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MIT Faculty Newsletter

http://web.mit.edu/fnl

in this issue we offer Faculty Chair Bish Sanyal asking "Is it Time for a New Format for Faculty Meetings?" (p. 4); an article on assessing student learning, "How Do We Know if Students are Learning?" (p. 9); and our Teach Talk feature, "Online Subject Evaluation: One Step Toward More Effective Teaching" (p. 12).

Finding Polaris and Changing Course: A Closer Look at the December Faculty Meeting

Kenneth R. Manning

FACULTY GOVERNANCE AT MIT works through committees forging deals and agreements, before business reaches the floor of the faculty. Our faculty meetings consist mostly of reports of one kind or another. Usually there is little discussion, let alone vigorous debate. The Provost's report on the status of minority recruitment and retention given at the December 19, 2007 faculty meeting is a case in point. After speaking at some length on what is considered a very important issue for MIT, the Provost retired to his seat without a single question being asked.

Rarely do concerns emerge and percolate upwards from faculty at the grass-roots level. So it is not surprising that when an issue comes up in this way, the presiding officer and officers of the faculty seem taken off guard and baffled as to how to handle it in a smooth, seamless manner. Something needs to be done, I would suggest, to encourage and facilitate substantive input by rank-and-file faculty.

The resolution on the Star Simpson case came directly out of the faculty ranks, from Professor Patrick Winston and me, in response to an action by the administration that caused us concern – specifically, use of the epithet "reckless" to tag in the media a member of our community who had found herself in

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Editorial

The Power of Technology for Transparency

WITH TRIAL AND ERROR, considerable effort and a lot of goodwill, the *Faculty Newsletter* has tried to articulate the views of the faculty and the various perspectives that it has expressed. Our faculty itself is as diverse as the MIT community overall, a characteristic of which we are all very proud. Diversity is as much a source of strength as it is an expression of respect for one of the Institute's most distinctive features.

Yet this very diversity can be inhibiting as well. We recognize that we are not always able to reflect the full range of faculty perspectives as well as they should be expressed, and for the most part the "voices" are represented as best as we are able to – perhaps with less than the clarity they deserve.

We do appreciate the limitations of our efforts, and while we have always invited different perspectives on any issue – however salient to any part of the community they might be – we understand the inevitable difficulties that may arise in the process.

MIT is indeed fortunate to have fostered over the decades a powerful sense of community, a view of itself as a diverse yet coherent entity – dedicated to the excellence of its mission. In response to challenges, problems, or even routine dilemmas, the most common form of response has been to form a deliberative

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Photo credit: *Page 1,* David Lewis

The Power of Technology for Transparency
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committee. The committee mechanism itself reflects the importance accorded to diversity in the management of complexity. (And it is a powerful instrument of the management process – in almost any context.)

At the same time, however, the committee mechanism does not necessarily foster or even support one very important, if not critical, value so fundamental in the context of deliberative discourse, or even in the most basic respect for diversity. That is the value of *transparency.* Transparency is the cornerstone of legitimacy and an essential condition of authority.

The transparency in question pertains to the protection of the Institute's core values: Serving our students, strengthening our research, reinforcing our educational initiatives – some of the cornerstone of our mission. Everything we do here at MIT is, we must believe, in support of these values.

The *Faculty Newsletter* has tried to keep its focus on issues of principle, but as a limited voice of faculty thoughts and opinions, we are simply not able to reflect the full breadth of divergent views; nor are we able to provide that essential transparency that can only come from administrative response and acknowledgement of faculty concerns.

As a bi-monthly publication of approximately 24 printed pages, at times the *Newsletter* is unable to provide both the depth and immediacy needed for a continuing dialogue on significant Institute issues. Furthermore, the great pressure on faculty time often inhibits the attention necessary to provide an extensive printed article. In the past, many of these restrictions have simply been a function of the available technology; writing, editing, proofing, and printing take time. But in the twenty-first century, these limitations are rendered obsolete by exciting new technological changes that readily allow for concomitant expression of immediate views and responses.

Expanded use of the Internet and the variety of Websites they allow have provided a myriad of Institute-based information available to all (e.g., OpenCourseWare), or at times restricted to MIT personnel. It is exactly the power of this technology that must now be used more expansively to provide a continual forum for faculty opinions and administrative responses.

One example of the value of such a Website pertains to the Institute's international activities. It is fair to say that we do not have a vision that drives our international initiatives; or if we do, it has not been clearly communicated. We do not engage in discourse that leads to the clarification of such a vision. And, while we do have the International Advisory Committee, its mission is unclear and its activities are somewhat obscure. More important, we do not know how its deliberations reflect the Institute's core values. Are there guidelines or standards for consortiums with other countries (e.g., human rights, treatment of women, etc.)? How do we deal with nations that desperately need our help but are unable to pay for it? How can we avoid leaving the impression that MIT's expertise is now for sale to the highest bidder? These are just a few of the rather simple but largely unanswered questions.

Certainly we appreciate the efforts that our colleagues on the International Advisory Committee are making – as we appreciate all other committee activities. But at this point in time – with all of its dilemmas and even dangers – many members of the faculty may wish to express their views in a timely fashion and learn what the administration is thinking.

How do we proceed? What can we do to engage in deliberative discourse on issues such as MIT's international activities? How can we best proceed to "voice" our views and articulate our diverse perspectives? Taking advantage of our (somewhat) self-created new technology, we call upon the administration to establish a Website that will allow for faculty expression on any issue of concern. In addition, the Website must provide for dialogue between faculty and administration on the issues raised.

We understand that there are likely to be technological and procedural details that will need to be worked out. However, we have the utmost confidence in the Institute's ability to resolve them.

And we, the *Faculty Newsletter*, as the sole unrestricted voice of the MIT faculty, offer our support and assistance with such a venture, a venture which could provide an important and most needed "commodity" at MIT: transparency.

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Last Call for Nominations to Newsletter Editorial Board

THE *FACULTY NEWSLETTER* IS now accepting final nominations for candidates to serve on the *Newsletter* Editorial Board. Nominations must be received by March 1 to be considered. All current faculty members or professors emeriti are eligible to serve.

Reflecting last spring's change in the *Policies and Procedures of the MIT Faculty Newsletter*, all Editorial Board members will now be directly elected by the faculty.

The Nominations Committee for the *Newsletter* (Alice Amsden, John Belcher, Fred Moavenzadeh, Ron Prinn) will review all nominations and recommend candidates, in anticipation of faculty-wide, electronically based elections to be held in early spring.

Nominees will be asked to give evidence of commitment to the integrity and independence of the faculty, and to the role of the *Faculty Newsletter* as an important faculty voice.

Please forward all nominations to: *fnl@mit.edu*, or contact any member of the *Newsletter* Editorial Board. Please include Institute information (department, address, etc.) for both the nominee and the nominating faculty member, as well as a brief explanation of the qualifications of the nominee to serve on the Board.

Editorial Sub-Committee

From The Faculty Chair

Deliberations Without Resolutions: Is it Time for a New Format for Faculty Meetings?

Bish Sanyal

IS IT POSSIBLE TO HAVE serious, engaging discussions on important issues at MIT faculty meetings without the need to vote on resolutions? The answer is not clear to me because I have been surprised at how even well laid out presentations on important issues, such as the one made by Provost Reif recently on MIT's effort to increase minority faculty, did not generate any questions or comments from the faculty. Also I have noticed that the relatively recent practice of informal question and answer sessions at the faculty meeting with the President, Provost, and the Chancellor rarely generate good discussions. In contrast, we witnessed one of the most engaging, albeit somewhat uncivil, discussions regarding a resolution at the December faculty meeting.

What lessons can we draw from these experiences regarding how to generate good discussions at MIT faculty meetings, the types of discussions which would help faculty and administration reflect deeply on any issue from multiple perspectives without the stress and hostility we witnessed at the last faculty meeting?

Some of you have already pointed out to me that if the presentations at the faculty meetings are meant to convey decisions already taken by the administration then such presentations are unlikely to generate much discussion. Others have remarked that if the presentations resemble infomercials, that too is not conducive to discussions. Still others have noted that too much data presented too quickly can have an intimidating affect. These are all useful insights I considered as I pondered how to turn MIT's faculty meetings into a positive and learning experience, with a free exchange of ideas.

One suggestion is to have at each faculty meeting a panel comprising faculty members of divergent views to speak on a topic of interest to a wide section of faculty across the Institute. This could work if we assemble an interesting and experienced group of faculty who would be thoughtful and civil in their disagreements. It would also require that we select engaging topics with multiple facets that lend themselves to good discussions without any obvious answer. I have discussed this option with some of you. Based on your suggestions, I have assembled a tentative list of topics for your feedback. Will you, please, review the suggested list to spur your own imagination and propose a topic or two that I would put in the hopper before making a final decision?

For the moment, here is my list of topics, again, based on casual conversations with some of you:

(i) Is it true, or are we being nostalgic in thinking that in the past (pre 1970s) MIT was the setting for great experiments, innovations, and discoveries, even though the facilities provided were modest, the administrative costs were much lower, and, in general, MIT was less "corporatized"? Conversely, how could better facilities, more administrative support, and a more businesslike environment hurt the innovative capacity of the faculty? Are we living in significantly different times, financially, legally, and, most importantly, with regards to different research priorities, which must be acknowledged rather than lamenting for the good old days?

(ii) Should MIT faculty worry at all about the national and now even international ranking of universities, schools, and programs? It is true that there are serious reservations about the efficacy of rankings, and yet rankings are being used for attracting students and faculty, and to raise funds for endowments. What should be MIT's approach to rankings? Should we totally ignore them?; acknowledge their limited usefulness (how?); or use rankings as a disciplinary tool to encourage better performance?

(iii) What are the long-term consequences of no mandatory retirement age for faculty renewal and advancement of knowledge? And, as a corollary to that question: What would it take to respect the intention of the tenuring process, to acknowledge that advancement in medical knowledge has increased longevity and productivity of the faculty, and yet create a learning environment where new ideas and younger minds are provided the opportunity to flourish and excel?

(iv) Is the promotion and tenure process working reasonably well, or are there needs for some revisions, particularly regarding the transparency of the review process? Are there ways to enhance transparency without sacrificing confidentiality necessary for frank assessment of faculty performance? A related question particularly of interest to junior faculty is: Do they understand the process by which promotion and tenure is granted at MIT? What will it take to reduce the anxiety associated with performance assessment? And do we need to think more creatively about how to address the particular anxieties/stress of minority and women faculty regarding promotion and tenure?

(v) MIT's Ombuds office recently drew my attention to the increasing number of complaints from faculty as well as students and post-docs regarding uncivil and unprofessional behavior. Steve Lerman, my predecessor, who is now the Dean of Graduate Students, also warned of this trend in an article he had written for the *Newsletter* just prior to the end of his term last June (2007). In that article, Steve had proposed that MIT faculty voluntarily adopt a new code of conduct appropriate for out times. Is this an issue worthy of a serious discussion? Do you notice a deterioration in civility and professionally appropriate behavior? If so, what kind of self-regulation should the faculty be thinking about without sensationalizing the issue and diverting our attention from research/teaching and advising?

(vi) What should be the guiding principles for MIT's international engagements? Even though the question is being probed, thoroughly, by an Institute committee headed by Associate Provosts Philip Khoury and Claude Canizares, some of you have expressed concern over whether the formation of such a committee is yet another example of MIT's centralizing tendency? Others remain skeptical that MIT could resist the temptation of a large pool of revenue from international sources when every university, big and small, seems to be eager to globalize their operations? And, the old but still relevant question: What is the likely impact of MIT's increasing international engagements on MA, 02139?

There are other issues I could mention, but I do not think it is necessary at this stage to provide a long list of questions. What would be helpful, instead, is to receive your feedback on whether we should experiment with a new format for the faculty meeting, in which faculty panels would serve as the centerpiece, and what kinds of topics should such panels discuss so as to enhance institutional learning, while not creating institutional divisions. To achieve that goal we need to return to a level of civility and collegiality that was partially eroded at the last faculty meeting. We must restore a sense of civility and mutual respect if your faculty meetings are to remain a setting for learning, and not degenerate into a ritual of retaliation.

Best wishes for a collegial 2008.

Bish Sanyal is a Professor of Urban Planning and Faculty Chair *(sanyal@mit.edu)*.

Teaching this spring? You should know …

the faculty regulates examinations and assignments for all subjects.

Check the Web at ***web.mit.edu/faculty/teaching/termregs*** for the complete regulations.
Questions: Contact Faculty Chair Bish Sanyal at x3-3270 or *sanyal@mit.edu*.

No required classes, examinations, exercises, or assignments of any kind may be scheduled after the last regularly scheduled class in a subject, except for final examinations scheduled through the Schedules Office.

First and Third Week of the Term
By the end of the **first week** of classes, you must provide a clear and complete description of:

- required work, including the number and kinds of assignments;
- an approximate schedule of tests and due dates for major projects;
- whether or not there will be a final examination; and
- grading criteria.

By the end of the **third week**, you must provide a precise schedule of tests and major assignments.

For all Undergraduate Subjects, Tests Outside Scheduled Class Times:

- may begin no earlier than 7:30 P.M., when held in the evening;
- may not be held on Monday evenings;
- may not exceed two hours in length; and
- must be scheduled through the Schedules Office.

No Testing During the Last Week of Classes
Tests after Friday, May 9, 2008 must be scheduled in the Finals Period.

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possible legal jeopardy. Our resolution referred in part to the concept of checks and balances so fundamental in democratic practice, and ironically, the very process of bringing the resolution forward for discussion and reflection revealed a need to enhance such checks and balances in our own system of governance. Judging by what was said at the December meeting, our faculty resonates with such issues and concerns. Even though many expressed interest ahead of time and disappointment at being unable to attend the day before the start of Christmas vacation, the meeting was still well attended, totaling approximately 150 people, better than so many in recent memory. A number of faculty members came, they said, because of just one agenda item: our resolution.

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When Professor Winston and I tabled our resolution at the October 17, 2007, faculty meeting, we did so to allow for a fuller discussion within the community before bringing the matter up for debate and a vote at the ensuing faculty meeting. To that end, we were invited by the Chair of the Faculty to discuss the substance of the resolution with colleagues at the Faculty Policy Committee (FPC). He remarked that our resolution was important and that he wanted to get it before the FPC. We had been assured that only FPC members would attend. But one day before the meeting, after asking again specifically about the attendees, we were surprised to learn that various administrators and the Institute's chief lawyer would also be there. Professor Winston attended without me, gave a presentation to the group, and discussed the substance of our resolution. We got no feedback on any ensuing discussion or position taken after Professor Winston left the meeting. The Chair of the Faculty then tried to dissuade each of us, Professor Winston and me, from raising the matter again at a faculty meeting; attempted to split our co-sponsorship of the motion; and, when we declined, labeled our action "hostile."

Planning For The Meeting

Determined to carry on regardless, we sought to contribute to planning the agenda for the faculty meeting, recognizing that a joint effort between us and the agenda planners (the President, Provost, Chancellor, and the Officers of the Faculty) would be required to bring about a smooth meeting. We wanted the motion discussed and voted on. We knew that the only parliamentary requirement for taking a motion from the table was for one single item of business to be transacted, and that the motion to accept minutes of previous meeting(s) – the way our faculty meetings normally open – would constitute that single item of business. We then would have a good shot at an early discussion, hopefully while a large number of faculty members were still present. We therefore asked to be placed on the agenda immediately after the motion to accept the minutes was brought.

But we were met with opposition all along the way, the agenda planners insisting that presentations by the Provost and the President must precede our motion. No amount of appeal on our part to correct parliamentary procedure, or to fairness, could divert them from a decision made, essentially, by fiat. After intense efforts, we accepted what was clearly a *fait accompli*. We also failed to get our item listed simply as "Motion To Take Motion From The Table," which would have been clear to every faculty member. Instead, the confusing and obfuscating phrase, "Discussion About The Institute's External Communications," signifying nothing about a resolution being taken off the table and voted on, was placed on the agenda. The notion that the agenda itself is something that faculty members can help develop, beyond representation by faculty officers, seemed to carry no weight. We decided not to bring forward the agenda itself as the focus of discussion at the outset of the meeting, even though it would have been well within our parliamentary right to do so.

The President stated that while she had an opinion of her own on our motion, she would refrain from saying what it was in order to preserve her neutrality as presiding officer. To concede partiality while staking out a claim for detachment seemed unusual . . .

A parliamentarian was announced and introduced at the outset, no doubt to help deal with what the administration considered a set of complex issues. The parliamentarian was called on by the President, in her role as presiding officer, for assistance in making rulings. The responsibility, of course, for knowing and interpreting the rules of basic parliamentary procedure, and for ruling accordingly, still resides with the presiding officer.

We were surprised when the President announced that items on the agenda would be reordered closer to our original request – this after the Chair of the Faculty had spent weeks standing in the way of our request. This reversal would have saved everyone a lot of trouble had it occurred earlier. Had we not been thwarted on this point alone, we could have spent valuable time on other more important issues, such as speaking privileges and the method of voting, both of which are critical to fairness and justice in any democratic process.

Discussion at the Meeting

The President stated that while she had an opinion of her own on our motion, she would refrain from saying what it was in order to preserve her neutrality as presiding officer. To concede partiality while staking out a claim for detachment seemed unusual, but in any event, after Professor Winston and I presented our motion to take from the table*, the President called on the Chancellor to comment and to offer a substitute motion.

We had no notice of the proposed amendment from the Chancellor, with whom we had met just a day earlier at his suggestion to explore possible amendments, except that we had managed to obtain a copy distributed to department heads after their meeting the previous week. While we would not have accepted it as a friendly amendment, the option was never afforded us through appropriate channels in any reasonable and timely manner. In the end, the faculty voted not to substitute for our resolution either the Chancellor's motion or two other motions.

With the resolution under discussion, I raised a point of parliamentary inquiry about speaking privileges for emeritus professors, asking specifically whether or not emeritus professors have speaking privileges. The President and officers of the faculty responded, in obvious confusion, that the question of emeritus professors voting had been settled "fifteen years ago," "three years ago," and "three weeks ago." It was categorically asserted that professors emeriti "have *speaking* but *not voting* privileges."

This conclusion is not supported by the *Rules and Regulations of the Faculty*. According to *Rules and Regulations*, posted for all to see on the MIT Website: professors emeriti are not members of the faculty (see ***web.mit.edu/faculty/governance/rules/1.10.html***) and professors without tenure (retired) have speaking and voting privileges (see ***web.mit.edu/faculty/governance/rules/1.30.html***). But professors without tenure (retired) are not the same as professors emeriti. According to *Policies and Procedures* (see ***web.mit.edu/policies/2.3.html#2.3.1***), professors emeriti are 100% retired, while professors without tenure (retired) are still active at a no more than 49% level.

The point of parliamentary inquiry that I raised was about professors emeriti, not about professors without tenure (retired) – not on account of any particular case, but as a general point of order. I had already advised several professors emeriti, who had inquired of Professor Winston and me, that my informed opinion was that they would not be allowed to speak according to the rules, as I had always understood the rules and explained them to faculty during my tenure as Secretary of the Faculty. I had an obligation, I felt, to these professors emeriti and to others at the faculty meeting to raise the parliamentary inquiry – on behalf of those who had canceled plans to speak because of what I had advised them, and to other professors emeriti present, because I was confident that they would want to follow correct procedure and play by the rules. We had asked the Chair of the Faculty ahead of time for names of people who would be granted speaking privileges at the meeting, also that these names be announced at the outset, as is the usual practice. We received no response.

My intention was not to prevent anyone from speaking at the meeting, as noted in my inquiry. In fact, everyone who wanted to speak at the meeting, spoke. But I would have preferred in fairness that all professors emeriti (and students as well) had been granted speaking privileges at the outset. The question of who is a faculty member and who may (or may not) take the faculty floor is a critical one, and the presiding officer and officers of the faculty need to understand the rules and carry them out uniformly and fairly.

Arguably, a vote by secret ballot would have been best suited in this case. It would have protected junior faculty members from fear of retribution or a sense of intimidation, as well as senior faculty members who might worry about being called "hostile" (or worse) by the administration or faculty officers; it would also have eliminated any temptation for some to seek personal benefit for voting a certain way.

The Voting Members

The question of who may or may not vote is equally critical and should be announced just prior to calling for a vote, especially since our faculty meetings are open to the wider MIT community. Only members of the faculty may vote, including some *ex-officio* members. MIT makes no distinction, for voting purposes, between faculty who are not administrators and those who are. One attractive feature of the MIT administration is that many administrators also have MIT faculty experience. As our colleagues move into administrative positions, the rationale goes, such experience helps them become better administrators.

The Chancellor, the Provost, the various associate provosts, the vice presidents, the academic deans and their associates, together with the non-academic deans and some of their associates, and the department heads with their associates in some cases as well, number between 50 and 60 people, out of a faculty totaling 996 members. As full-time administrators, they leave their teaching, service, academic salaries, and voting privileges in the departments behind, yet they continue to vote at our Institute-wide faculty meetings and did so in healthy numbers at the December 19 meeting. Just the previous week, they had been mobilized by the upper administration not only to vote in opposition to our resolution – suggesting a more cautious approach to the way the

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administration portrays members of our community to the media – but also to encourage faculty in their departments to do likewise. Department heads are mandated to attend faculty meetings; attendance is part of their job description, which is not the case for the rank and file. Rank-and-file faculty have no organizational means or incentives to mobilize supporters in this way.

Casting the Vote

The faculty officers and president hold responsibility for ensuring that the means chosen to carry out voting is appropriate to the circumstances. In other words, they should weigh carefully ahead of time what process – voice vote, hand vote, stand vote, or secret ballot – would best promote participation and fairness. Arguably, a vote by secret ballot would have been best suited in this case, not the hand-vote that occured. It would have protected junior faculty members from fear of retribution or a sense of intimidation, as well as senior faculty members who might worry about being called "hostile" (or worse) by the administration or faculty officers; it would also have eliminated any temptation for some to seek personal benefit for voting a certain way. Who knows, some department heads might even have felt able to express in secret – out of view of the upper administration – a position different from the suggestion or mandate given them at the meeting the previous week.

There is precedent for voting by secret ballot at MIT. The most recent case I can think of was three years ago, when the nominations slate for three committees was contested by minority faculty. All the candidates for these committees, including the candidates seeking alternate nominations, were presented on a secret ballot. The method of voting was arranged by the Chair and the Secretary of the Faculty as the appropriate means to carry out a sensitive vote, making certain that only *bona fide* members of the faculty voted. Neutral colleagues were selected by the Secretary to tally the votes cast. The process went ahead smoothly and without a hitch. But then, for some undisclosed reason, the incoming Chair of the Faculty set up a committee to consider the (ir)regularity of this process. After months of review, the process was determined to have been conducted appropriately.

The 36 to 31 vote against the resolution should send a signal to the administration that around half of the faculty that voted (without even taking into account the large number of administrators voting as faculty, or the unknown position of the remaining faculty who, for whatever reason, chose not to vote) is dissatisfied with the administration's handling of the Star Simpson event . . .

Counting the Vote

Appropriate counting of votes is critical for a closely contested motion such as ours, yet the President and the Secretary of the Faculty took charge and counted the votes. As part of the administration and, consequently, an object of the resolution, it seemed odd, to say the least, that the presiding officer should assume this role. She strained to see who voted how. At one point she asked for a revote, asking that members voting against the resolution raise their hands higher, so that she could see them more clearly. Had the President and officers of the faculty selected neutral counters of a secret ballot, the process would have been more just, more fair, and ironically – in view of the secret ballot – more transparently sincere. This is not to impugn anyone's integrity, but simply to recognize the need for a system of checks and balances that ensures maximal protection of the voting privilege.

Interpreting the Vote

The 36 to 31 vote against the resolution should send a signal to the administration that around half of the faculty that voted (without even taking into account the large number of administrators voting as faculty, or the unknown position of the remaining faculty who, for whatever reason, chose not to vote) is dissatisfied with the administration's handling of the Star Simpson event and wishes that the Institute would refrain in the future from making hasty characterizations of the behavior of members of our community. Faculty evidently feel that the basic constitutional rights of members of this community are important enough for the administration to protect.

What turned out to be most promising about the meeting of December 19, 2007, was that faculty and administrators came together to discuss an important matter and did not shut down debate. When the faculty was presented with a motion to table the original motion indefinitely (an attempt to kill the original motion, to be sure), the gathering voted not to do so. The faculty insisted on bringing the original resolution to a vote, and MIT is the better for this.

What we need now is a public statement of the administration's interpretation of the vote and of its plan, considering the closely divided result, to move forward on the concerns expressed in the resolution. It would also move the Institute further along if the administration and faculty were to work together on addressing the concerns outlined herein. As with Star Simpson, the stars are on our side. In order to adjust our bearing, we need to look around us, find Polaris, and change course.

*For the complete texts of my and Prof. Winston's introductory comments to the discussion of the motion, please see: ***people.csail.mit.edu/phw.***

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How Do We Know if Students are Learning?

Lori Breslow
John Lienhard
Barbara Masi
Warren Seering
Franz Ulm

IN THE PAST DECADE, the issue of how to best assess student learning has been at the forefront of the national conversation about education. Discussions have intensified about how to ascertain what students have learned as a result of their undergraduate education. The good news is that the discipline of engineering has been out in front of the curve.

In 1998, the Accreditation Board for Engineering and Technology (ABET) adopted Engineering Criteria 2000, which mandated that engineering programs present data to show achievement of learning outcomes. Having just completed the second cycle under the new rules, the School of Engineering's departments, with support of the School's Director of Education Innovation and Assessment (EIA), have developed models and tools to improve the assessment of student learning that fit the unique needs of each department.

In addition to this effort, faculty who have been involved in educational innovation at MIT have collaborated with educational researchers, primarily from MIT's Teaching and Learning Laboratory (TLL), to devise ways to assess the success of those advances. Those initiatives have also contributed to the storehouse of knowledge now available to the MIT community about how to evaluate what students are learning, what contributes to their educational success, and what can be done to strengthen teaching and learning at the Institute.

A Mini-Assessment Primer

First, a few words about assessment methods! Grades are just the beginning of assessment of student learning. Grades are excellent measures of student performance; however, it could be argued that if grades are not carefully aligned with subject or program learning outcomes, they may only generally reflect student learning while disguising areas where individual or overall student performance is weak. However, using a variety of assessment allows for a more nuanced portrait of student learning.

Grades are excellent measures of student performance; however, it could be argued that if grades are not carefully aligned with subject or program learning outcomes, they may only generally reflect student learning while disguising areas where individual or overall student performance is weak.

The table (next page) shows examples of other assessment methodologies, categorized, first, as either "direct" or "indirect" measures. Indirect measures, such as student attitudinal surveys or number of students progressing to advanced degrees, allow stakeholders to infer the effectiveness of educational efforts. However, the data gathered from indirect measures cannot report with precision exactly what students have learned, or the skills they have acquired as a result their education. Direct measures, as, for example, a rigorous analysis of theses or capstone design projects, provide more rigorous data about students' knowledge and abilities.

Assessment methods can also be classified as internal or external. Internal measures are used before students graduate from a program, while external measures are often administered either just before or after graduation.

Assessment in SoE

SoE departments' process for choosing assessment methods for ABET review began with each department's faculty, in collaboration with the SoE education director, reviewing existing program goals and learning outcomes or drafting new ones. They also discussed curriculum issues of particular interest to the department. Using this information, the SoE education director suggested existing assessment tools (other than grades), or drafted unique instruments that fit the program. One example of a new instrument was the Senior Project Score Sheet used to analyze senior design projects and theses. The score sheet lists detailed program learning outcomes. Faculty and instructors, and sometimes external engineering professionals, scored theses or design work according to each outcome.

Individual faculty were asked to complete three brief tasks. First, they were asked to identify program learning outcomes covered in their subject. They were also asked to write subject learning outcomes using program outcomes as a guide. At the end of the term, they were

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How Do We Know Students are Learning?
Breslow, et al., from preceding page

asked to review student work as a function of subject learning outcomes.

In one example of a program plan, faculty in the Department of Civil and Environmental Engineering's new undergraduate program hoped to discern how well its pilot subjects were working. Feedback from alumni was used to confirm program goals. For example, alumni noted the need to add material to give students a better sense of complex, large-scale problem solving as well as global and economic contexts. Custom subject-level surveys at mid-term permitted retooling before term's end. Custom end-of-term surveys provided annual benchmarking of program goals and outcomes. Focus groups provided the needed level of detail for identifying areas for improvement.

The Department of Mechanical Engineering's program assessment plan illustrates the value of joining program-level and subject-level assessment. At the program level, a longitudinal review of alumni and senior survey learning-outcome data from 2000 to 2006 suggested specific areas for improvement. One area in which the program was found to be weak, for instance, was technical communication, so subjects addressing communication skills were targeted for improvement.

At the subject level, instructors developed a set of learning outcomes that were aligned with the program-level outcomes. In a simple tabular format, each term instructors could track how students performed for each learning outcome (using assignments and tests), and whether any instructional changes needed to be made. If concerns arose spanning several subjects for a program learning outcome, a program level change could be made. MechE also developed an online subject evaluation form; not only do subject data reach instructors more quickly, but program officers can look at valuable student comments across subjects.

	Internal Measure	External Measure
Direct Measure Faculty oversight (with education staff collaboration if needed)	• Grades on subject tests, homework, reports • Faculty, researcher, and/or external professional scoring of student work for each of a list of specific subject learning outcomes • “Prerequisite exams” given at beginning of term • Embedded testing (questions that specifically test a program learning outcome are embedded into student assignments/tests)	• External standardized exams (often given just prior to graduation)
Indirect Measure MIT or School oversight (with faculty collaboration)	• Subject Evaluation Survey data (subject learning outcome questions can be added) • Customized surveys that ask students to self-assess their learning and evaluate learning experience • Entry interviews (freshmen/sophomores) • Exit interviews/focus groups (seniors) • Senior survey of program learning outcomes	• Alumni survey • Employer survey • Industry/academic committee review • Employment data • Graduate school admissions data

Assessing Educational Innovation at MIT

One example of an assessment of educational innovation was the research undertaken to understand the strengths (and weaknesses) of experiments carried out by the Mechanical Engineering faculty to bring small-group pedagogies to core curriculum subjects. Funded by the Cambridge-MIT Institute, two dozen Course 2 faculty, along with seven faculty from other departments (particularly Aeronautics and Astronautics and Math), participated in this effort from 2004-2006.

In general, two types of small-group teaching were tried: Students were put into small groups in their recitations, or students met in groups of four or five with a graduate student or faculty member in place of their recitation. In both cases, the overarching purpose of the small group was to help students understand concepts presented in lecture and to apply those concepts in solving complex problems. Another facet of these experiments was to ask students to present solutions to problems in their small group as a way both to master technical material and to practice oral communication.

The assessment of these experiments included four surveys, 200 student interviews, a number of focus groups, a comparison of exam grades, and the mining of alumni data. One of the surveys, the Small Group Survey (SGS), was created specifically for this effort by a TLL educational researcher. The SGS is one of a group of surveys developed by TLL that asks students to identify the extent to which a new pedagogical practice or technology has impacted their learning.

The data produced by the variety of assessment methods used to research these pedagogical experiments provide insights into how students experience different teaching methods, and contribute to our understanding of how MIT students learn best.

The Value of Assessment

A valuable outcome of the kind of assessment undertaken by SoE for ABET accreditation is that the departments have been able to use the data gathered to identify particularly effective educational activities, as well as to pinpoint areas in their undergraduate curriculum in need of improvement. Similarly, assessment of educational innovation helps the Institute to understand how such efforts contribute to improving the overall educational enterprise. In both situations, faculty, working in collaboration with educational researchers, control the goals and learning outcomes assessed, as well as the amount of time and effort needed for each assessment initiative.

For more information on assessment at MIT

Information on SoE assessment plans and tools can be found on the SoE Education and Assessment Website, ***https://web.mit.edu/engineering/eia*** (requires MIT certificate).

General information on assessment and evaluation can be found on the TLL Website, ***web.mit.edu/tll/assessment-evaluation/index.html.***

A summary of the pedagogical experiments in Mechanical Engineering and the results of their assessment can be found at: ***web.mit.edu/tll/research/studies/TutorialsMechE.rtf.***

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Not Just Another Survey . . . !

HOW WELL DO YOU MANAGE the stressors of work? Do you have a voice in decision-making in your department? Do you feel that the criteria used for promotion and tenure are transparent?

The best way to make your opinions known is to answer the 2008 MIT Faculty Quality of Life Survey.

This Web-based survey covers a broad range of issues about work and family life, including workload and stress, department atmosphere, the tenure and promotion process, and satisfaction with various resources and services.

Several of MIT's peers have surveyed their faculty using the same questions on this survey, enabling valuable peer comparisons.

In 2004, MIT administered a similar survey to faculty. The results of this survey were used by the Ad Hoc Committee on the Faculty Quality of Life to better learn how faculty negotiated the stresses of work and life outside the Institute. A summary of the Committee's findings can be found at: ***https://mit.edu/fnl/vol/174/fql.htm.***

To access the survey, you may either click on the link sent to you in the e-mail from Provost Reif or retrieve the link by entering your e-mail address here: ***http://web.mit.edu/surveys/mitfaculty/.***

Teach Talk

Online Subject Evaluation: One Step Toward More Effective Teaching

Diana Henderson

HOW CAN WE IMPROVE the effectiveness of our undergraduate teaching? The Task Force on the Undergraduate Educational Commons spent time and energy addressing this essential topic, benefiting from the wisdom of successful colleagues and from the large body of research on pedagogy in higher education developed over the past quarter century. As a result, it recommended "Enhancing MIT's capacity to improve the teaching skills of faculty members and graduate students" (see *Task Force Report*, p. 125).

Certainly the Task Force faculty heard chastening reminders about the low levels of information retained from even the best classes, and realized the intense effort it takes for us to adapt our expertise in ways that are comprehensible and vivid for undergraduates (and other non-specialists). But we also heard numerous examples of ways in which we could collectively enrich our teaching and the already strong culture of educational innovation at MIT. One such way forward is to provide ourselves with more informative, reliable data from our students.

Subject Evaluation Now

At present, MIT does not have one uniform subject evaluation system. Some departments and the Sloan School run their own online subject evaluations, while most other departments use the paper forms provided and processed through the Office of the Dean for Undergraduate Education (DUE) (led by one heroic staff person in the Office of Faculty Support). This latter "system" is actually a patchwork of processes, and does not provide a searchable archive for instructors to compare or discern patterns in student responses over the semesters. The process of getting accurate information about instructors' teaching assignments is onerous for departmental administrators and the DUE alike, and the paper form prohibits listing more than three instructors. The student responses include only the subset of those who can attend class on one particular day, and if students write with felt-tipped pens or in green ink or make comments outside the boxes, the forms cannot be processed at all. These are only the most obvious among a number of flaws in the current system that limits its use value.

Of course, any type of student evaluation form should be seen as only one indicator among many: a helpful but not sufficient feedback loop. Quantitative measures are perhaps less useful – especially for seasoned teachers – than are specific comments, and again the format of our current paper-based system limits these to the swiftly scrawled spaces on the back of the single sheet (in some cases not copied or returned to the particular teachers by departments or lead instructors, and often left blank by students rushing to another class or event). The complexity and time-consuming nature of the process – from information gathering at the start to Internet posting at the end – prohibits offering any service other than at semester's end. Thus we cannot, in the paper-based process, enact the Task Force's recommendation of "Improving the breadth of coverage and the usefulness of end-of-term class evaluations" (*Report*, p. 126).

For these reasons and more, during the next few years MIT will be moving its central subject evaluation system online and away from paper-based forms. In parallel, efforts will be made to improve the quality of teaching data and the ease with which it is collected. This is a multi-year joint project of the DUE and Information Services and Technology: in addition to those managing and administering the process within the Office of Faculty Support, additional staff from the Office of Educational Innovation and Technology (within DUE) and Student and Administrative Information Services (within IS&T) are contributing expertise and leadership.

The project team has been examining policies and practices at MIT and other institutions, including our peers (who are also in the process of moving their subject evaluations online); collecting comments and wish lists from offices, departments, committees, and individuals (among them the Office of Institutional Research, the Committee on the Undergraduate Program, undergraduate officers and administrators); and researching technical and infrastructure issues with members of Information Services and Technology and potential software vendors. This spring, a pilot will begin.

Schedule

Four departments – Physics, Chemical Engineering, Literature, and Philosophy – will be testing selected subjects in the online subject evaluation (OSE) and Who's Teaching What (WTW) beta pilots this coming spring. All other departments using the DUE's centralized process, as well as non-pilot subjects within the pilot departments, will continue to use the paper system this spring. (The pilot subjects will also have the paper option as a backup.) Interested departments will be able to join the production pilots in FY09 (academic year 2008-9). The paper forms will be phased out beginning in FY10 (academic year 2009-10).

ments that run their own online systems have expressed interest in moving the administrative and technical burden to a centralized system. The improved WTW functionality will make it easier to enter, search for, and maintain teaching data. Future integration with Stellar, scheduling, and other systems will further simplify the evaluation process.

	OSE and WTW Improvements	Policy and Process Issues
Phase 1 (FY07)	• Discovery phase	• Identified issues • Made recommendations
Phase 2 (FY08)	• OSE beta pilot with four departments • WTW improvements and beta pilot	• Create governance • Prioritize requirements
Phase 3 (FY09)	• OSE/WTW production pilot • Make available to interested departments • Paper forms still available • More features	• Implement new policies
Phase 4 (FY10)	• Implement integrated production system and get all departments on board • System enhancements • Integrate SIS Vision project • Phase out paper forms	• Revise and maintain policies

Expected Benefits

More thorough data collection. All students will have the opportunity to participate in subject evaluation, not just the ones who show up on a specific day during the last two weeks of class. The online survey instrument will allow for the addition of department- and instructor-specific questions. Qualitative comments will be able to be matched with a particular instructor, and will most likely be richer; certainly students will be given the opportunity to provide more detailed, thoughtful comments.

Simplified administration. Many departments will be able to eliminate activities such as typing comments, copying and distributing completed forms, distributing and processing their own paper evaluations for TAs, and creating longitudinal and comparative reports. Even departments that run their own online systems

Better reporting capabilities. Faculty will be able to receive individual electronic reports, including open-ended comments, quickly. There will be the ability to accurately report who is teaching what to whom, and to do longitudinal analysis. The variety and depth of the reports will be useful in many ways, such as curriculum planning and syllabus modification, and will be more accurate and uniform when used (as they currently are) in tenure and promotion processes, department accreditation reviews, and institutional research.

Policy Issues

In pursuing their research, the project team has found that questions of policy are even more critical than the technical challenges of developing a subject evaluation solution.

Some of the questions they have raised include:

- How will students' qualitative comments be distributed, and to whom?
- What incentives will be effective and appropriate to encourage students to complete evaluations?
- Should students who have dropped subjects or registered as Listeners be asked to complete evaluations?
- Should the evaluations be anonymous or confidential? Do we wish to keep the results confidential but available for purposes of institutional research?
- What are the ramifications of having students complete their evaluations outside of class? Will ratings be affected?

To answer these questions, the Office of Faculty Support has formed a Subject Evaluation Policy Advisory Committee composed of faculty, students, and staff that will begin deliberations in spring 2008. This spring's subject evaluation beta pilot will be limited to online versions of the current paper forms and reports, in order to minimize variables when we assess its effectiveness and to provide the time required to articulate and prioritize the multiple policy and process issues that must be decided before expansion of the system.

This project's ultimate goal is to improve teaching and learning at MIT. It can only benefit us to develop the means to present timely and accurate feedback from our students. How we value and learn from this information is up to the faculty, and requires our thoughtful attention and communal effort.

For More Information

Project Website: ***web.mit.edu/se-project***
Project e-mail: *se-wtw@mit.edu*

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MIT Should Establish a Standing Committee on Investment Responsibility

Ali S. Wyne
Alice H. Amsden

The authors propose that MIT establish and adhere to guidelines for responsible investing practices that take into account the social, environmental, and corporate governance impacts of its investments. They further propose that the Institute create a Standing Committee on Investment Responsibility (SCIR) to accomplish this objective.

Context

AFTER YEARS OF DISMISSING global warming concerns, ExxonMobil is beginning to acknowledge the problem of climate change. According to SEC filings, MIT's endowment portfolio has prominently featured Exxon for many years. Should MIT have been invested in a company that may have been undermining scientific discourse? Such investments might be justifiable if MIT took a more active, community-based approach to shareholder engagement.

Shareholder engagement includes – among other measures – proxy voting, letter writing, and resolution filing, none of which involves altering investment strategies or moving money. Last year, for example, Exxon shareholders filed a resolution that asked the company to adopt goals for reducing greenhouse gas emissions.

The resolution received an impressive 31% of the shareholder vote and garnered tremendous media attention. [Dashika Slater, "Resolved: Public Corporations Shall Take Us Seriously," *The New York Times Magazine*, available at ***www.nytimes.com/2007/08/12/magazine/12exxon-t.html*** (August 12, 2007).] It is reasonable to argue that shareholder pressure contributed to Exxon's shift on global warming.

Last year, as part of a major public relations campaign, Exxon defended itself against criticism by touting its research partnership with Stanford. Its board highlighted this partnership in its proxy statement against the aforementioned resolution. To protest the company's use of Stanford's name, Steve Bing withdrew a $2.5 million pledge to the university.

> While MIT's ACSR [Advisory Committee on Shareholder Responsibility] has been largely defunct, Harvard, Yale, and Stanford have led academia in engaging shareholders and responding to grave human rights crises.

Although the Institute does not have a widely publicized partnership with Exxon, external corporate affairs are becoming increasingly difficult for colleges and universities to ignore. With an endowment of $10 billion, which is larger than the market capitalization of many major corporations, MIT carries great influence with its votes, especially since the threshold for resubmitting a resolution is not a majority vote, but rather, a 3% vote for the first year, and an increasing percentage in subsequent years.

Harvard, Yale, and Stanford all established standing advisory committees on shareholder responsibility in the 1970s (respectively, in 1972, 1972, and 1971). In 1971, by contrast, MIT established the ad hoc Advisory Committee on Shareholder Responsibility (ACSR), which did not even convene between 1999 and 2006. While MIT's ACSR has been largely defunct, Harvard, Yale, and Stanford have led academia in engaging shareholders and responding to grave human rights crises.

A standing committee complete with members and guidelines would enable a proactive and efficient response to pressing concerns that might arise in regards to MIT's investments. It is often objected that Institute policy should not proceed from the decisions of peer institutions. In the absence of a clear rationale, however, this posture ceases to be a defense of MIT's uniqueness and instead becomes an excuse for complacence. The ACSR's recent decision to divest selectively from certain companies operating in Sudan came long after most schools had decided to divest, and with much criticism about its lack of transparency.

Functionality

We stress that SCIR would be an advisory committee whose principal function would be to recommend how the Corporation should vote on any shareholder resolutions that were submitted for its consideration. It would have no control over MIT's endowment. It would, however, allow the Institute to engage corporations in a manner that it has been unable to with an ad hoc committee.

The first step would be to elect representatives to the committee. SCIR would comprise a diverse group of students, faculty, and administrators who would collectively possess expertise in all areas that would be important to shareholder resolution votes, ranging from finance to economics to urban studies to human rights.

The second step would be to draft guidelines in collaboration with the MIT Corporation. SCIR would apply them to determine how to vote on shareholder resolutions.

A standing committee that can represent the community and evaluate its concerns transparently is essential for MIT to live up to its shareholder voting responsibilities. The Corporation Joint Advisory Committee has neither the time nor the resources to undertake the responsibilities with which SCIR would be entrusted. The Corporation could task SCIR with collecting, analyzing, and synthesizing all of the relevant information, thereby affording itself greater time to weigh higher-level considerations of the Institute's finances.

A Notable Concern

Many individuals have expressed the concern that SCIR might become a channel through which to apply divestment. Given that SCIR's membership would be so diverse, and that the guidelines discussed above would include a strong presumption against divestment, it would be difficult for any minority to pursue an agenda. Only if the situation under consideration was *a priori* judged to be sufficiently grave, and if all possible recourses for engagement had been exhausted, might divestment be recommended.

The Imperative

Our proposal has made great progress in the months since its inception. As a response to the student community's concerns, *39 U.A.S 5.3 – 54gsc7.5* "Establishing Responsible Investing Principles at MIT" is a joint resolution of the Undergraduate Association and the Graduate Student Council, passed overwhelmingly by those student bodies. Available online is a comprehensive informational packet that includes the text of the resolution and descriptions of comparable committees at our peer institutions. [We invite readers to view this documentation at the following link: ***mit.edu/amnesty/scir***.]

We want this committee to be representative of the faculty, and hope to have our proposal placed on the agenda of the February 20 faculty meeting. The time to establish SCIR is long overdue – please join us in realizing this crucial imperative. ■

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Alice H. Amsden is a Professor of Economy in the Department of Urban Studies and Planning *(amsden@mit.edu).*

Top Ten City of Cambridge Tax Payers (FY 2007)

	Nature of Business	Assessed Valuation	Amount of Taxes	% of Total Tax Levy
Massachusetts Institute of Technology	**Education**	**$1,420,488,100**	**$24,374,479**	**10.52%**
Boston Properties	Commercial	468,316,000	8,570,183	3.70
BioMed Realty Trust	Commercial	432,837,100	7,920,919	3.42
Equity Partners	Commercial	244,367,800	4,112,838	1.77
Novartis Pharmaceuticals	Commercial	221,426,400	4,052,103	1.75
New England Development	Commercial	193,047,200	3,532,764	1.52
PREEF American Reit ii Corp.	Commercial	180,000,400	3,294,007	1.42
One Kendall LLC	Commercial	177,922,500	3,232,199	1.39
President and Fellows of Harvard College	Education	276,892,410	3,075,356	1.33
Lyme Properties	Commercial	152,607,200	2,421,560	1.04
		$3,767,905,110	**$64,586,408**	**27.86%**

Source: City of Cambridge

MIT Poetry

by Nadia Herman Colburn

Reading the Newspaper By the Open Window

The world that is alone in its beauty

with no consolation—

the black walnut tree
the double-oleander

the goats, always-hungry—

Who hasn't been seduced?

Who is the wonderful *me* of happiness?

Of forgetfulness,
of horror,
that must be a part?

As if "all"
were a word in another language.

That no one speaks.

Nadia Herman Colburn, a Lecturer in Literature this year, has published poetry in many magazines, including *The American Poetry Review*, *The Yale Review*, *The Kenyon Review*, and *The New Orleans Review*, where the above poem appeared in 2007. She is currently finishing a memoir about pregnancy and early motherhood.

Introduction to the Campaign for Students

Phillip L. Clay

THE INSTITUTE HAS EXPERIENCED a significant transformation over the last 15 years. Our commitment to merit and innovation is steadfast, and MIT thrives as the premier institution of science and engineering. We are now also among the first rank of colleges and universities with excellence in a broader set of fields. We admit and attract the best and the brightest of undergraduate and graduate students, while keeping true to our legacy of need-blind admissions and need-based aid. In addition, we are tackling the world's energy crisis and have opened a new frontier at the boundaries in life science, where medicine and engineering intersect. We continue to make world-class contributions, applying engineering and science to solve great problems of the world.

Today, more than ever, MIT is developing leaders who solve real-world problems. In order to support faculty teaching and educational innovation, to provide programs and infrastructure to our students, and to secure our commitments to need-blind admissions and need-based financial aid, we must mount a campaign to attract the resources that are needed to secure our future.

The Campaign for Students, a fundraising initiative to support undergraduate and graduate financial aid, education, and student life, will support these transformations. The goal of the Campaign is to attract support for critical needs at the core mission of MIT – to make it possible for every student we admit to take full advantage of MIT and to keep the Institute competitive. Over the next five years, we hope to raise at least $500 million for scholarships, fellowships, programmatic and capital investment in student life, and initiatives growing out of the Report of the Task Force on the Undergraduate Educational Commons, as well as various faculty initiatives. The Campaign is an opportunity to enhance the overall MIT experience while preparing students for the important roles they will play in the world.

The Campaign for Students

- $200 million for scholarship support, which enables us to continue our commitment to need-blind admission
- $100 million for graduate fellowships, which will provide similar support for our graduate students and assures that our graduate students receive the best preparation for research opportunities, which typically start after the first year
- $100 million for the development of a broader, more flexible educational experience that emphasizes curricula enhancements, hands-on and project-based learning, international study programs, and leadership development
- $100 million to support student programming in living/learning communities, leadership development, campus programming, and upgrades to campus facilities.

The Campaign for Students is an umbrella under which School and department initiatives are covered. It will also support and complement efforts that several Schools and departments have already undertaken. We are working to share best practices among all parts of the Institute. Departments will be especially valuable as we enhance our connection to graduate and international alumni. This cultivation will be critical not only in this campaign, but for all our future development efforts.

The Campaign is an important step towards securing the Institute's legacy and its fresh presentation to the current generation. We have come a long way in making MIT special, and I hope that this campaign will help us sharpen the image of what we do for the whole student.

As we look forward to celebrating in 2011 the one-hundred-fiftieth anniversary of MIT's founding, and commemorating our one hundredth anniversary at our present location in Cambridge in 2016, I sincerely hope that you will join us in making your own personal commitment in support of MIT students through the Campaign for Students. We would also welcome your suggestions for contacts, venues, and approaches to our alumni and friends.

In the coming years, we will explore how best to leverage the many initiatives we have in place to make our programs and services stronger and more effective. We believe that the work of the faculty speaks powerfully to the world, and sharing your work with the world can be a critical part of our Campaign presentation. As we near the public launch of the Campaign for Students in October 2008, I welcome your ideas to garner support for this endeavor and ask that you visit ***humanfactor.mit.edu*** for more information. Indeed, in the words of President Hockfield, "The world has never needed MIT as much as it does now."

Phillip L. Clay is Chancellor *(plclay@mit.edu).*

MIT Historical Society is Proposed

Paul E. Gray

THERE IS INTEREST AT the Institute, expressed by faculty and alumni, and stoked by members of the Class of 1954, in creating an MIT Historical Society. Our late colleague and former provost Walter Rosenblith used to say "MIT is so involved in creating the future that it pays little attention to its past." President Hockfield has stated repeatedly that MIT is one of the best-kept secrets in American higher education. She has expressed enthusiasm to this writer about the desirability of an MIT Historical Society and about its relevance as we approach the Institute's Sesquicentennial in 2011.

The mission of such a society is seen as: to research, promote, publicize and publish the history* of the contributions, achievements, and successes of MIT and its students, graduates, faculty, and staff in order to inspire future generations of MIT people.

The proposed MIT Historical Society will be funded through the active participation and support of interested and involved alumni.

Your comments, suggestions and expressions of interest in participating in this undertaking would be most welcome.

***History: ". . . not a mere chronicle of events, but as a reflection of how ideas are born, cross-fertilize, and lead to innovation."** [From the foreword to the book *Mind and Hand – The Birth of MIT* by Julius A. Stratton and Loretta H. Mannix, MIT Press, 2005.] ■

Paul E. Gray is a Professor Emeritus in the Department of Electrical Engineering and Computer Science and President Emeritus *(pogo@mit.edu).*

MIT's New Adoption Assistance Program

RECOGNIZING THE BROAD DIVERSITY of MIT employees who are building families, MIT has created an Adoption Assistance Program that provides eligible employees with financial reimbursement for qualified adoption expenses. The program is being administered through the Benefits Office in the Human Resources Department.

The program start date was January 1, 2008, and provides a benefit of up to $5,000 per finalized adoption for eligible expenses, not to exceed a lifetime benefit of $20,000 per employee. Special provisions are being made for qualified adoption expenses incurred in 2007 before the program start date.

All benefits-eligible MIT employees may apply for benefits under the program upon adopting a child under the age of 18. Employees must be actively employed, or on approved paid or unpaid leave, at the time the expenses are incurred and at the time the adoption is finalized. If two adoptive parents are both MIT employees, only one employee is eligible for reimbursement per adoption. The plan is open to single individuals and same-sex couples; the child being adopted may not be the child of an employee's spouse or domestic partner.

This program was years in the making and has been very well received by the community. For more details, visit ***hrweb.mit.edu/benefits/adoption/index.html.***

For more information on adoption resources at MIT, or for a confidential consultation on adoption or issues related to adoption, please contact the Center for Work, Family & Personal Life at (617) 253-1592, or e-mail *worklife@mit.edu*.

For information about MIT's peer-led discussion group, including a schedule of upcoming monthly meetings, or to sign up for the group's e-mail listserv, visit Adoptive Families at MIT at ***web.mit.edu/adoption/***. ■

letters

The Institute's Future

To The Faculty Newsletter:

IN RESPONSE TO YOUR recent message, I must suggest that the best road for MIT, Harvard University, the Cambridge environment, our students, and the world at large, would be to merge formally, in some way, the two renowned institutions, so nearby to each other, and so entwined in their teaching and research functions. Both would be strengthened, and outstanding student applicants would be even more likely to come to us, knowing the incredible opportunities in our joint institution. A formal HMS/MIT institution would attract the best brains in the world, and likely make teaching and research even better for students, faculty, and the world at large. Is that feasible?

RS Lees, M.D.
Professor Emeritus, HST
Harvard, 1955; HMS, 1959

Teaching this spring? You should know . . .

The *MIT Academic Integrity Handbook* is available online at:
web.mit.edu/academicintegrity/.

This student guide not only educates students about the meaning and consequences of academic dishonesty but also provides details and examples on how to correctly cite sources and avoid plagiarism.

It also gives pointers on good work habits and MIT resources that can provide assistance.

Including this URL on your syllabi could be very beneficial to students.

Hardcopies of the handbook are also available for faculty or students by contacting Anna Babbi Klein, DUE Communications Officer: *abklein@mit.edu*, (617) 253-7364.

M.I.T. Numbers

Select Student Admissions and Financial Aid Numbers
(from the *Report of the Treasurer*, FY2007)

	2007	2006	2005	2004	2003
Students					
Undergraduate					
Full Time	4,068	4,014	4,078	4,070	4,115
Part Time	59	52	58	42	63
Undergraduate Applications					
Applicants	11,374	10,440	10,466	10,549	10,664
Accepted	1,514	1,494	1,665	1,735	1,724
Acceptance Rate	13%	14%	16%	16%	16%
Enrolled	1,002	996	1,077	1,019	980
Yield	66%	67%	65%	59%	57%
Freshmen Ranking in the top 10% of their Class	97%	97%	97%	97%	99%
Average SAT Scores (Math and Verbal)	1,460	1,461	1,471	1,463	1,460
Graduate					
Full Time	5,924	5,865	5,907	5,928	5,789
Part Time	202	275	277	300	350
Graduate Applications					
Applicants	16,154	15,040	15,654	16,292	16,133
Accepted	3,187	3,389	3,308	3,251	3,416
Acceptance Rate	20%	23%	21%	20%	21%
Enrolled	1,980	2,003	1,900	1,858	2,071
Yield	62%	59%	57%	57%	61%
Student Financial Aid *(in thousands of dollars)*					
Undergraduate Tuition Support	$ 71,454	$ 63,746	$ 58,677	$ 52,106	$ 47,857
Graduate Tuition Support	172,021	167,297	161,384	157,722	147,240
Fellowship Stipends	25,020	32,440	31,717	30,176	28,760
Student Loans	8,962	9,542	11,052	13,544	25,928
Student Employment	77,732	78,503	75,917	78,219	73,646
Total Financial Assistance	**$ 355,189**	**$ 351,528**	**$ 338,747**	**$ 331,767**	**$ 323,431**
Tuition *(in dollars)*					
Tuition and Fees	$ 33,600	$ 32,300	$ 30,800	$ 29,600	$ 28,230
Average Room and Board	9,950	9,500	9,100	8,710	7,830