issues that should be treated as common Institute problems are treated in isolation. Five-year programs leading to Bachelor's and Master's degrees are almost entirely handled by individual departments, often creating tremendous logjams for students attempting to meet both Institute and departmental curricular requirements. On the undergraduate side, some departments contribute to undergraduate education through curricular offerings while others contribute more indirectly. In the future, efforts to integrate the three aspects of the educational triad will face obstacles to crossing departmental and administrative boundaries.

Some pieces of the strategic puzzle seem to fall outside of all administrative and departmental structures. The complex and overlapping faculty governance structure was identified as a problem by the Lewis Commission 50 years ago, and the situation has not improved since then. The current system of faculty committees is beset by a number of weaknesses. Turnover is one dilemma: the chairs rotate so frequently it is difficult for the

committees to undertake projects of any significant time-horizon. The number of committees is a source of confusion, as is the apparent overlap in committee goals. The faculty governance structure as a whole lacks adequate resources to accomplish its mission, although recent efforts to consolidate committee support staff into a single office will help.

Faculty-student interaction, which is essential to integrating the three areas of the educational triad, also falls outside of the existing management structure. Faculty members who get involved in community activities usually do so for personal satisfaction. In general, faculty-student interaction is not rewarded unless it contributes to immediate departmental or research objectives. Without any incentives, programs, or spaces for faculty-student interaction, most faculty and students do not have time to engage in informal interaction.[18]

Without coordination, collaboration among groups and departments is difficult or impossible. Departments are not generally motivated to collaborate across units. Those who do engage in collaboration do so by their own initiative, making use of fortuitous contacts and friendships rather than long-term partnerships. Because initiatives tend to be entrepreneurial, they receive little or no central coordination.

Educational innovation does not exhibit the same degree of rigor and institutional commitment as MIT puts into its other endeavors. Typically, educational-technology experiments are not well documented. There is a need to review and coordinate the range of developmental initiatives being undertaken and planned by the Center for Advanced Educational Services, Information Systems (especially Academic Computing), Audio Visual Services, and the Dean's Office—not to mention various initiatives being sponsored by schools, departments, and other units.

Funding is the area where cross-departmental projects and innovations suffer the most. Cross-department educational initiatives are often started on the margin. Successful initiatives, like the Freshman Advisory Seminars, are then expected to become part of the Institute educational program without any funding base for their support. This system of unfunded mandates hobbles cross-departmental initiatives that deserve more general Institute support.

5.4 FINDINGS: THE STRATEGY DILEMMA

Just as the regular management and innovation activities are dominated by departmental structures, MIT's strategic-planning activities take place primarily at the level of the departments and schools. If MIT is to prepare adequately for the future, it must coordinate educational strategies at an Institute-wide level. Otherwise the Institute will continue to be held back by the many obstacles that currently stand in the way of strategic planning.

The very different ways MIT manages its undergraduate and graduate student populations helps illustrate the lack of overall strategy on one issue with major implications for every part of the Institute. MIT's undergraduate population has been relatively constant since 1975 because it is centrally managed—central management was imposed on the undergraduate population in part because of limited housing space and MIT's strong commitment to providing housing to undergraduates. In contrast, the graduate population has grown more or less in proportion to the on-campus research expenditures of the Institute.[19] Although the graduate student population has implications for just about every aspect of MIT, from housing to faculty teaching commitments, the size of the graduate population is largely determined by the research activities of the faculty within each department.

Over the years MIT's entrepreneurial culture has resulted in many individual initiatives at the department and school levels that are not necessarily coordinated or monitored for their Institute-wide strategic implications. Innovations in educational technology, which are crucial to MIT's future reputation, have already been discussed. Other cases of entrepreneurial innovation that have not been adequately followed up include the many international collaborations among departments, laboratories, schools, and the off-campus or "distance learning" educational experiments.

5.5 FINDINGS: MARKET FORCES

Each year market forces play a larger role in shaping higher education. There are inherent disparities between market-based values and intellectual values. Competition for certain small categories of students can deprive other worthy students of financial aid, and competition for top faculty can have a similar impact on the overall character of the faculty. Schools and departments competing for high rankings in popular American magazines may divert resources from more important activities to increase their score. Some universities may sacrifice some present educational needs to concentrate on building up their endowments, while others may choose to lessen commitments to need-blind admissions in favor of offering scholarships to attractive candidates. These dilemmas face all of the nation's top universities, including MIT. At times it will be necessary to draw the line between responding to market forces and fulfilling MIT's educational mission.

From the strategic viewpoint, there are many issues that will have a substantial impact on MIT's competitiveness in the future. Decisions now taken at the departmental level have dramatic effects on strategic issues that are crucial to MIT's future success, including MIT's reputation, student admissions, faculty recruitment, research activities, the housing system and design of the physical campus, and the cost of both graduate and undergraduate education.

One strategic problem lies in the way MIT is currently responding to the many pressures to expand both the student and the research base. This expansion is driven by the need to compensate for inflating fixed costs and the desire to undertake new intellectual initiatives. External initiatives like distance learning and strategic relationships are attractive responses to these needs, but some may be inconsistent with MIT's principle of excellence and limited objectives, as has been discussed above. Again, the problem these activities pose for the evolution of MIT's educational processes cannot be addressed without more central coordination.

In general, too many decisions at MIT are designed to maximize the benefits to the local unit, while their costs and benefits to the Institute as a whole are not sufficiently analyzed, evaluated, or monitored. MIT needs to develop an Institute-wide plan for the controlled evolution of educational programs, and to establish mechanisms that allow the Institute to monitor the effects and adjust accordingly. The Task Force is convinced that MIT's basic principles—academic excellence, a unified faculty, and limited objectives—cannot be maintained indefinitely without a well-defined, Institute-wide strategic planning process.

In the midst of all these changes, MIT is taking the lead in providing an education balanced between the practice of science and technology and liberal education. If successful, this will make MIT the model of a general education, giving the Institute a new competitive advantage. To achieve this goal, MIT will have to act in a more coordinated way.

5.6 STRATEGY & STRUCTURE RECOMMENDATIONS

Maintain MIT's excellence by continuing to focus on education and research that take place on campus. 1

MIT should continue to be an undergraduate and graduate research-based residential institution focused around those fields that require analytical rigor and quantitative reasoning in which it can excel and that have the potential for positive societal impact. This view is consistent with MIT's historical focus on science and technology, and has been intentionally broadened to include other areas such as economics, linguistics, music, and management. In abiding by this principle, MIT will continue to attract the best students, faculty and staff by offering an exciting mix of excellent educational and research activities that take place within a residential campus community.

2

Focus information technology resources around the library system.

In the future, developments in information technology will center around issues of content rather than facilities or equipment. The library, which has historically been the heart of the university, is the ideal place to ensure that the institution makes the appropriate investment in educational content as well as providing affordable and user-friendly access to information resources. Libraries also need to become more engaged with the teaching activities of the Institute. The library's teaching role should put less emphasis on the acquisition of information per se, and more on the need for students to acquire lifelong skills in locating, filtering, evaluating, and using effectively the wealth of information available to them.

3

Create a strategic planning group composed of the President, Provost, Chancellor, and those they may designate.

The President, the Provost, and the Chancellor should constitute the core of a strategic planning group to provide a continuous process of long-range strategic planning for MIT's educational mission. They should have considerable flexibility in determining the remaining membership and leadership of this group, and should have strong staff support that provides expertise in organizational planning and resource development. This group should interact regularly with the MIT Corporation, especially its Executive Committee.

The following are some of the key issues that need to be addressed by this strategic planning group: the balance between undergraduate and graduate enrollments; the development of new degree programs, such as the Master of Engineering degree programs, that blur the distinction between undergraduate and graduate studies; the balance between research-oriented and practice-oriented graduate degrees; the size of the faculty, and its balance with non-faculty teaching staff; the balance between residentially-based educational programs and distance learning; the analysis of markets for distance learning and other educational products and programs; the balance between MIT's U.S.-focused educational role and its international role; and maintaining the excellence of the student body, faculty, and other staff in a highly competitive environment.

The strategic planning group should better define how resources are allocated among departments and cross-department programs.

4

The President, Provost and Chancellor, with the strategic planning group, should establish well-defined mechanisms for allocating resources to physical facilities, information technologies, staff, and cross-departmental programs. Present processes do not adequately integrate the three types of demands on Institute resources: for teaching, for research, and for community-building. For each type of demand, processes for input, deliberation, and decision-making need to be defined. The strategic planning group should provide departments with incentives for accomplishing Institute goals, and should reallocate resources between departments and the central administration as needed to supply these incentives.

The Task Force recognizes that, while many of the recommendations in this report have advocated allocating resources and providing coordination to various activities, there are real limits to the ability of the Institute to support new programs. In accordance with the principle of excellence and limited objectives, the strategic planning group must determine how resources are to be reallocated, and in many cases this will require diminished support to some programs and activities. While the Task Force has found a need for more central coordination in some areas, the difficult process of reallocating of resources will properly require the input and participation of schools, departments, and individual faculty members.

Strengthen faculty governance by streamlining its committee structure to reflect the three areas of the educational triad.

5

Faculty should institute a comprehensive review of the faculty committee structure. Changes to the structure should be considered which recognize the importance of all three elements of the educational triad: academics, research and community.

The faculty committee structure should be designed so that the faculty and administration can act as a team. Ultimately, limited faculty time is the greatest constraint facing faculty governance. For this reason, the governance structure and agenda should be designed so that faculty members feel it is worthy of their time investment.

6 THE NEXT STEP

6.1 THE NEED FOR CHANGE

The Task Force on Student Life and Learning began with a charge from the President to articulate MIT's educational mission and develop a plan of action in accordance with it. Like many institutions of higher learning, the MIT community has a strong democratic ethos, hence we hope and expect that the release of this report will bring about new discussions and conversations on and off campus among students, faculty, staff, alumni, and other friends of the Institute. The responsibility of growing, adapting, and shaping MIT is the responsibility of all members of the community, for we all have a stake in its future.

In many ways, the discussions and conversations that follow this report will be a continuation of those that have come before. The two years during which the Task Force conducted its study have been a time of difficult reflection for MIT, and in some ways the Task Force was lucky to have arisen during this time to gather different strands of thought into what we hope is a coherent vision for the future. After all, underlying the Task Force's charge was a challenge to help the community come to terms with its own future. The Task Force hopes that the recommendations that have emerged in its study will not be thought of as separate points, but rather as an overall model of MIT's role in society, as guided and shaped by its mission and principles.

To live up to its principles, MIT must change and adapt to meet the needs of society. The central finding of this report is that today's society requires MIT to provide an education that merges student life and learning into a unified whole. To accomplish this joining of heretofore separate realms, change will be needed on many levels, from decisions taken by the

administration to attitudes held by individual students and faculty. Although this report contains many specific strategic and structural actions, a handful of decisions will not suffice to bring about the change envisioned here.

6.2 A CULTURAL SHIFT

A cultural shift is needed at MIT. It is a shift

from demanding separation of student life and learning
to demanding they be inseparable,

from focusing on formal education
to emphasizing learning in both formal and informal settings,

from a community divided by place, field, and status
to a community unified by its commitment to learning,

from keeping research, academics, and community apart
to unifying the educational value each provides.

It would be unreasonable to expect a change in community values to come about overnight, or as the result of a single activity. Tough strategic choices can provide guidance and incentive for change. Given MIT's culture of democracy and scholarly debate, such leadership appears daunting at first, but our history offers abundant precedents for making dramatic changes in educational processes while maintaining a focus on science and technology. Beginning with its founding over a century ago, and continuing with the Lewis Commission after World War II, MIT has built a legacy of meeting the needs of society by adapting where necessary.

The integration of MIT's formal and informal educational processes, and of the three areas of the triad, is not just a necessity we must grudgingly accept, for it also opens bright prospects for the future. MIT is a preeminent educational institution today because at key points in its history it took great strides beyond what had been tried or done. Today's need for change presents the opportunity for another leap forward, and a chance to make MIT the same guiding light for higher education in the 21st century as it has been in the 20th.

APPENDIX

A1
ACKNOWLEDGEMENTS

This survey would not have been possible had it not been for the ideas and input contributed by hundreds of individuals from inside and outside of MIT. The Task Force would like to acknowledge those who took time out of their busy schedules to meet with the Task Force, review its work and proposals, and reflect on the strategic issues facing MIT today.

The Task Force owes a special debt to its two principal staff members, Traci Considine and Anders Hove. Traci Considine served the Task Force as staff associate, and she arranged all logistical and staff support for the group's deliberations. Anders Hove, who also served on the Student Advisory Committee, helped bring two years of deliberation to fruition as the principal editor of the Task Force's final report. Anthony Ives and Maya Gittens also served the Task Force as staff.

Many MIT staff members participated actively in the Task Force's deliberations. Margaret Bates, Andrew Eisenmann, Arnold Henderson, Margaret Jablonski, and Robert Randolph served on the student-life sub-group along with Task Force and Student Advisory Committee members. Peggy Enders organized many of the Task Force's meetings with faculty committees, alumni, and staff members, and contributed in numerous other ways. Lydia Snover and Alberta Lipson helped compile much of the data reviewed by the Task Force.

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NOTES

1. Warren K. Lewis et al., *Report of the Committee on Educational Survey* (Cambridge, Massachusetts: Massachusetts Institute of Technology, 1949), pp. 8-9.

2. Lewis, p. 8.

3. Lewis, p. 9.

4. Lewis, p. 8.

5. Lewis, p. 89.

6. Lewis, p. 9.

7. Lewis, p. 39.

8. Lewis, p. 66.

9. Student Advisory Committee to the Task Force on Student Life and Learning, *Putting Education First* (April 22, 1998), p. 3.

10. 68 percent of MIT alumni had either received advanced degrees or were enrolled in degree programs, according to the *1996 MIT Alumni Survey*. *The 1994 Senior Survey* revealed that fully 90 percent of seniors surveyed planned to receive a higher degree eventually, while 51 percent had plans to enter graduate studies immediately.

11. MIT Planning Office, *1996 Alumni Survey: Comments by Class Year.*

12. Richard J. Light, *The Harvard Assessment Seminars* (Cambridge, Massachusetts: Harvard University, 1992), p. 8.

13. In 1996, 36 percent of MIT students were either dissatisfied or very dissatisfied with academic advising at MIT, compared with 40 percent elsewhere, according to the *Undergraduate Cycles Survey*. *The 1994 Senior Survey Report* showed that students tend to have more contact with their UROP supervisors than with their academic advisors.

14. *The 1994 Senior Survey* showed that 93 percent of independent living group residents were either satisfied or very satisfied with their living group experience, compared with 80 percent of dormitory residents. In addition, comparative data from the *Enrolled Undergraduate Survey* shows that the level of satisfaction found at MIT is substantially higher than at peer institutions.

15. Edwin D. Ryer *et al.*, *Report of the Committee on Student Housing to the President, the Executive Committee of the Corporation, and the Corporation of the Massachusetts Institute of Technology* (Cambridge, Massachusetts: June, 1956), pp. 19-20.

16. *Institute Dining Review, Summary of Recommendations* (1997).

17. MIT Admissions Office, *1996 Admitted Student Questionnaire* (1997).

18. In the *1995 Faculty Survey*, conducted by Higher Education Research Institute at UCLA, 93 percent of faculty members identified time pressures as a somewhat or extensive source of stress and 86 percent identified lack of personal time as a source of stress. In a separate survey conducted by the Task Force, 51 out of 91 respondents identified lack of time as a barrier that prevented faculty and students from having more informal contact, with no other item receiving more than 7 responses.

19. According to data available from the MIT Planning Office, MIT's undergraduate population has remained at roughly 4,000 since 1956, whereas the graduate population has grown roughly linearly from just under 2,000 in 1956 to over 5,000 today.

Other Documents and Reports Generated by the Task Force

1. Student Advisory Committee Final Report
2. Faculty Survey
3. Junior Faculty Workshop
4. MIT Advisory Group on Orientation and Residence Report [includes the IFC Residence Orientation Report]
5. Principles of the MIT Residential System

Putting Education First

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

April 22, 1998

Contents

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.

Barringer, Greg, et. al. "Leadership at Sloan." December, 1997.

Leadership Development Center Team. "The Leadership Program at MIT: Education for the 21st Century." Novemeber, 1997.

Pratt, Christopher. "Strategic Issues in the Office of Career Services and Preprofessional Advising." March 5, 1998.

MIT Presidential Task Force on Student Life and Learning

Results of the 1997 MIT Faculty Survey

Overview

The Task Force on Student Life and Learning was charged last fall by President Vest to review the educational processes of the Institute and the interaction between student life and learning as MIT moves forward into the next century. During the first year of its efforts, the Task Force solicited broad input to help identify fundamental educational challenges and opportunities facing MIT that would likely have long-term implications for MIT's educational mission. Through meetings, correspondence, focused interviews, and workshops, the Task Force gathered input from undergraduate and graduate students, alumni/ae, parents, Institute executives and administrators, and government and industry representatives.

The Task Force sought particularly to solicit the insight and perspective of the Faculty regarding the role and future of MIT. In addition to meeting and corresponding with individuals, department heads, and school councils and sponsoring a workshop for junior faculty, the Task Force sent to all MIT Faculty, teaching and instructional staff in February an exploratory survey intended to solicit and focus input on student life and learning issues. Reminders and duplicate copies of the survey were mailed in May. This article reports the results of the survey.

The findings of the survey indicated general consensus on the following:

- "Fundamental values" of the Institute that should be retained include: science and technology; excellence; the combination of teaching and research; and intellectual freedom (for details, see Table 2).
- External forces likely to influence MIT over the next 20 to 30 years include: technology; funding; changes in government/political roles; competition; and the world economy (see Table 3).
- Effects of international trends and globalization include: increased international collaboration and competition and changes in the student body (see Table 4).
- Elements defining a well educated individual include: a fundamental base in science and technology; a well-rounded, liberal education; and communication skills (see Table 5).
- The interaction between teaching and research at MIT is positive (see Table 7).

Survey Design

Survey questions were designed in free-response and open comment formats so as not to influence the type or direction of responses and to allow faculty to discuss freely issues of personal interest or concern. Faculty were invited to focus on those questions on which they had the most insight or the strongest opinions and to omit any questions they wished not to answer. The first section of the survey consisted of free-response questions, followed by an open comment section inviting faculty to identify and comment on other issues important to student life and learning at MIT.

The free-response questions focused on the topics below:

- Fundamental values of the Institute
- Key external factors likely to influence MIT
- Effects of international trends and globalization to MIT
- Elements defining a well educated individual
- How information technologies may affect the pedagogy of teaching
- Potential need to modify the educational mission or specific graduation requirements at MIT
- Relationship between teaching and research
- Faculty responsibility as regards the intellectual and personal development of students outside of research and classroom activities
- Factors driving pace and pressure at MIT
- Factors encouraging/discouraging faculty members
- Types of contact faculty have with students
- Barriers preventing more informal student/faculty contact

The second section asked for the following demographic information:

- Number of years teaching at MIT
- Department (optional)
- Age (optional)
- Sex (optional)
- Academic rank
- Approximate number of students supervised per year
- Other significant student interactions

Demographics

The survey was sent to all 1448 members of the MIT teaching and instructional staff. One-hundred sixteen responses were received (59 professors, 18 associate professors, 12 senior lecturers, 11 assistant professors, 6 professors emeriti, one instructor, one adjunct professor, and one "other"; seven did not indicate their rank). Eighty-four identified themselves as male, twelve as female, and twenty did not indicate their sex. The average number of years teaching at MIT was 18 (of the 109 who responded to the question), and the average age was 48 (of the 90 who responded to this question). Of the 83 who indicated their department, the school distribution was as follows (Table 1):

Table 1: Survey Responses Received by School (n=116).

School	Number of faculty (as of 10/96	Number of surveys returned (total of 116	% returned by school
Architecture	71	5	7%
Engineering	314	39	12%
Humanities/Social Sciences	139	18	13%
Management	75	2	3%
Science	262	19	7%
Did not indicate affiliation	---	33	---

Faculty were asked whether they teach primarily undergraduate students, graduate students, or both. Fifty-three indicated that they teach both, 29 that they teach primarily undergraduates, and 26 that they teach primarily graduate students. Eight did not respond. Of those who responded, the average number of UROP students was 2.6, the average number of postdoctoral associates was 2, the average number of non-Ph.D. graduate students was 3.6, and the average number of Ph.D. students was 3.8.

Analysis Method

The analysis of the Task Force survey responses reflects the limitations of a free-response and open comment design. The responses and comments for each question were analyzed and sorted into related categories, which were then tallied by numerical frequency and percentage of respondees providing answers in each. (Note that respondees could indicate more than one answer for each question.) As this exploratory survey was intended simply to identify key issues for faculty, the analysis did not include tests for size or representative accuracy of the sample or statistical significance of the response data. These factors should be considered in interpreting the results below.

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Results

Fundamental Values of the Institute

The first question, "What do you consider to be the fundamental values of the Institute that should be retained and protected as we move into the future?," yielded 109 responses, which included 221 answers that could be grouped into a broad range of categories including science and technology, excellence, combination of teaching and research, intellectual freedom, service to society, ethics/integrity, and meritocracy. Numerical frequencies and percentages are provided in Table 2.

Table 2: Fundamental values of the Institute.

Fundamental values	Number of answers (total of 221, provided by 109 respondees)	% of respondees providing this answer
Science and technology	48	44.0%
Excellence	39	35.7%
Combination of teaching/research	26	23.9%
Intellectual freedom	22	20.2%
Service to society	18	16.5%
Ethics/integrity	12	11.0%
Meritocracy/best students	10	9.1%
Intellectual breadth	9	8.3%
Hands-on experience	7	5.9%

Research	7	5.9%
Teaching basic & applied science	6	5.5%
Hard work	5	4.6%
Innovation	5	4.6%
Diversity	4	3.7%
Collegial atmosphere	2	1.8%
Being different	1	1.0%

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Key External Factors Likely to Influence MIT

One-hundred one respondees listed 247 key external factors likely to influence the way MIT will evolve as an educational institution over the next 20 to 30 years. Those most frequently mentioned included, in descending order: technology, funding, changing government and political roles, competition, world economy, and cost of education. Numerical frequencies and percentage of respondees providing these answers are provided in Table 3.

Table 3: External factors likely to influence MIT.

External factors	Number of answers (total of 247, provided by 101 respondees)	% of respondees providing this answer
Technology	37	36.7%
Funding	32	31.7%
Changing government /political roles	31	30.6%
Competition	26	25.7%
World economy/global society	26	25.7%
Cost of education	24	23.8%
Demographic changes	17	16.8%
Changing societal values	17	16.8%
Internationalization of students	12	11.9%
Industry	11	10.9%
Societal/environmental concerns	7	6.9%
Secondary education	4	4.0%
Increased importance of broad education	3	2.9%

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Effects of International Trends and Globalization to MIT

Ninety-five respondees provided 111 likely effects of international trends and globalization on MIT over the next 20 to 30 years, most of which pointed to change, from the levels of international collaboration and competition, to the makeup of the student body, to the use of educational technology (see Table 4). Many of those who predicted change in the student body speculated that there will be increased polarization of classes at MIT and worldwide.

Table 4: Effects of international trends and globalization.

Effects of international trends and globalization	Number of answers (total of 111, provided by 95 respondees)	% of respondees providing this answer
Increased international collaboration	31	32.6%
Student body will change	24	25.3%
Increased international competition	23	24.2%
No effect on MIT	10	10.5%
Will enrich MIT	9	9.5%
Don't know	7	7.4%
Increased use of educational technology	5	5.3%
Curriculum will change	2	2.1%

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Elements Defining a Well Educated Individual

In response to a question regarding elements that define a well educated individual, faculty provided a wide range of criteria ranging in categories from academic, to personal, to social. Nearly half of the 98 who responded listed a fundamental base of science and technology as a defining element of a well educated individual that is unlikely to change over the next 20 to 30 years. Approximately one third listed a well-rounded liberal education and communications skills as defining elements. Other responses are included in Table 5.

Table 5: Elements that define a well educated individual.

Elements of a well educated individual	Number of answers (total of 224, provided by 98 respondees)	% of respondees providing this answer
Fundamental base of science/technology	46	46.9%
Well-rounded, liberally educated	31	31.6%
Communication skills	30	30.6%
Social awareness	19	19.4%

Analytical skills	15	15.3%
Cultural exposure	15	15.3%
Ability to apply knowledge	14	14.3%
Self education	14	14.3%
Teamwork/collaborative skills	11	11.2%
Intellectual curiosity/creativity	11	11.2%
Facility w/ complex systems/organizations	7	7.1%
Sound judgment	5	5.1%
Conversant with information technology	4	4.1%
Integrity/ethics	2	2.0%

How Information Technologies May Affect the Pedagogy of Teaching

Responses to the question, "In your view, how will information technologies (e.g. World Wide Web) affect the pedagogy of teaching over the next 20 to 30 years and how should MIT respond?" were somewhat difficult to analyze and categorize, as some faculty responded to the former part of the question and some the latter. Although responses reflected a range of opinions, a significant number of respondees suggested that the WWW could enhance, but should not replace, current teaching methods.

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Potential Need to Modify the Educational Mission or Specific Graduation Requirements at MIT

When asked whether the changes mentioned in the questions above suggested a need to modify the educational mission of MIT or specific graduation requirements, 46 responded no, 44 responded yes, and 26 responded that they were unsure. Fifty-nine specific suggestions for how MIT should modify or change included the following (see Table 6):

Table 6: Suggested modifications of the educational mission or specific graduation requirements at MIT.

Suggested modifications of the educational mission or specific graduation requirements at MIT	Number of answers (total of 59, provided by 44 respondees)	% of respondees providing this answer
Add communications or language requirement	11	25.0%
Broader academic focus	11	25.0%
More I/T focus	8	18.2%
More flexibility/options	7	15.9%
Changes to graduate degree requirements	5	11.4%
Respond to students' personal/social dev't.	4	9.1%

Add to UG degree requirements	3	6.8%
Extra year	2	4.5%
More professional education	2	4.5%
Inquiry-based educational model	1	2.3%
More internships	1	2.3%
More interdepartmental collaboration	1	2.3%
More lab time	1	2.3%
Simple need for change	1	2.3%
More independent study	1	2.3%

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Relationship Between Teaching and Research

An overwhelming majority (91 of the 106) who responded suggested that the interaction between their teaching and research is positive. Five said that the interaction was neutral, four that it was negative, six that they were unsure, and ten did not answer (see Table 7):

Table 7: Interaction between teaching and research.

Interaction between teaching and research	Number of answers (total of 106)	% of respondees providing this answer
Positive	91	85.9%
Unsure	6	5.7%
Neutral	5	4.7%
Negative	4	3.8%

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Faculty Responsibility as Regards the Intellectual and Personal Development of Students Outside of Research and Classroom Activities

When asked to what extent MIT and its Faculty have the responsibility to contribute to the intellectual and personal development of students outside of research and classroom activities, 47 proposed that MIT and its faculty have a high level of responsibility, 37 proposed a moderate level of responsibility (many of these commenting that the status quo seemed to be adequate), 16 proposed no responsibility, and 14 did not answer the question.

Factors Driving Pace and Pressure at MIT

Respondees identified various institutional, cultural, and personal factors driving pace and pressure at MIT

(see Table 8). Responses indicated that there may have been some confusion as to whether the question referred to pace and pressure for students, for faculty, or for both. Nonetheless, 43 suggested that MIT should attempt to mitigate pace and pressure at MIT, 20 suggested that MIT need not do so (many of these asserting that the level of pace and pressure is an integral part of the MIT culture), and 53 did not respond or were undecided.

Table 8: Factors driving pace and pressure.

Factors driving pace and pressure	Number of answers (total of 134, provided by 104 respondees)	% of respondees providing this answer
Self motivation/drive/ambition	34	32.7%
MIT culture	23	22.1%
Competition	18	17.3%
Curriculum	14	13.5%
Appointment/promotion/tenure system	13	12.5%
Shrinking funding	10	9.5%
Opportunities	5	4.8%
Increasing amount of knowledge in field	5	4.8%
Bureaucracy	4	3.8%
Reengineering	4	3.8%
Committees	2	1.9%
Technical demands	1	0.9%
Academic calendar	1	0.9%

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Factors Encouraging/Discouraging Faculty Members

The Task Force asked two questions about the factors that make the respondees feel most and least successful as faculty. Among factors yielding the greatest feeling of success were interaction with students, research, and teaching successes (see Table 9). The principal factors leading to feelings of least success were unpleasant interactions with students, funding pressures, and workload (see Table 10).

Table 9: Factors that make faculty feel most successful.

Factors that make faculty feel most successful	Number of answers (total of 160, provided by 95 respondees)	% of respondees providing this answer
Interactions with students/graduates	44	46.3%
Research	39	41.1%
Teaching successes	36	37.9%
Positive feedback/recognition	15	15.7%

External impact	9	9.4%
Free inquiry	5	5.3%
The MIT environment	4	4.2%
Excellent support	3	3.2%
Interactions with colleagues/peers	3	3.2%
Time for reflection	1	1.0%
Publication	1	1.0%

Table 10: Factors that make faculty feel least successful.

Factors that make faculty feel least successful	Number of answers (total of 120, provided by 95 respondees)	% of respondees providing this answer
Politics/administrativia/bureaucracy	27	28.4%
Unpleasant interactions with students	22	23.2%
Funding pressures	17	17.9%
Workload	12	12.6%
Institute recognition/reward structures	8	8.4%
MIT environment	7	7.3%
Problems with colleagues	7	7.3%
Wasted time	6	6.3%
MIT's focus	5	5.3%
Curricular/teaching issues	4	4.2%
Lack of community	2	12.6%
Conflicting responsibilities	2	2.1%
Outside demands on time	1	1.0%

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Types of Contact Faculty Have With Students

The final question asked what types of contact faculty have with students outside the classroom and what barriers, if any, prevent faculty and students from having more informal contact. The first question yielded 181 answers from 102 respondees, which included the following types of contact: undergraduate advising, meals/drinks/socializing, graduate advising/mentoring, counseling, extra-curricular activities/organizations, UROP, dorm, informal conversation, and housemaster. Five respondees reported that that they had little contact with students outside the classroom, and five indicated that they did not wish to have contact with students outside the classroom. For numerical frequencies, see Table 11.

Table 11: Types of student/faculty contact.

Types of student/faculty	Number of answers (total of 180, provided	% of respondees providing

contact	by 102 respondees)	this answer
Undergraduate advising	51	50.0%
Meals/drinks/socializing	48	47.1%
Graduate advising/mentoring	23	22.5%
Counseling	20	19.6%
Extra-curricular activities/organizations	11	10.8%
No answer	9	8.8%
UROP	7	6.9%
Dorm	6	5.9%
Don't wish to	5	4.9%
Not much	5	4.9%
Informal conversation	4	3.9%
Housemaster	1	1.0%

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Barriers Preventing More Informal Student/Faculty Contact

A majority of respondees (51 of the 94 who responded to the second part of the question) listed lack of time as a barrier preventing faculty and students from having more informal contact. Other barriers preventing more faculty student contact included: lack of physical structures to support it (7), faculty living at a distance from campus (7), lack of support from the MIT culture and/or reward structure (6), the difficult role of being both a teacher and a friend (4), shyness (4), age differences (4), no inclination (4), and consideration for students' privacy (1).

In the final section of the survey, faculty were invited to comment on other issues important to student life and learning at MIT. Respondees provided comments and suggestions on issues including facilities, curriculum, pace and pressure, role of the faculty, and grading.

In Conclusion

The Task Force wishes to thank all who contributed and responded to the survey and appreciates the opportunity to have heard the voices of the many faculty who cared to communicate their thoughts, concerns, and suggestions regarding the present and future of MIT. The Task Force invites individuals or groups who are so inclined to communicate freely with the Task Force -- by email (learning@mit.edu), correspondence (MIT Rm. 4-117), or in person with individual Task Force Members -- on the above-mentioned or other issues of interest or concern.

MIT Presidential Task Force on Student Life and Learning

Summary of Discussions from the 1997 Task Force Junior Faculty Workshop

On January 21, 1997, the Task Force on Student Life and Learning sponsored a workshop for junior faculty for the purpose of soliciting junior faculty input to the Task Force through non-traditional interaction. In a letter inviting all junior faculty to participate, President Vest wrote:

> *It is important that members of the Task Force hear from you the generation of faculty who will shape the university of the next century. This workshop will provide you with an excellent opportunity to become involved with the process of defining MIT's future and will challenge you to think broadly about MIT's mission. At the same time, this is an opportunity for you to reflect on your own career in a broader context and to meet your colleagues.*

Approximately 75 participants (nearly one-third of junior faculty members at MIT) attended the workshop. After Task Force co-chairs R. John Hansman and Robert J. Silbey provided a brief summary of the history, charge, and activities-to-date of the Task Force on Student Life and Learning, Professor Jesus del Alamo, who coordinated the event on behalf of the Task Force, explained that participants would be separated into six breakout groups to discuss and report back to the larger group on the following six questions:

Group 1

What establishes MIT's reputation in its various areas of activity? Where does MIT stand in comparison with other institutions in these different areas?

Group 2

What are the personal goals of faculty members and how do they relate to MIT's educational mission? How does MIT support these goals?

Group 3

What are the forces for change that are likely to affect MIT over the next 20-30 years? What are the implications for MIT? Are there barriers to change?

Group 4

What are the elements of the job description of an MIT faculty member? What percentage of a faculty member's effort is typically dedicated to each element? Which of these elements impact learning? How should this change to further MIT's educational mission?

Group 5

What is the quality of the undergraduate and graduate student experience at MIT? What can we do to enhance the experience?

Group 6

What will define a well-educated person in the 21st century? How do we deliver such an education?

During the breakout sessions, each group elected a representative to present a summary of their discussions to the larger group. Summaries presented by each of the groups are as follows:

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1. MIT's Reputation

The five leading elements that have established MIT's current reputation are, in descending order:

- excellence in research
- graduate education
- professional leadership
- societal impact

MIT's reputation in the future will depend on: t

- he continued vitality of its research enterprise
- its relationships with industry
- its ability tomaintain an intellectually stimulating environment
- the application of research to problems with societal implications
- teaching its students how to learn (rather than simply imparting factual knowledge)
- innovative applications for continuing education
- its ability to increase students' self esteem

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2. Goals of Faculty Members

Members of the second group, who discussed personal goals of faculty members, suggested that the goals of faculty include "inner-originating" and "outer-originating" goals.

"Inner-originating" goals of faculty include:

- making an impact on the outside world (i.e., societal contribution)
- personal and intellectual growth
- opportunity to explore the intellectual ambiance at MIT
- interaction with excellent students
- pursuit of their own research
- participation in collaborative and interdisciplinary work

"Outer-originating" goals, or those which are part of the Institutional structure include:

- securing tenure
- securing funding
- finding a good balance between work and life
- teaching
- mentoring
- building program reputation

As regards these goals, group members outlined the support MIT provides its faculty:

- seed funding
- release time
- the MIT "name"
- a reasonable teaching load
- excellent students
- an interdisciplinary environment

They suggested that MIT could enhance the environment for junior faculty by providing:

1. broadened (not increased) tenure criteria that integrate the value of teaching and curricular development
2. better opportunity for "life outside MIT"
3. opportunity to better develop a sense of ownership
4. clearer criteria for advancement and better mentoring
5. a better balance of life inside vs. outside MIT, and research vs. teaching

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3. Forces for Change

This group classified the forces affecting MIT as technical, economic, and social.

Technical forces for change included:

1. an increasing knowledge base
2. increasing complexity of how scientists interact
3. the need for life-long learning caused by the rapid change of information

Economic forces for change included:

1. reactions to tuition
2. the changing nature of funding sources

Social forces for change included:

1. changes in student demographics (ethnic, cultural, academic preparation levels)
2. changes in life-cycles (i.e., timing of post high school and graduate school attendance
3. a rise in the part-time student population
4. changing definitions of basic literacy levels
5. heightened interest in environmental sustainability
6. higher levels of computer skills and understanding amongst students;

7. a rise in the number of female professionals
8. more people trying to balance family and career obligations (male and female)

Cutting across areas, members suggested that the declining perceived value of basic research is both an economic and social force for change, and that the job demands of the 21st century (the fading concept of life-long jobs creating a need for changing skills) is a social, technical, and economic force for change.

Given the above forces for change, group members suggested that MIT should consider:

- faculty development, requiring changes in faculty incentives
- supporting lifelong learning for MIT's undergraduate alumni by taking advantageof new technologies
- re-thinking the core skills it should provide its undergraduates
- the Institute's social responsibility to bring and apply its knowledge to society
- continued experimentation and innovation in the arena of education

Group members suggested that barriers to change included:

- MIT's existing culture (which fears change and includes tenured faculty's resistance to change)
- finances (especially for cost of remote facilities and faculty development)
- possible devaluation of the S.B. degree if it's given remotely
- increased stratification of the education levels of the U.S. students

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4. Faculty "Job Description"

The job description of a faculty member at MIT includes the following five elements:

- research (perceived as the highest priority)
- teaching (an important element, but follows research)
- administration
- service
- student interactions outside classroom

There was no clear consensus on a unified description, as it seemed to vary amongst disciplines and departments at MIT. There was, however, agreement on the "ultimate job description", which is "to become a leader in the world and to teach."

This group noted several conflicts in trying to meet this job description:

- As regards the balance between research and teaching, the need to work in "trendy" new areas moves areas of expertise away from established practice and makes it difficult to keep the curriculum up to date. There is also a perception among students that "research counts more than teaching" for faculty at MIT, which strains MIT's reputation.
- Faculty interaction with the students outside the classroom needs more recognition. While it is relatively easy to measure the impact of research, it is difficult to measure the impact of such interaction on students. MIT should care deeply about student opinion on this issue.
- Students are never asked for input in faculty promotions (as seems to be done at other institutions).

The group summarized two additional points of consensus:

1. teaching is an attractive part of the job, as it has direct impact
2. MIT should develop a way to assess the impact that faculty members have on the lives of their students

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5. Quality of the Student Experience at MIT

As regards the quality of undergraduate life, this group identified several negative cultural elements of MIT:

- exhaustion -
  - huge workload
  - late drop date adding to anxiety
  - pass/fail serving to increase students' workload
- the perceived lesser importance of the Humanities
- pressure
- unhappiness
- love/hate relationships with MIT
- some bad affects resulting from MIT's flexible environment
- lack of balance
- lack of humanistic values
- environment of social-ineptitude

Positive cultural elements for undergraduates included one-on-one interaction with faculty available through programs such as UROP and the external relevance to students' work.

The group commented that faculty can help students by providing:

- coping strategies and guidance
- teaching learning skills
- advising students to try to enjoy their experience
- helping students to improve their self esteem
- teaching better communication skills
- better respecting each others' time
- teaching social skills, which are becoming an economic necessity

As regards graduate student life, group members suggested that negative cultural elements included:

- lengthy programs
- ever-expanding requirements
- financial (RA/TA funding) difficulties
- the need for more meaningful interactions with faculty and for enhancement of current support structures

Group members noted that Masters students are becoming almost a category of their own and that new campus dormitories are a necessity.

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6. Elements of an Educated Individual

Group six discussed the elements of a well-educated person in the 21st century and how do MIT might deliver such an education. Group members commented that, working under the assumption that knowledge bases are increasing, MIT must realize it can't teach everything and must be able to teach flexibility.

Defining qualities of well-educated person in the 21st century included:

- problem solving capability
- creativity
- ability to solve fuzzy *and* well-structured problems
- ability to work with multiple ways of representation
- ability to self-educate
- intellectual independence
- motivation to learn
- communications skills (oral, written, teamwork and interpersonal skills)
- global awareness and vision
- a sense of human responsibility
- a sense of ethics

Members noted that in addition to the above (the tools), students still need discipline specific learning (the core), and suggested that MIT could deliver this by offering:

1. interdisciplinary courses
2. continuing educational courses and programs
3. distance and remote learning options
4. a variety of size of subjects
5. "in context" delivery through internships
6. partnerships with industry
7. hands-on courses, and by maintaining its depth of expertise and teaching real-world contexts and global implications

Possible teaching models include:

- apprenticeship models (such as UROP)
- team teaching
- design courses
- integrating different subjects through projects

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Following the group reports, Professor Silbey thanked participants for their valuable input, and opened the floor for questions and comments.

World Change

Following a comment regarding world change, some participants suggested that MIT should become an

innovator and a leader as regards world change, rather than simply adapting to it.

Curricular Development

Following a participant's comment that although many junior faculty would indeed like to be involved in the development of the 21st century curriculum, they must devote their time to activities necessary for tenure, another participant suggested that curricular development should be given a higher level of institutional legitimacy.

Valuing Teaching

Participants agreed that:

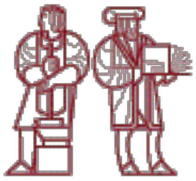
1. Teaching should be given more value at MIT.
2. MIT should design mechanisms to measure the success of students and the impact of teaching.

Responsibility to Students Outside the Classroom

Professor Hansman noted that faculty tend to talk about the academic part of their responsibility and suggested that the group should discuss briefly their responsibility to students outside the classroom. Many participants agreed that the Faculty has distinct non-academic responsibilities to students, but commented that the institutional incentive system does not value these non-academic factors. One participant pointed out that UROP is one of very few points of interaction outside the classroom between undergraduates and faculty. Others commented that the quality of student advising at MIT is quite poor; there is little opportunity to teach in the advising role unless faculty realize the opportunity.

International Exposure/Experience

A participant commented that MIT should better prepare its students for careers and lives in international settings. Those present agreed that, given that approximately 25% of the MIT faculty was born outside the U.S. and approximately 25% of MIT students come from homes where a foreign language is spoken as the primary language, MIT already has tremendous resources in this regard.



MIT Presidential Task Force
on Student Life and Learning

Reports

Final Report of the MIT Advisory Group on Orientation and Residence

December 5, 1997

submitted by

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Introduction

The charge to the committee from President Vest (October 31, 1997). This committee was given the charge to advise MIT's senior administration on potential decisions "regarding orientation, residence selection and associated matters affecting the admission, introduction to the campus, and housing of the Class of 2002." We were tasked with providing a small number of principles and options for consideration. In responding to this charge we have considered the input from a wide range of sources, including the proposals from the faculty and the Inter Fraternity Council (IFC), and ideas from the community Forum on November 5th addressing the question, "Should freshmen be housed on campus?" and survey results from parents, students and faculty. We reviewed information from the Planning Office and the Office of Admissions and volumes of input from alumni, students, staff and faculty.

The Feasibility Of Dormitory-Based Housing For All Fall '98 Freshmen

Our first goal was to determine if it was feasible to house all freshman on campus for the fall of '98. This required creating approximately 360 additional beds on campus for freshmen. This is possible if one were willing to accept a human cost measured in additional crowding of undergraduate dorms and displacement of approximately 200 graduate students along with a host of secondary problems. We concluded this was not in MIT's best interest for the Fall of 1998. The Institute should anticipate the possibility of a temporary jump in the demand for on campus housing next fall. With the recommendation decided to not attempt to house all freshman on campus next fall we turned to the opportunities presented by considering the orientation of students to campus and improvements to our system of residence selection.

Strongly Conflicting Points Of View

Our endeavor to understand the key issues revealed a problem that if left unaddressed would likely derail any attempt to improve the residence and orientation system. That problem is a fundamentally different point of view between the faculty and the students with respect to what is broken in the present system of introducing freshmen to campus. We grossly simplify the issues here with the intent of naming the problem, not making evident all of its nuances. On the one hand many faculty believe that the current residence system obstructs the academic orientation of new students to the university and leads to a singular loyalty to the living group at the expense of a lack of substantive intellectual connection to the academy. On the other hand students widely believe that faculty put little effort into building relationships with students, and furthermore, fail to understand that living groups provide the support network essential to students, beginning in the fall of the freshman year. As a consequence, students are highly cynical of attempts by the faculty to "fix" the problem by attacking the present residence selection system. It is the conclusion of this committee that real improvements to our system of orientation and residence selection will only come about if both students and faculty come to accept commonly shared principles and goals and make a commitment to working towards those goals.

The credibility of the faculty and the administration will depend upon real commitment to engaging students in substantive orientation programming, including working with students inside and outside of the residence system. The faculty need to become familiar with the residence system from firsthand experience in order for their attempts to change it to be credible.

The students must show commitment to real progressive change within the residence system, both in day to day operation and particularly in the process of residence selection. The students must support the efforts of the faculty to put new orientation programming in place. Upperclassmen damage their credibility with staff and faculty when they undermine attendance at orientation activities.

A Spirit Of Experimentation

There is widespread agreement that the present system is flawed and needs improvement. There is considerable variety of opinion on what will work and what will not. In many cases we must make our best judgement as to what will work and give it a try, with the understanding that we continually assess the results and make the necessary adjustments. A goal of this committee is establish an expectation in the community for experimentation, assessment and change. This is a departure from recent practices which often emphasized a protectionist attitude and stymied attempts to try new ideas in residence selection and orientation practices.

A Shared Enterprise

Success will require that students, staff, alumni, and faculty will be required to work toward common goals. Everyone will need to contribute, but with different emphasis for different groups. Students will have to bear

much responsibility for fulfilling expectations for change in the residence selection system and in establishing and maintaining year round standards of conduct in the housing system. Faculty and administrative staff will carry much of the burden with respect to developing new initiatives in the orientation of students to MIT. Success in both dimensions, R and O, is required to build trust in the community.

A commendable step has been taken by the IFC Presidents' Council. They recently approved the proposals of the IFC Committee on R/O Proposals, chaired by our committee member William Shen. The IFC R/O proposals have been reviewed in the preparation of this final report and in many places we used language from their proposal. Except where significant no attempt is made to trace the source between the IFC proposals and our own, because there was much cross-fertilization of ideas between the two groups over the last three weeks. The IFC proposal should be preserved as a separate document, because it demonstrates the willingness of the FSILG's to work on improving the system. The work of the IFC has put the faculty in the position of playing catchup. The IFC report is attached as an appendix.

The first step that we believe should be taken is to appoint an ORIENTATION '98 POLICY COMMITTEE, composed of faculty staff and students. This committee would begin work immediately to plan orientation for next fall, and would be separate from the orientation implementation team. In appointing that committee, rename R/O, Orientation.

The remainder of this report is divided into two main sections, one dealing with residence selection and the other with orientation. Guiding principles are described and suggestions for specific actions and improvements are given.

Orientation

Guiding Principles For Introducing Students To MIT

There is general consensus that in recent years orientation activities have languished, in part because of the difficulty of competing with the intensity of the residence selection component of R/O. There is a strong consensus in the community that we should put much more emphasis on the orientation component. A more extensive orientation effort for freshmen is not likely to succeed without commitment from a broad cross section of the community, including faculty, staff and upper-classmen.

1. Increase early and lasting interactions between faculty and students. One of the attractions of coming to MIT is the opportunity to work with and get to know its faculty. Early reinforcement through contact with enthusiastic faculty will help preserve the students commitment and enthusiasm.
2. Emphasize the intellectual excitement and academic reality of MIT. Freshmen come full of enthusiasm and expectation for intellectual growth and excitement at a university famous for its contributions to science and technology. Orientation should attempt to keep up the enthusiasm but also help the students to make realistic choices of freshmen year subjects and activities.
3. Focus on the development of the "Whole Person". In a variety of surveys of alumni, alumnae and current students it is clear that there is both a need and genuine desire for opportunities in the undergraduate years to develop better social skills, communication skills and leadership abilities. Such opportunities may be created both inside and outside of the classroom. Participation in activities that teach these skills is often rewarded by increased self-confidence and self-esteem.
4. Recognize that Orientation Week is only the beginning--follow through. A few days of Orientation is not a sufficient introduction to the academy. Mentoring relationships require regular reinforcement. Modest efforts begun during Orientation that continue throughout the year will be more effective than brief activities characterized by a large splash but no follow-through.

Suggestions For Improving Orientation '98

1. Rename "R/O" to "Orientation".
2. Appoint an Orientation Policy Committee, composed of faculty staff and students. It should begin work immediately and should be separate from the Orientation implementation team.

3. Every freshman to receive a phone call from a faculty member in the summer time. This could be coupled with earlier faculty recruitment efforts coordinated by the Office of Admissions.
4. Hold the most important orientation activities before rush.
5. Examples of Orientation events and activities:

    (a) Expand upon current programs (e.g. Core Blitz, Meet the Profs, lab tours).
    (b) Introduce new events (i.e. Faculty Panel.) to stimulate intellectual excitement.
    (c) Workshops on issues facing today's college student (e.g., diversity, harassment, alcohol awareness, etc.).
    (d) Opportunities for developing social and personal skills. Orientation "Charm School" and mini-IAP activities with staff, upper-class students, faculty and alumni.
    (e) A presentation on the counseling and support services available to students (i.e. Deans Office, MIT Medical, MedLinks, Nightline, Campus Police, etc.).
    (f) Design orientation events that center around multiple small group settings (MOYA group, advising group, temporary residence assignment group). Repeated contact between freshmen within a small group setting is the best way for them to meet faculty and staff and others in their class.

6. Present Orientation as an introduction to great traditions, such as hacks, perhaps presented by a student panel.
7. Expand opportunities for student/faculty interaction:

    (a) Early FAS meetings
    (b) Activities in temporary residences
    (c) Panel discussions
    (d) House Fellows throughout the year
    (e) Faculty at the opening night dinner
    (f) Fun hands-on activities

8. More alumni activities:

    (a) Summer receptions in home towns of alumni and students.
    (b) Increase the excitement of attending a world-class institution. Assemble an Alumni Panel of notable MIT graduates each year to discuss with freshmen their post-graduation experiences and the benefits an MIT education affords.

9. Develop a year-long program of faculty-student dinners along the lines of the "Keyser faculty dinners".
10. Encourage faculty-run experimental academic programs within living groups.
11. Change the academic default setting from an emphasis on early failure to early rewards. Use the diagnostic exams as the basis for qualifying for more advanced subjects, such as 8.012. Have subjects such as 8.01, 8.01L, and writing be the norm for freshmen.
12. Better core subject advice - including sample classes.
13. Create an Advising Center as a resource to advisors and students. The intent is to centralize information and expertise so that advisors and students have one place to go to get answers to the most commonly asked questions.
14. Expand opportunities for freshmen to come early to campus. Examples include, Interphase, ROTC, athletics, summer UROPs and the Freshman Leadership program.

Final Report of the
MIT Advisory Group on Orientation and Residence
Dec. 5, 1997

Residence Selection

Guiding Principles For Improving Residence Selection

1. Primary focus on the best interests of the incoming students rather than the interests of the living groups.
2. Early, objective and accessible residence information.
3. Equitable and diverse housing choices for all students.
4. Better informed and less stressed students and parents.
5. High standards of conduct and responsibility in living groups.
6. A better informed faculty and staff, with better connections to the residences.
7. More opportunities for students to explore the residence system before rush, coupled with a reduction in hype and intensity during rush.

Suggestions For Improving Residence Selection

1. Restrict unsolicited summer mailings and telephone calls to freshmen.
2. Prepare a comprehensive guide to residences, with contributions from the Deans office and from all living groups. Create a positive competitive environment for living groups in which houses seek to become more attractive to students and parents by having better supervision and objective measures of performance such as those suggested below.

    The following ideas have been endorsed by the IFC Presidents' Council.

    Each living group's entry in the Guide will include four components:

    (a) Fact sheet including house GPA, majors represented, cost/year, meals provided, length of pledge period, hours per week commitment, police incidents within the last 3 years (one-line summaries), faculty advisor & graduate resident tutor, awards received (MIT or national organization awards), etc.
    (b) Objective entry written by RCA covering a house's surveyable qualities including, but not limited to, participation in varsity/intramural athletics, campus organization officers, extracurricular activities represented, etc.

(c) Subjective entry submitted by the FSILG recruitment chairman.
(d) FSILG members' parent contact information (name & phone number).

3. Provide visitation opportunities to living groups during the pre-frosh spring. Include opportunities to stay over night, as is currently the practice for pre-frosh weekend.
4. Put residence information on the web and give incoming freshmen athena accounts as soon as possible.
5. Lengthen the time for residence selection and have dorm visitation occur simultaneously with FSILG exploration.
6. Greater participation by dorms in rush activities.
7. Reduce the incidence of rejection, such as caused by the practices of hard flushing and anti-rush. Anti-rush includes practices in dormitories which are intended to discourage freshmen from selecting a particular dorm. The intention is to preserve a particular dorm "culture" or to reduce the probability of crowding.

   The IFC Report has made suggestions for eliminating hard flushing, which are quoted below.

   > "Eliminate hard flushing. IFC has taken significant measures over the years to ensure that individual FSILG's treat each freshman with respect. Toward that end the IFC has implemented many initiatives to curb the mostly archaic practice of 'flushing.' These initiatives include the drafting of an IFC Policy on Referrals, the yearly compilation of a Referrals Guide, and mandating that every FSILG retain a Referral Chair during Rush whose sole responsibility is to match freshmen up with more compatible houses. To continue to ensure that 'flushing' practices are effectively removed from our system, a post-residence selection survey should be administered to all freshmen (within their advising seminars) that specifically prompts for (1) the name of the house which practiced questionable treatment of a freshman and (2) a detailed description of the incident."

8. Hold residence selection workshops. The IFC Report provides some useful detail, including:

   A Comprehensive Residence Selection Primer

   This workshop, hosted by RCA, will take place before the start of residence selection each fall. Its purpose will be four-fold:

   (1) Explain the residence selection system, the schedule, the bid process, and key questions to ask members of a living group.
   (2) Review IFC and DormCon residence selection rules (i.e.Clearinghouse, no badmouthing, etc.) and how they help freshmen make informed decisions.
   (3) Inform freshmen of the resources (e.g., Rush Central, JudCom, RhoChis, etc.) available during residence selection so they know where to direct their questions, and how to report complaints.
   (4) Inform freshmen of the options they have available to them after residence selection if they are unhappy with their choice (e.g., roommate problems, hazing complaints, etc.)

9. Hold a Residence Midway, similar to the Activities Midway and including all FSILG's and dormitory living groups.

   Quoting from the IFC Report,"The Residence Midway will take place at a specified time before the start of residence selection. Each living group would maintain a booth where a freshmen could approach and talk with members of the living group or request printed information. All upperclassmen-freshmen contact at this event would be initiated by the

freshmen. The event would help freshmen (especially those who did not benefit from Summer Rush) get a feel for the various houses in a non-"hectic" environment."

10. Periodic review of "Institute approved housing" status for all living groups, including dorms. The intention here is to put teeth into standards for all living groups. A possible sanction would be loss of such status for the following year. The construction of more on campus housing would provide more options for the administration to act.
11. Devise a messaging system so parents can maintain contact with sons or daughters during orientation: e.g. voice mail, pagers and email.
12. Combine and expand the functions of R/O Central and Rush Central.
13. Create more single sex housing opportunities for women. These options could be in the form of more co-ed living groups, all-female living groups and dormitories, and residential sororities.

Building Trust In A Period Of Experimentation

We have an opportunity to begin a period of experimentation, assessment and change in our orientation and housing practices. Success will require that students, staff, alumni, and faculty work toward common goals. Students will bear much responsibility for fulfilling expectations for change in the residence selection system. They must also support the efforts of the faculty and staff to put new orientation programming in place.

The Faculty and Administration will carry much of the burden with respect to developing and following through on new initiatives in the orientation of students to MIT. However, the faculty must also become familiar with the residence system from firsthand experience in order for their attempts to change it to be credible.

Report of the MIT InterFraternity Council Committee on R/O Proposals

Fall 1997

Introduction

In the past few weeks, the MIT's system of orientation and residence selection has been called into question. The attention of the media, faculty, and administration has mainly focused on the fraternities. While many upperclass students and alumni feel that living in fraternities, sororities, and independent living groups (FSILGs) has contributed immeasurably to their freshman year experiences and to their overall MIT experience 1 , discussions taking place amongst the administration and faculty include housing all freshmen on campus and moving residence selection to the spring semester or to sophomore year.

The experience of living with a community of choice throughout one's tenure at MIT is a system unique to our institution. This residence system is not without its flaws, however. The InterFraternity Council (IFC) recognizes the need for improvements to our current R/O Week. These changes, however, should not be drastic and should provide solutions to the problems that need to be addressed.

The IFC committee charged with drafting this proposal aimed to address the concerns surrounding orientation and residence selection as expressed by students, parents, faculty members, and administrators. Major concerns addressed in this proposal include:

- Faculty perceptions of R/O as a "lost opportunity" and as an inadequate introduction to MIT.
- Low levels of student-faculty interactions during R/O and throughout the year.
- The perceived absence of an MIT community spirit.
- Parental requests for more objective information regarding residences and better methods of maintaining communication with their sons and daughters.
- Student requests for more time to make residence decisions.
- The questionable safety of students living in off-campus FSILGs as evidenced by the death of a student at Phi Gamma Delta.
- The perceived low levels of interactions between students of different racial and cultural backgrounds.

This document, drafted from the above framework, represents the opinion of the IFC and its constituency of more than 1600 studentsregarding the current discussions on freshman orientation and residence selection.

Table of Contents

Report of the MIT InterFraternity Council Committee on R/O Proposals

Fall 1997

Executive Summary

To address a variety of the concerns students, parents, faculty, and administrators have expressed regarding residence selection, orientation, and the "first-year experience", the IFC has compiled the following recommendation package. The highlights of our proposal include:

Section I: Orientation

A. Increase The Scope and Effectiveness of Orientation

1. "R/O" becomes "Orientation": residence selection will occupy the second and separate portion of a lengthened "MIT Orientation".
2. Mandatory workshops on diversity, harassment/gender issues, and alcohol awareness to educate freshmen along all lines.
3. Presentation on MIT's medical and counseling services and other health-related resources available to students.
4. Create a standing Orientation Advisory Committee comprised of students, faculty, and administrators to provide recommendations to refine Orientation year after year.

B. Promote the Sense of the MIT Community

1. *Alumni Panel* to discuss their post-graduation experiences and the benefits of an MIT education.
2. *Student Panel* to introduce the commonalities between MIT students: our traditions (e.g., hacks, brass rats, etc.) and common culture (e.g., individual responsibility, devotion to living group, etc.)

C. Increase the Level of Student-Faculty Interactions

1. *Freshman Advising Group/Cluster Dinners* during Orientation.
2. *Faculty Panel* to stimulate intellectual excitement.
3. Use Orientation as a springboard for greater student-faculty interaction throughout the academic year.
4. Promote and revive the living group faculty advisors / House Fellows program.

Section II: Residence

A. Provide More Objective Information to Freshmen and Their Parents

1. Increase the focus placed on residences in Admissions Office mailings to prospective students regarding Winter/Spring campus visitations.
2. Revamp RCA summer mailings to include more objective information that parents most commonly request (e.g., house GPA, cost, etc.) and a parental contact name and number for each FSILG.
3. RCA-sponsored *Residence Selection Primer* workshop during Orientation.
4. *Residence Midway*: an Orientation event structured similar to the Activities Midway.

B. Improve the Residence Selection Experience

1. Provide more time for freshmen to make residence decisions.
2. Tone down the intensity of Rush: IFC commitment to evaluate the spending practices on membership recruitment.

C. More Residential Options, Especially For Women

(e.g., co-educational living groups, all-female living groups, and residential sororities).

D. Ensure the Safety of Freshmen Living in Institute-Approved Housing

E. Encourage Diversity in Student Life

**Report of the MIT InterFraternity Council
Committee on R/O Proposals**
Fall 1997

Section I: Orientation

Part A: Increasing the Effectiveness and Scope of Orientation

Our current Orientation process is plagued with problems which arise from its blended "R" and "O" format. By changing the structure, improving the programming, and increasing the duration of Freshmen Orientation, students will obtain a more positive and more accurate introduction to MIT.

(A) "R/O" Becomes "Orientation"

Lengthening Orientation by 1-2 days and moving the vast majority of orientation-type activities before residence selection would:

1. Allow freshmen more time to settle into their new campus environment before experiencing residence selection.
2. Separate "residence" from "orientation" and thereby eliminate the "Dead Week" attitude and low participation rates that are associated with our current freshmen academic orientation structure.
3. Promote the notion that residence selection is only a subsidiary part of the MIT Orientation process.

(B) Increasing the Effectiveness

Suggested improvements to academic orientation include:

1. Expand upon current programs (e.g. Core Blitz, Meet the Profs, lab tours).
2. Involve more faculty (see section below on student-faculty interactions).
3. Introduce new events (i.e. *Faculty Panel*.) to stimulate intellectual excitement.

(C) Increasing the Scope

During Orientation, the Institute needs to educate incoming freshmen in a broader context so that they can better adjust socially to the MIT college environment. [2] This can be accomplished through the development of:

1. Workshops on issues facing today's college student (e.g., diversity, harassment, alcohol awareness, etc.).
2. A presentation on the counseling and support services available to students (i.e. MIT Medical, MedLinks, Nightline, Campus Police, etc.).

3. A *Deans Panel* so that administrators can express their on-going support and availability to students in need.

(D) Student-Faculty-Administration Commitment

Work collaboratively to continually improve the process by which the Institute brings in its newest members by:

1. Soliciting freshmen feedback every year in the form of a post-Orientation survey.
2. Creating a standing Orientation Advisory Committee consisting of representatives from the student body, the faculty, and the administration. This Institute committee's charge will be to refine Orientation year after year by setting the guidelines the student-run Orientation (implementation) Committee will work within.

Part B: Promoting the Sense of the MIT Community

FSILG members are very much a part of the larger campus community. Recent studies have shown that FSILG members, when compared to dorm residents, are just as much involved in the MIT communityif not morethrough their participation on athletic teams, student clubs and associations, and other campus activities.

This proposal aims to further encourage the MIT community spirit, generate more excitement, and elicit more enthusiasm within the freshmen class during Orientation.

(A) Increase the Excitement of Attending a World-Class Institution

Assemble an *Alumni Panel* of notable MIT graduates each year to discuss with freshmen their post-graduation experiences and the benefits an MIT education affords.

(B) Emphasize Commonalities Between MIT Students

...such as our independence (the responsibilities placed on each individual), our traditions (e.g., hacks, brass rats), our common culture and themes (e.g., MIT >> Hahvahd, etc.), and our devotion to and support provided by our living groups, etc. A suggested orientation event would be a *Students Panel*.

(C) Design Orientation Events That Center Around Multiple Small Group Settings

(MOYA group, advising group, temporary residence assignment group). Repeated contact between freshmen within a small group setting is the best way for them to meet others in their class.

A longer term proposal the Institute should consider is to:

(D) Leverage the success of the Freshmen Leadership Program

The satisfaction ratings of participants in the Freshmen Leaders Program are phenomenal. [3] The Institute should examine the feasibility and desirability of multiple off-campus "Orientation camps"

(structured similar to FLP) which would allow all freshmen to experience the effective community-building atmosphere of FLP.

Part C: Greater Student-Faculty Interaction

Meaningful student-faculty interaction requires year-round commitment from both sides. Specific proposals to increase the level of faculty involvement during Orientation include:

(A) Faculty Panel

...to speak on academic/research-related matters so as to stimulate intellectual curiosity and enthusiasm.

(B) Freshman Advising Group/Cluster Dinners

(freshman advisors, associate advisors, and freshman advisees).

(C) Faculty-Student Pairings to Lead MOYA

(ice breakers, team-building exercises, etc.).

(D) Organized Tours

...of MIT labs, research centers, etc.with faculty members serving as tour guides.

(E) Help Faculty Gain A Better Understanding Of The Academic Orientation And Residence Selection Processes

...so that they can be better equipped to handle questions regarding not only academics but residence selection as well. This may be attained by:

1. Hosting individual advisor-associate advisor meetings before the start of Orientation.
2. Providing faculty advisors with information regarding residence selection throughout the summer (RCA mailings, etc.).

A vast majority of FSILGs organize faculty dinners through out the year to which, members of the MIT faculty are personally invited. The faculty attendance at these functions, however, is quite low. If the members of the faculty matched the efforts of the students, better student-faculty relations would already exist. To further encourage on-going student-faculty interaction, we propose the following:

(F) Joint IFC and Faculty Commitment to Revive and Expand the Living Group Faculty Advisor / House Fellows Program

...so that at least one interested faculty member is associated with every living group. Aside from other activities, the faculty advisor/house fellow would:

1. Advise freshmen and upperclassmen residents alike on academic matters as appropriate.

2. Act as a faculty liaison to facilitate the sharing of information and concerns.
3. Contribute to the intellectual and social life of a living group through a variety of activities (i.e. informal dinners at the house, participation in living group sponsored community service events, etc.)

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Section II: Residence

Part A: More Information Regarding Residence Selection

During the Winter & Spring

(A) Increase the Focus Placed on MIT Residential Options Earlier in the Year

The winter/spring Admissions Office mailings to prospective students and their parents need to include information that introduces MIT's unique array of residential options. All applicants/admittees should be specifically invited to visit our campus not only to explore the academic environment, but to get a feel for the residential system as well. The advantages of expanding the Overnight Program are two-fold:

1. FSILGs have the resources and are motivated to ensure that a prefrosh has a meaningful experience and will want to return to MIT as a student.
2. The most accurate impression of a residence may also be obtained through a casual visit during the middle of the term.

To ensure the Overnight Program maintains a high level of quality for all participants, surveys should be filled by all prefroshes following their visit. These surveys will be used to assess each living group's hospitality.

During the Summer

(B) Revamp RCA Summer Mailings

(e.g., *MIT Guide to First Year Residences*) to increase the amount of objective information about each residential option available to freshmen and their parents. Each living group's entry in the *Guide* will include the following four components:

1. Fact sheet including house GPA, majors represented, cost/year, meals provided, length of pledge period, hours per week commitment, police incidents within the last 3 years (one-line summaries), faculty advisor / graduate resident tutor, awards received (MIT or national organization awards), etc.
2. Objective entry written by RCA covering a house's surveyable qualities including, but not limited to, participation in varsity/intramural athletics, campus organization officers, extracurricular activities represented, etc.

3. Subjective entry submitted by the FSILG recruitment chairman.
4. FSILG members' parent contact information (name & phone number). These parents of FSILG members will be individually recruited by the FSILG, and accept the willingness to talk with any freshman parents who may have concerns about a particular living group.

The objective information published in this *Guide* will provide incentives for FSILGs to compete along positive, constructive lines as well.

(C) Provide Temporary Room Assignment Location and Phone Number to Parents Before Freshmen Arrive on Campus

This will help parents maintain better contact with their sons/daughters during their first few days on campus.

During Orientation

(D) A Comprehensive *Residence Selection Primer*

This workshop, hosted by RCA, will take place before the start of residence selection each fall. Its purpose will be four-fold:

1. Explain the residence selection system, the schedule, the bid process, and key questions to ask members of a living group.
2. Review IFC and DormCon residence selection rules (i.e. Clearinghouse, no badmouthing, etc.) and how they help freshmen make informed decisions.
3. Inform freshmen of the resources (e.g., Rush Central, JudCom, Rho Chis, etc.) available during residence selection so they know where to direct their questions, and how to report complaints.
4. Inform freshmen of the options they have available to them after residence selection if they are unhappy with their choice (e.g., roommate problems, hazing complaints, etc.)

(E) Residence Midway

(structured similar to the Activities Midway and includes all FSILGs and dormitory living groups who are interested in participating). The Residence Midway will take place at a specified time before the start of residence selection. Each living group would maintain a booth where a freshmen could approach and talk with members of the living group or request printed information. All upperclassmen-freshmen contact at this event would be initiated by the freshmen. The event would help freshmen (especially those who did not benefit from Summer Rush) get a feel for the various houses in a non-"hectic" environment.

During Residence Selection

(F) Combine and Expand the Functions of *R/O Central* and *Rush Central*

Effective and well-publicized resources must be made available to freshmen in one central location to assist them during the residence selection process. Proposals to expand the role and increase the effectiveness of a residence selection advisory center include:

- Greater publicity of the advisory services before and during residence selection.
- Mandate that it be staffed by one RCA/Orientation administrator, one FSILG member, and one dormitory resident at all times.
- Point of contact for parents wanting to locate their sons/daughters (universal utilization of

Clearinghouse or alternative contact/messaging system).
- Provide freshmen with FSILG and dormitory contact information, Rush event schedules, maps & directions, general advice about residence selection, etc.
- Provide freshmen with information regarding non-residence-related events and activities around MIT and in Boston/Cambridge.
- Point of contact for freshmen wanting to speak or file complaints with the IFC Judicial Committee.

After Residence Selection

(G) Increase Level of Upperclassmen-Freshman Parent Interaction

The IFC commits itself to help alleviate parental concerns immediately following Rush each year by meeting and speaking with parents first-hand.

1. RCA can improve the effectiveness of Greek 101 by mandating the participation of at least one representative from each fraternity and sorority.
2. The IFC will strongly urge all FSILGs to host Freshmen Parents Receptions/Dinners at their residences during Parents Weekend.

Part B: Improving the Residence Selection Experience

Placing the interests of freshmen as the top priority, the IFC will aim to tone down the intensity and hectic nature of FSILG Rush and will continue to take measures to ensure that the residence selection process is as positive an experience as possible for all parties involved.

(A) Expand Residence Selection by 2 Days

Lengthen the time that FSILGs may extend bids to Monday and the time that a bid may be accepted to Wednesday. This would provide a freshman one more full day to "shop around" and one more full day to seriously consider a particular FSILG which has extended him/her an invitation to join. Another argument for clear separation of "O" and "R" activities is that Rush has traditionally ended at the point where "O" activities start up again.

(B) IFC Commitment to Evaluate Spending Practices on Membership Recruitment

In order to effectively tone down the intensity of Rush, the IFC realizes the need to evaluate current spending practices. This initiative will be further examined by the IFC Rush Chairs Council.

(C) Eliminate Hard Flushing

IFC has taken significant measures over the years to ensure that individual FSILGs treat each freshman with respect. Toward that end the IFC has implemented many initiatives to curb the mostly archaic practice of "flushing." These initiatives include the drafting of an IFC Policy on Referrals, the yearly compilation of a Referrals Guide, and mandating that every FSILG retain a Referral Chair during Rush

whose sole responsibility is to match freshmen up with more compatible houses. To continue to ensure that "flushing" practices are effectively removed from our system, a post-residence selection survey should be administered to all freshmen (within their advising seminars) that specifically prompts for (1) the name of the house which practiced questionable treatment of a freshman and (2) a detailed description of the incident.

Part C: Increasing Residence Options

Even though there are less residence options available to females, women have generally responded more favorably than men when asked about their R/O experiences. [4] This statistic should not preclude the Institute, through RCA, to facilitate the process of bringing more residential options for females to campus in order to "level the playing field". These options would be in the form of more co-ed living groups, all-female living groups and dormitories, and residential sororities.

Part D: Ensuring the Safety of Freshmen Living in Institute-Approved Housing

All FSILGs housing freshmen must be recognized as Institute-approved housing. Redefining and expanding the criteria that a residential FSILG must pass in order to attain Institute-approved housing status will help ensure the safety of students living in FSILGs. The set of criteria should be publicized to concerned parents and faculty members as well. Sample criteria would include:

1. Obtaining annual lodging house license & egress inspection certificates to ensure the safety of the physical plant of residences (fire safety, etc.).
2. Compliance with Massachusetts laws and MIT and IFC policies forbidding hazing.
3. Compliance with MIT and IFC risk management policies, including the new policy mandating that all FSILG new member activities will be alcohol-free. [5]

Part E: Student Exposure to Diversity

The IFC is proud of its diversity among and within its affiliations. According to the 1989 Potter Report, "diversity" is already present within FSILGs. [6] In the eight years since this report was released, the diversity profile of FSILGs along ethnic, cultural, socio-economic, and religious backgrounds has only improved

To further address issues regarding diversity, however, the IFC urges the faculty and administration to evaluate methods to promote mutual understanding and social learning in the classroom environment and in the out-of-class settings of extracurricular activities. Leave the good friendships, the sense of community, and the willing and available upperclass student support that are provided by our families away from homeour living groupsintact.

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Summary

MIT's fall residence selection is a process that works as evidenced by the high satisfaction rates expressed by students both past and present. 7 The concerns expressed by students, parents, faculty, and administrators, however, point to several shortcomings in the system as well. As such, it is evident that the fall orientation and residence selection system only requires minor refinements and not major overhauls.

When considering what programs will provide students with the most positive introduction and on-going learning experience during their first-year and beyond, the IFC urges the faculty and administration to focus on expanding the scope and effectiveness of Orientation and year-round academic programs and support services to achieve its objectives.

With the reforms proposed in this document in place, the Institute will have a solid foundation from which future refinements to Orientation can be built upon. The desires of students, faculty, and administrators can be mutually compatible when all parties commit to work together and share their concerns. Only in an collaborative engagement will the vision of an "MIT Orientation" that reflects the interests of the entire MIT community at large - especially those of its newest members - be fulfilled.

Appendix A

Sample "Orientation 1998" Schedule

A Freshmen Orientation schedule following the above recommendations would look something like this (additional consideration for the scheduling of Interphase, FLP, and International/Transfer Students Orientation must be taken into account).

Monday (Day 1: General)

Afternoon

- **President's Welcome Convocation** (Administration & Faculty speakers)
- **"Where You're Headed: Life after MIT"** (Alumni speakers/panel)
- **Project MOYA** (Faculty-Student pairings as Orientation Counselors)

Evening

- **Freshmen class BBQ**
- **Freshmen class social event**

Tuesday (Day 2: Social)

Morning

- **Diversity/gender/harassment issues workshops**
- **Alcohol awareness/social policy workshop**
- **Medical/counseling services presentation** (MedLinks, Nightline, etc.)

Afternoon

- **MIT culture/traditions/spirit** (Student and/or Alumni speakers)

- (Deans Panel)

Evening

- **Dinner with Freshmen Advising Group/Cluster**
- Activities Midway
- Freshmen class dance party/social event

Wednesday (Day 3: Academic)

Morning

- **Freshmen Essay Evaluation**
- **Pre-Calculus Math Diagnostic**

Afternoon

- **Academic Orientation presentation** (UROP, academic support, tutoring, etc.)
- **Core Blitz presentation**
- **"Meet the Profs"** (Faculty Panel)
- **Freshmen Advising Group/Cluster Meeting**
- Athletics Gateway

Thursday (Day 4: Residence)

Morning

- **Residence Selection Primer workshop** (hosted by RCA)
- **"Life & Living @MIT"** (Student Panel)

Afternoon

- **ID Pictures/Swim Test**
- Concourse/ESG/ISP Open Houses - Part 1
- Tours of MIT's labs, research centers, etc. (lead by faculty & staff)

Evening

- Residence Midway
- Thursday Night Dinners

Friday (Day 5)

Morning

- **ID Pictures /Swim Test**
- Concourse/ESG/ISP Open Houses - Part 2
- Advance Standing Exam (18.01)
- **Survival Session** (with MOYA group)

Afternoon

- **Freshmen Picnic**
- **Killian Kick-Off**

Saturday (Day 6)

Sunday (Day 7)

- Event programming (sponsored by student activity groups) begins for students who have already decided on a residence of choice.

Monday (Day 8)

- FSILG may begin to extend bids
- **Residence Hall Preference Selection begins**

Tuesday (Day 9)

Wednesday (Day 10)

- Freshmen may begin to accept bids from FSILGs
- Residence Hall Assignments available

Thursday (Day 11)

- **Freshmen Advisor/Advisee Meetings**
- Advance Standing Exams (18.02 & 8.01)
- **Temporary Residence Hall Assignment Check Out**
- **Permanent Residence Hall Assignment Check In**
- **Freshmen Registration Material Due**
- **Residence Hall Orientation**

Friday (Day 12)

- CityDays Festival
- Advance Standing Exams (8.02 & 7.012)
- Parents Weekend begins

Saturday

- Greek 101
- Freshmen Parents receptions/dinners at individual FSILGs

Sunday

Monday - Labor Day

Tuesday

- **Fall Term Registration**
- Advanced Standing Exam (5.11/3.091)

Wednesday

- **First day of classes**

MIT *updated 3/6/98*

Appendix B

Educational Proposal for Orientation

Purpose

The purpose of this proposal is to provide a comprehensive program that may be used to educate freshmen on the topics that they need to know as college students.

Recommendation for Implementation

We would like to recommend that, with the exception of a few topics that take more exposure to MIT to appreciate, all of this program be given during Orientation. Most of the topics that we suggest are immediately applicable, even necessary. We would ask that this program be given at least a total of three hours during Orientation to cover the basics. However, to preserve the continuity it would be ideal if a total of six hours, as well as the seven hour First Aid program were given during Orientation. For those topics that should definitely be covered during the term, we estimate a total of three hours within the first three weeks should be adequate. Additionally, the program should be given in groups of no more than 25; this should allow the freshmen ample opportunity to get tot know the people in their group, as well as allow for further questions and discussion. The groups could be led by the MOYA leaders, if such a program will still exist, but a group leader should go through at least four hours of training specifically for this program. We do not expect that all freshmen will retain all the information presented. It would thus be most helpful if a kind of reference book based on the topics covered in the program was distributed, and that this would also be available on the web. Many existing programs and resources have expressed a willingness to help with the details and implementation of this program; we hope that their input will be accepted and utilized.

Listing of Topics

This list is what we feel would be a good ordering for the topics. Additional topics may be added if it is felt to be beneficial; however, this is what we consider to be a minimum listing. Following each topic in parentheses is a partial listing of resources that address the topic, estimated minimum time to be spent on the topic, and when the topic should be covered (during the Term or Orientation).

I. Interpersonal Skills

b. Dating Practices at MIT (Anyone, 5 min., Orientation)
c. Gender Sensitivity (WomenÕs Collective and Genderworks, 15 min. to 1 hour, either Orientation or Term)
d. Race Relations (Committee on Race Relations, 15 min. to 1 hour, either time)
e. Sexuality Awareness (GAMIT, 15 min. to 1 hour, either time)
f. Peer Pressure (Anyone, 15 min., Orientation)

II. Health

a. Diet (MedCenter, 5 min., Term)
b. Stress Management (MedCenter, 5 min., Term)
c. Exercise (MedCenter and Athletic Dept., 5 min., Term)
d. Depression/Mental Health (MedCenter and Deans, 10 min., Orientation)
e. Sleep/Time Management (MedCenter, 10 min., Orientation)

III. Emergency Options

a. 911, x100, and Memorial Drive Call Boxes (CPs, 5 min., Orientation)
b. CPR and First Aid (Red Cross, 7 hours, Orientation or Term)
c. Emergencies with Substances (CPs and MedCenter, 30 min., Term)
d. Fire (CPs and Fire Department, 5 min., Term)

IV. Risk Behaviors

a. Safe Sex Practices (MedCenter, 5 min., Orientation)
b. Alcohol

    i. Safe Drinking Practices (CPs and MedCenter, 5 min., should be both Orientation AND Term)
    ii. Effects of Drinking (same as above)
    iii. Warning Signals (same as above)
    iv. Determining Limits (same as above)
    v. Binge Drinking (same as above)
    vi. Alcoholism (same as above)

c. Drugs

    i. Illegal (CPs and MedCenter, Term)
    ii. Legal: Caffeine, Tobacco, etc. (same as above)

V. Legal Responsibilities

These should all be covered during the Term, and possibly just the packet given to the freshmen.

a. Voting, Residency, Jury Duty
b. Misdemeanors and Felonies
c. Taxes
d. MIT Policies for Students
e. Hazing

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Footnotes

1. According to the 1994 Senior Survey, 93% of the residents in FSILGs were "very" or "generally" satisfied with their living group. (this footnote from the Introduction)

2. A comprehensive educational initiative is currently being developed by the IFC Committee on Educational Programs. This program addresses the following general areas: (1) interpersonal skills, (2) health advice, (3) emergency options, (4) risk behaviors, and (5) legal responsibilities. The preliminary proposal passed by IFC Presidents Council is included in the Appendix. (this footnote from Section I)

3. 97% of FLP participants indicated that the program provided "a good introduction to MIT." (1997 Post-R/O Survey). (this footnote from Section I)

4. See 1997 Post-R/O Survey and 1995 Survey of Sophomores about Freshman Year '94-'95. (this footnote from Section II)

5. This specific policy is drawn from the new IFC Policy on Risk Management (11/97) as developed by the IFC Committee on Social Policy, Liability, and Risk Management. (this footnote from Section II)

6. "The representation of ethnic and racial minority student in [FS]ILGs collectively is not markedly different from their representation in the dormitories." (Report of the Freshmen Housing Committee, 1989). (this footnote from Section II)

7. In the 1994 Senior Survey, 63% of the seniors felt "positive" about R/O Week and selecting living groups during the first week. The 1997 Post-R/O Survey indicated 87% of the freshmen were satisfied with their choice of living group. According to the 1995 Survey of Sophomores about Freshman Year '94-'95, satisfaction with the FSILG experience was most highly correlated with the sense of community, close friendships, supportive upperclass students, and the intellectual stimulation a living group fosters. (this footnote from the Summary)

Principles for the MIT Residential System

Report of a Working Committee

September 1998

Faculty and Administration: Phillip L. Clay, Chair; Margaret R. Bates, Jean P. De Monchaux, Andrew M. Eisenmann, Stephen D. Immerman, O. Robert Simha, Charles Stewart III

Students: Duane H. Dreger, Novice M. Johnson, Ryan K. Pierce, Ashesh P. Shah, Margaret C. Tsai

Staff: Eric Novak, Helen Samuels

I. Introduction

In December 1997, President Vest charged the Academic Council with the task of establishing a set of long term principles and/or goals for the entire MIT residential system. This work, which was to be undertaken principally by the Education Committee of the Council chaired by the Provost, was one of several Presidential directives intended to improve the orientation of new students to MIT, our housing system and the process of residence selection. Other assigned tasks included: comprehensive planning for Orientation and housing changes to be implemented in the Fall 1998; and, the initiation of planning for a new campus residence hall.

The following Housing Principles statement is the final product of the Housing Principles Working Committee, chaired by Associate Provost Phillip L. Clay, which met several times between February and May 1998 to review past and current housing policy and establish a set of overarching principles for our residential system, based upon the President's charge. Committee members included representatives from key faculty, student, and staff groups responsible for planning for, advising on, and/or operating the residential system, including the Office of the Dean of Students and Undergraduate Education, the Committee on Student Environment, Housemasters, Dormitory Council, Interfraternity Council, the Office of the Senior Vice President for Operations, and the Planning Office. (Committee members are listed at the end of this document.)

The Committee's work included:

- The creation of an extensive annotated bibliography of key housing policy documents and a historical timeline of important events related to the MIT residential system;
- The development of a set of draft principles for MIT housing grounded in these historical documents as well as recent reports authored by the Presidential Task Force on Student Life and Learning, the Ad Hoc Committee on Orientation and Residence for Fall 1998, and the Institute Dining Review Committee.

- Extensive review and redrafting of the Principles document, through several meetings of the Working Committee, as well as presentations to members of the wider MIT community.

The Committee did not consider current operating or assignment questions nor did they discuss the design or development details of building projects under consideration. These matters were deferred or assigned to others. The committee sought to frame a vision for what MIT should strive to effect in its residential system.

The Committee's work culminated in an April 21st large group presentation of the draft Housing Principles to faculty, student, and staff stakeholder groups. The response to the document at this meeting was quite positive; after lengthy discussion of each housing principle, the participants recommended several minor changes which were incorporated into the final draft. The Housing Principles statement has since been presented for further review and refinement to the Faculty Policy Committee, the Education Committee of the Academic Council, and the President.

It is important to note that the following Housing Principles are not themselves the product of a comprehensive examination of the current MIT residential system. The Working Committee felt that such a review, while a worthy exercise, was beyond the scope and time frame of its charge. Instead, the Working Committee chose to ground its work in the findings and recommendations of past and recent committees which have examined our residential system in far greater depth, including seminal studies, such as the 1956 Report of the Faculty Committee on Student Housing to the President (Ryer Committee), and the 1989 Report of the Freshman Housing Committee (Potter Committee), and more recent community processes, such as the 1997 Institute Dining Review Final Report, last year's Sense of the Faculty motion, and preliminary findings of the Presidential Task Force on Student Life and Learning. (While these Housing Principles were developed in advance of the release of the final Task Force Report in September 1998, their development was informed by draft Task Force documents and by Task Force members who also sat on the Working Committee.)

In fact, members of the Working Committee were impressed by the reoccurrence of familiar themes in many of these recent and historical documents; for instance, the importance of faculty/student interaction in the residential system; the social and intellectual benefits of common dining; and the opportunities generated by living in a residential community to promote responsible self-governance; to build a lively, supportive, and diverse collegiate community. Striking too was the fact that so little has changed in our residential system: shortcomings identified a generation ago, including overcrowding and the perceived dichotomy between the academic and out-of-classroom experience (the residence as refuge), still persist. In some ways, conditions have worsened in recent decades, witnessed by the elimination of common dining in many of the residence halls in the 80s, the effects of deferred maintenance, and our difficulty in establishing and enforcing a uniform code of conduct in all living groups.

Therefore, in order to strengthen the following Housing Principles, the Working Committee has also recommended below a mechanism for ensuring their implementation; namely, a Residence Council made up of residence system stakeholders, to advise the Dean of Students and Undergraduate Education and see that housing and residential issues get on-going, not episodic or disjointed attention.

This document is organized as follows. First, we present a brief Problem Statement, identifying critical issues in the residential system that the Housing Principles statement is intended to address. This is followed by a proposed Mission Statement for our residential system, a Statement of Principles, and a mechanism for implementation. Participants on the Housing Principles Working Committee are listed at the end of this document.

II. Problem Statement

Since its move to Cambridge in 1916 and the completion of Senior House, MIT has been committed to providing housing designed to enhance the intellectual and personal development of its students. Over the years, the Institute's housing inventory has grown as a result of efforts to accommodate a larger student body, to enroll women, and to provide housing for single and married graduate students. The MIT residential system is also unique in its historic reliance on fraternities, sororities, and independent living groups to provide housing on- and off-campus for a sizeable portion of the undergraduate population – tracing back to its roots as a regional technical institution and commuter campus. Today, sixteen undergraduate and graduate residence halls and thirty-eight fraternities, sororities and independent living groups comprise the residential system.

Beyond the bricks and mortar and the diversity of options, the MIT residential system is further characterized by a commitment to student choice, diverse traditions and lifestyles, and substantial student self-government. Students have historically expressed a high level of satisfaction with this system, particular its attributes of variety and choice, upperclassmen / freshmen mentoring and support, and student autonomy. However, surveys of undergraduates and recent alumni also point to shortcomings in the residential systems. Students point to the lack of diversity and tolerance across the residential system, the absence of faculty involvement and a strong Institute presence, overcrowding, and inadequate or poorly maintained facilities.

MIT is currently involved in an important evaluation of its educational mission, goals and structure. Two years ago, President Vest charged the Presidential Task Force on Student Life and Learning to re-examine its institutional purpose in the context of multiple forces for change, and more specifically, to re-examine the educational benefits derived from living in a residential community. The results of this work will shape the decision-making platform for housing development in the future. In addition, the Residential Systems Integration Team has introduced a unified housing and residential life organization at MIT which incorporates buildings, operations and programs. Complementing this effort, the Institute Dining Review Final Report provides plans for a new model of food service to better meet the dining requirements of the MIT community. Recent and planned

investments new housing and in the renovation of existing buildings provide additional opportunities to improve the residential system.

Notwithstanding this progress and the perceived level of student satisfaction, there are many challenges that remain:

- There is an inadequate supply of housing to meet our current commitment to provide housing to all undergraduates and fifty percent of graduate students who desire to live in MIT residence halls.
- While much of our housing is in relatively good condition, we face a backlog of deferred maintenance.
- While student self-government is an important MIT tradition, we have not met the challenge of incorporating the housemasters, faculty, graduate resident advisors, staff, and alumni into the life of the residences and living groups to ensure appropriate standards of conduct and supervision. The level of supervision of students varies not only between FSILGs and residence halls, but also among residence halls of different sizes and configurations.
- And, while the Institute has stated many times over its history its commitment to providing housing to enhance the intellectual and personal development of its students, we have yet to articulate a vision of what such housing might look like, or to develop a plan for upgrading our current residential system – its facilities and programs – to achieve this vision.

These challenges provide the framework for the Committee's work.

III. Principles for the MIT Residential System

A. Mission Statement

The mission of the MIT residential system is to support the education of our students in the broadest sense, including their intellectual growth and development of life skills by:

- developing facilities of the highest quality that support the residential system's broader educational mission;
- ensuring faculty and student interaction and intellectual engagement;
- promoting responsible student self-governance;
- enriching the residential experience by providing exposure to diverse cultures, ideas, and perspectives; and,
- maintaining a range of housing options while ensuring that each residence on- and off-campus adheres to the same high standards and rules of conduct.

B. Housing Principles

The residential system should be governed by the following principles:

1. Promote Excellence in Our Residential System

MIT's residential system – its physical facilities and environment; its organization and programs – should be of the highest quality, in keeping with the standards of a world-class academic institution. In order to achieve this high level of quality:

The residential system should provide safe, well-maintained facilities that provide space for quiet study, informal student and faculty/student interaction, group study, programs, dining, and recreation. Each facility in the residential system, be it a residence hall or a privately owned fraternity, sorority, or independent living group, should meet the same physical standards of excellence.

Planning for the residential system should be proactive and guided by an overarching set of principles and standards and should not be compromised by short-term needs.

The programs and activities, which occur in the residential system should be thoughtfully designed, adequately funded, well-staffed, and executed to support the residential system's mission.

2. Develop the Whole Student

> The whole complex of living facilities must be skillfully arranged to provide the kind of environment that contributes to the development of leadership, breadth, and standards of taste and judgement among our students – to give them the fullest possible opportunity to acquire, in a phrase of Sir Richard Livingstone's, a sense of the first rate.
>
> *— MIT President James R. Killian, Jr., Inaugural Address, 1949*

MIT should embrace the potential educational benefits derived from living in a residential community. In furtherance of this goal, and in concurrence with the recommendations of the Presidential Task Force on Student Life and Learning:

Faculty and students should explore ways to integrate formal and informal learning into the life of their residences. Such opportunities might include:

- enrichment in the arts and humanities not offered as part of the curriculum;
- exploration of leadership ability, personal skills, and career options;
- exposure to people of diverse interests and backgrounds;
- mentoring, advisorship, and peer support activities; and,
- participation in team activities and self-governance.

Faculty have a responsibility to assist in the intellectual and personal development of students in all areas of their Institute experience. MIT should acknowledge, and its incentive system support, the enormous educational value of faculty participation in the residential system. It must reaffirm the place of the Housemaster as the intellectual leader of the residence hall.

Alumni/ae, visiting scholars, graduate students, and staff also have important roles to play as mentors in supporting the development of our students in the residential system and should likewise receive Institute support and encouragement.

The Institute must provide role definitions, support and training to faculty, alumni/ae, graduate students, and staff participating in the residential system.

Future development and renovation of residences should allocate sufficient space for intellectual and study programs and for student/faculty interaction, including, where appropriate, additional residences for members of the faculty.

3. Build Supportive Communities

The residential system should foster the development of supportive communities at several different scales: at the micro-level within a residence (hall, floor, suite, etc.), at the level of the residence, and at the Institute level, based upon students' pursuit of personal interests and participation in campus-wide activities. Therefore:

MIT residences should be designed to facilitate quiet study in student rooms, group activities in common spaces, as well as recreational and social life. The programming in the residences should support students (and faculty) in addressing and managing pace and pressure in a healthy and productive manner.

In new residences, dining facilities should explicitly be included as a means of fostering community and programs within the house. The Institute should continue to provide a variety of dining options around the campus for convenience and so that students from different residences may interact.

Where appropriate, common facilities located in residence halls, such as exercise space, dark rooms, music rooms, and dining halls, should be made available for use by all students as a way of promoting cross-residence interaction and better use of our resources.

The physical relationship among the residences – the spaces, paths, and nodes that connect them – should foster community interaction and cross-residence socializing. New undergraduate residences should be located in close proximity to the MIT campus in order to promote community life.

4. Promote Community Self-Governance

The residential system should promote responsible community governance as a means of

developing leadership skills, building self-esteem, and fostering self-reliance and civic responsibility.

All members of a residence – students, Housemasters, graduate resident advisors, Faculty Fellows, and where desirable, alumni/ae – should participate in the design of programs and governance, and in so doing establish the community obligations that form the social contract.

In keeping with the goal of reducing pace and pressure, expectations for student participation in the residential system should not be unduly burdensome. The aim of student self-governance should be to support the intellectual and personal growth of the residents. Students, faculty, and alumni/ae in the residential system should address the question, "What is the 'right' work for students to be doing in the residences?" In addition, in its support of student self-governance, the Institute should not abdicate its ultimate responsibility for the management and operation of its facilities.

5. Provide for Thoughtful and Well-Informed Choices Within the Residential System

MIT should continue to offer a broad range of housing options, including residence halls, theme houses, independently owned fraternities, sororities and independent living groups, and co-ed and single-sex accommodations. In doing so, the Institute must ensure that each on- and off-campus residence adheres to the same high standards and rules of conduct and supports MIT's broader educational mission.

Students should be provided with sufficient information so that they can make thoughtful, well-informed decisions with minimum stress about their living arrangements. Housemasters, upperclass students, graduate resident advisors, faculty, alumni/ae, and staff should participate together in introducing students to the residential system.

We respect the diversity, interests, backgrounds, life styles, and values that students bring to MIT. We further respect that in exercising their choice among residential options, students may have different impulses, including:

- the wish to live with peers of similar interests or backgrounds; and,
- the wish to live in a diverse community with peers from a variety of interests or backgrounds.

In either case, the Institute must ensure that students demonstrate respect, tolerance, and acceptance of one another.

Membership in an on- or off-campus residence entails an implied social contract. Upper-class students have a distinct mentoring and peer support responsibility to incoming residents. Likewise, incoming students agree to participate in the life of the residence and abide by its rules.

6. The Institute Should Support the Implementation of These Principles.

The Institute's commitment to its residential system is manifested in several areas, including:

- the resources it allocates to operate and maintain its residences;
- the incentives and support it provides to community members – faculty, alumni/ae, students, and staff – who take part in and support the residential system; and,
- its follow-through on and consistency in new initiatives to improve the residential system.

The Institute should expect and ensure the same level of excellence in its residential system as it currently does of its research and academic programs. It must reaffirm the central place of its residential system in the educational mission of MIT.

C. Graduate Housing Issues

These principles were developed as part of the Institute's visioning process to address policy issues at the undergraduate level. Many of these principles may apply to graduate housing as well. We recommend that a similar effort be carried out to explore the special and unique principles related to graduate housing. Such an effort would require the participation of graduate student life stakeholders including representatives of the Dean for Graduate Education and the Graduate Student Council.

D. Implementation

1. Residence Council

While some implementation features are suggested in the sections above, the primary mechanism for implementing these housing principles is the creation of a Residence Council to advise the Dean of Students and Undergraduate Education. The Dean's office has recently assumed expanded authority for oversight of the entire residential system.

We have been severely crippled in the past because critical decisions related to residential life have been assigned to many different officers. Not only does this lead to a diffusion of responsibility and inaction, it also complicates getting advice and building consensus on programming, management and new development. To address these issues, we propose a Residence Council.

The benefits of the Residence Council include:

- a predictable forum and venue for the regular interaction and consultation among residence system stakeholders;
- assurance that housing and residential issues will get on-going, not episodic or disjointed attention; and,

- a framework for ensuring that initiatives reflect a consensus on academic/residence matters, student life, campus affairs and management issues related to the residential system.

The Residence Council would be advisory to the Dean, who has executive and managerial responsibility for all matters related to the residential system. The charge of the Residence Council will be to:

- serve as a forum for residence-related, cross-cutting issues;
- consider proposals for new construction;
- frame the scope and goals of residential renovation projects;
- identify priorities for residential programming;
- integrate residence-related goals with campus activities goals;
- encourage and collaborate on long-range planning;
- evaluate the operation of the housing system against the goals listed above; and,
- advise senior Institute officers on any and all matters relating to student residential life.

The Residence Council should include representatives from the following stakeholders and offices; attention should be given to balancing composition with size (a manageable size being no more than 10 persons):

- Office of the Dean of Students and Undergraduate Education;
- Dean for Undergraduate Curriculum, ex officio;
- Departments that report to the Executive Vice President, including the Planning Office and Physical Plant;
- Student leaders, including students from the Inter-Fraternity Council, ILGs, Dormitory Council, etc.;
- Housemasters;
- Graduate Resident Advisors;
- Graduate Student Council;
- Office of the Dean for Graduate Education;
- Faculty members and;
- Alumnus/na

IV. Housing Principles Working Committee

A. Faculty and Administration

Phillip L. Clay, *Chair*, Associate Provost; Professor, Urban Studies and Planning

Margaret R. Bates, Dean for Student Life

Jean P. De Monchaux, Professor, Urban Studies and Planning; Chair, Committee on Student Environment

Andrew M. Eisenmann, Associate Dean; Director, Residential Life and Student Life Programs

Stephen D. Immerman, Director of Administration and Operations, Office of the Senior Vice President

O. Robert Simha, Director, Planning Office

Charles Stewart III, Housemaster, McCormick Hall; Associate Professor, Political Science; Member, Presidential Task Force on Student Life and Learning

Eric Novak, Planning Officer, MIT Planning Office, *Staff*

Helen Samuels, Special Assistant to the Associate Provost, Provost's Office, *Staff*

B. Students

Duane H. Dreger, President, Interfraternity Council; Member, Sigma Nu

Novice M. Johnson, Resident, McCormick Hall

Ryan K. Pierce, Member, Undergraduate Association Executive Committee; Co-Chair, Committee on Housing and O/R; Resident, East Campus

Ashesh P. Shah, President, Dormitory Council; Resident, 500 Memorial Drive

Margaret C. Tsai, Member, Kappa Alpha Theta; Resident, Burton Conner