

University Classroom Committee Report To the Provost

2007 – 2008

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October 2008

**UNIVERSITY CLASSROOM COMMITTEE
REPORT
2007 – 2008**

Executive Summary

- The Committee allocated its \$500,000 annual budget to improve the physical condition of seventeen University-scheduled classrooms in Fisk Hall, Leverone Hall, Lunt Hall, Parkes Hall, and the Technological Institute.
- In anticipation of renovation of Harris Hall during 2009 - 2010 and the temporary closure of Harris 107 (a heavily used University classroom), the Classroom Committee funded an extensive technology upgrade in Owen L. Coon Forum in Leverone Hall. The Forum will serve as an alternative location for large enrollment courses on the south campus while Harris 107 is unavailable.
- During FY 2008, Academic and Research Technologies, working with the Classroom Committee and Facilities Management, completed the second year of a three-year program to outfit classrooms scheduled by the University Registrar with laptop-based technology. Sixteen classrooms were upgraded during FY 2008, bringing the number of classrooms with laptop-based technology to 66, and the total number of technology-enhanced classrooms to 97.
- New class scheduling guidelines were proposed by the Classroom Committee, and reviewed and approved by the Council of Deans and the Council of Undergraduate Deans. The new guidelines, which took effect in Fall 2008, were developed in response to the increased "bunching" of classes at several peak hours during the day; they reduce the percentage of classes that each school can schedule during "prime" time slots (10am-12pm and 2-4pm).
- Utilization rates for University-scheduled classrooms, which had declined modestly, on average, over the period FY02 - FY06, appear to have leveled off during FY 2007 and FY 2008, with overall University classroom utilization now at 63.1%. The scheduling policy changes implemented in FY 2002, which created additional time slots, contributed to decreases in classroom utilization. A pattern, however, of increased demand between 10AM to 12PM and 2PM to 4PM has re-emerged, and is being addressed by the new scheduling guidelines described above.

USE OF FY 2008 BUDGET ALLOCATION

The Classroom Committee allocated its FY08 budget of \$500,000 for the physical improvements detailed below to University scheduled (Registrar) classrooms. Final budget figures will not be available until early 2009, but it is anticipated that all project obligations will be met within the allowed budget. Unless noted otherwise, all projects to be completed by the start of the fall quarter.

- Tech L211: replaced all (171) chair shells, provided larger writing tablets and new flooring. This room is also to receive smart improvements during 2009 (from the centrally funded smart classroom upgrade account for FY2009).
- Tech M349: provided new tablet armchairs, carpet, chalkboards, reswitched and upgraded lights. This room will be smart by fall 2008 as part of the FY2008 smart classroom upgrade account.
- Parkes 223 & Parkes 224: Subdivided Parkes 224, to become two, 660 sf classrooms, one with tablet armchairs and the other with tables and chairs (relocated the tables & chairs from Tech M349). Reswitched lights and cleaned existing carpet. These rooms will be smart by fall, 2008, as part of the FY2008 smart classroom upgrade account.
- Parkes 212, 213, 214, 215, 222, 223, 224: provided electronic access (better security and ability to remotely lock and unlock each room) by adding Marlok™ to each classroom door.
- Lunt 101, 102, 103: provided new tablet armchairs and carpet.
- Lunt 107: built 2 steps in the rear of the classroom for better sightlines, provided new fixed seating and carpet. Lunt 107 was also prepped for smart classroom improvements during the summer, too. AV equipment will be installed in Lunt 107, December, 2008, as part of the FY2009 smart room allocation).
- Leverone Auditorium: Added Smart Technology to the 600 seat auditorium, replaced 16' screen with 20' screen, added light lenses to the existing light fixtures, added acoustic panels to the face of the projection room (per AV engineer recommendation).
- Fisk B17: need to replace furniture, and add wall panels for aesthetic reasons. This implementation will take place December, 2008.

STATUS OF TECHNOLOGY-ENHANCED CLASSROOMS AS OF OCTOBER 2008

Smart Technology Upgrades

The Classroom Committee completed year two of an accelerated three-year program (to be completed by August 2009) to outfit classrooms that are scheduled by the University Registrar with laptop-based technology. Academic and Research Technologies (ART), in partnership with Facilities Management and Operations (FMO) completed the introduction of laptop-based technology in sixteen additional classrooms during FY08. The sixteen upgraded classrooms are in five buildings: Tech Institute, University Hall, Kresge, Francis Searle and Parkes Hall. Six of these new laptop-model installations include a digital document camera.

As part of these improvements, Rooms 318 and 418 in University Hall were designed with a low-profile podium. The podiums were incorporated to support “seminar” style seating and to function more effectively with the flexible and collaborative seating arrangement in these classrooms.

Parkes 224 has been divided into two separate classrooms (Parkes 223 and 224). Each is fully outfitted with laptop technology.

The 600-seat Auditorium in Leverone (Owen L. Coon Forum) was funded for an extensive technology upgrade. Improvements include a large electronic projection screen, theatre-quality wide-screen projection that supports a variety of computer resolutions, a digital document camera, dual-boot computer, mobile podium, an updated and improved audio system for voice and media playback, multiple microphones, annotation over data or video, instructor friendly controls at the touch panel, and room lighting control and presets at the touch panel. Facilities improvements to this space included acoustical paneling to control echo and an upgrade to the existing lighting fixtures.

Based on statistics provided by Library staff, the existing six portable projection systems provided in 2007 were adequate for the needs of faculty scheduled to teach in the Library’s seminar classrooms. No additional systems were purchased for the Library in 2008.

All technology-enhanced classrooms supported by NUIT, including contract-supported rooms, are now monitored by a network-based management system. This system provides remote monitoring of the technology resources in classrooms, allows immediate on-line support and troubleshooting by support staff, scheduled system shutdown to conserve expensive resources, and statistics on equipment usage.

NUIT Academic and Research Technology (ART) manages a total of ninety-seven Registrar-scheduled, technology-enhanced classrooms on the Evanston Campus.

- Sixty-five are of the laptop-model
- Thirty-two include a resident computer, some with upgraded audio for microphone use and digital stereo quality.

- This suite also includes three large auditoria: Tech Ryan Family Auditorium, Fisk 217, and Leverone Auditorium (Owen L. Coon Forum) each used for teaching academic courses and also for special events.
- Two Smart Classrooms have integrated videoconferencing capabilities. (Pancoe Auditorium and Swift 107)
- ART also supports a total of twelve Videoconferencing facilities based on the Chicago and Evanston Campuses.

In Spring 2008, the ART Classroom Support Services Group moved from the University Library to a North Campus service point at Tech L363. The move has already brought benefits to faculty on the North Campus, due to faster response to classroom problems and better communication and co-ordination between full-time and student classroom staff.

Faculty Surveys of their Experience in NU Smart Classrooms

Every quarter, Academic Technologies surveys faculty registered for use of a technology-enhanced classroom, requesting feedback about their classroom technology experience. The survey data provide metrics to assess the operational quality of Northwestern's technology-enhanced classrooms. The survey feedback also helps the Classroom Committee track faculty usage patterns and the demand for new technology enhancements.

Survey results from 2007-08 continues to indicate that faculty are mostly pleased with the performance and availability of additional laptop-classrooms and have responded in a favorable way to the laptop model. This year's survey results show that 84% of the faculty who are booked into a Smart Classroom actually make use of the technology enhancements in these classrooms. Faculty frequently expressed appreciation in the surveys for the high design standards and the quality of the technology.

The use of Macintosh computers by our faculty appears to be growing. As of the Spring Quarter 2008, Mac laptops are now used in forty-six percent of the classes taught in laptop-based rooms. The PC laptop usage rate remained strong at fifty-eight percent. Of note, fourteen percent of our instructors indicated they used both platforms (but not simultaneously!) in their courses.

In FY 2008, the rate of technology use in a "standard" classroom with a resident computer was up slightly to seventy-seven percent, but laptop use in rooms with resident computers is also significant. Of faculty surveyed who used a laptop in a room with a resident computer, forty percent used a PC laptop and twenty percent used a Mac laptop.

Although we again heard from faculty who expressed frustration at having to use their own notebook computers, the high rate of those bringing their own computers even when resident computers are provided, shows that there is increasing acceptance of this method.

Other survey results indicate that, of faculty who used the technology in a "standard" smart room, eighty-seven percent indicated they were "satisfied" or "very satisfied" with the equipment.

Faculty requests for the availability of wireless access for students in the classroom has risen sharply; however, the number of requests for improved wireless coverage is roughly the same as those faculty who ask that wireless access to be blocked to students in the classroom.

Additional Technology Improvements

2007-2008 technology improvements include the replacement of old Macintosh computers in five Kresge Smart Classrooms. The new MacMinis are configured as dual-boot machines, providing access to Mac and PC operating systems and associated software. This model offers flexibility for faculty on either platform. This next year, as aging computers are replaced in Smart classrooms, ART will migrate all resident-model classrooms to this single computer, dual-boot model.

High-fidelity speakers were installed under the balcony in Tech Ryan Family Auditorum. This project was based on feedback from McCormick Administration, which noted a weakness in the sound when the room was filled to capacity, specifically for people sitting under the balcony. The new speakers improve and fill-in the sound quality of the room.

With the addition of eight digital document cameras added to classrooms this year, 27% of NU's Smart Classrooms now enjoy the viewing features made possible by this technology.

Security in Smart Classrooms

It appears that our effort to secure the more vulnerable Smart Classroom equipment with alarms, steel cables, locks, and network monitoring has been successful; there were no thefts of Smart Classroom equipment this past fiscal year.

Videoconferencing Services and Lecture Capture

To provide much needed videoconferencing capability on the North Campus, a high-definition Videoconferencing facility was opened in Tech MG51. Previously, this space functioned as a dedicated, twenty-six-seat computer lab and teaching facility. In its place, an updated and reconfigured, eighteen-seat computer lab and teaching venue now exists. Also integrated into this space is a videoconferencing and collaboration area that seats up to fifteen participants. Additionally, a GeoWall (or stereo display system), which offers 3-D Visualization services has been merged into the space. This system is used by the research and science community to produce three-dimensional modeling images and animation.

The SONY conference room located in 2East of the NU Library was redesigned to support higher definition videoconferencing and to better serve as a collaborative seminar room.

Lecture Capture activities at Northwestern are increasing on several fronts. Lecture capture is defined as software-based recording of video, audio, and content (PowerPoint, etc.) of classroom instruction and then made available as streaming video or downloads to portable devices. Lecture capture services began in 2007 for NUvention, McCormick presentations and for the

Feinberg School of Medicine. Currently, there is a commitment to record over 200 hours of class content for the Feinberg School of Medicine starting August 2008.

Classrooms equipped with videoconferencing technology have the capability to participate in the Lecture Capture project that is being managed by ART Classroom Support Services. By utilizing the existing technology in videoconferencing facilities and the campus videoconferencing infrastructure, lectures can be recorded and made available for playback through various outlets such as streaming media, through the course management system, or as podcasts through iTunesU.

Over the past several years, at least nine conference rooms with videoconferencing technology have been implemented for various departments on both campuses. At least two more are being considered for newly renovated departmental classrooms.

As part of the One Northwestern initiative, over twenty key researchers and administrators participated in a University pilot with desktop videoconferencing. A web-based meeting product, Adobe Connect Pro, has also been introduced to researchers this year, and is seeing increased use each month at the University.

Student Response Systems (SRS)

ART continues to support the use of student response systems (SRS) at Northwestern. SRS is an integrated hardware and software system that allows instructors to acquire student feedback during lectures and classroom discussions. By the end of FY07-08, almost 1800 Clickers had been sold. The standard device is compatible with receivers offered to Northwestern University faculty by ART, thus mitigating past need for students to purchase multiple devices for use in various Northwestern classrooms.

Enhancing Teaching with Technology

At the beginning of AY07-08, the Searle Center for Teaching Excellence joined Academic and Research Technologies (ART) in offering the week-long intensive institute for faculty, "Teaching and Learning with Technology." Institute participants engaged in workshops on pedagogical issues, online methods, and assessment and evaluation techniques, and familiarized themselves with practical classroom applications of laptop technologies. The program in 2008-2009 will be moved to January 2009, with several key innovations: (1) The program will now be held over a Saturday and three subsequent Friday afternoons in the winter quarter, to give participants more time to reflect on their projects, and (2) Graduate students will also be invited to participate, and be partnered with faculty to develop projects related to the faculty members' teaching.

Additionally, the Searle Center offered several workshops on the pedagogical applications of various technologies, particularly the Student Response Systems (SRS) ("clickers"). The Center held a workshop on clickers for faculty, and incorporated this technology into a two day conference for new TAs. Additionally, the Searle Center also sponsored a very well-received roundtable discussion examining the uses of "wikis" and weblogs to enhance learning, and facilitated another roundtable examining the expectations and technological competencies of "millennial" students.

Future Plans

In December 2008, six Registrar-controlled classrooms will be upgraded with laptop-based technology. Three of these will be in Kresge and three will be in Lunt.

Discussions and technology planning has begun with the architectural firm and the Facilities Management project manager overseeing the Harris Hall renovation. It is anticipated that there will be six Registrar classrooms when the building reopens in Fall of 2010. All but the large auditorium (Harris 107) will be outfitted as a laptop-based model and will include lecture capture capabilities. The large Auditorium in Harris (107) will be upgraded with the newest technology and will support lecture capture services.

CLASSROOM UTILIZATION

Overview of Utilization

Based on studies from 2000-2008, classroom utilization appears to display a consistent rising trend. Generally speaking this amounts to about a 3% increase in utilization each year since 2004. Just as in the previous two years, this increase is more visible in the later part of the day between 3 and 5 pm, and is consistent with an increasing use of non-standard scheduling Type III which allows classes to be scheduled any time after 3pm. In addition, the total number of class events per quarter has been rising since 2004. Each year has seen an average of 4-7% increase in activity, putting a greater pressure on classroom space.

As smart classroom upgrades overtake non-smart classrooms (over 70% of registrar classrooms are now “smart”) smart classroom utilization rates have been in slight decline or generally stable throughout the day, except between 3-5pm--continuing the previous overall rising trend within that time period. Smart classroom utilization rates are still much higher than non-smart classroom rates in all timeslots. Non-smart classroom utilization rates are slightly down, except in the early afternoon (12-3pm) where utilization is stable or rising slightly.

Harris Renovation

In addition to providing a yearly utilization update for classrooms scheduled by the Registrar (also see Appendix), analysis of utilization for Academic Year 2006-07 focused on the use of south campus classrooms to better understand the potential consequences of taking Harris Hall off-line for construction, and for determining the number of classrooms to be included in the plans for Harris’s renovation. The Registrar used hypothetical course scheduling for Academic Year 2008-09 to estimate the shortfall of available timeslots and the potentially needed redistribution of scheduled courses over the day.

New class scheduling guidelines were proposed by the Classroom Committee, and reviewed and approved by the Council of Deans and the Council of Undergraduate Deans. The new guidelines, which took effect in Fall 2008, were developed in response to the increased "bunching" of

classes at several peak hours during the day; the guidelines reduce the percentage of classes that each school can schedule during “prime” time slots (10am-12pm and 2-4pm).

Adherence to the new guidelines will help mitigate the temporary loss of the Harris classrooms, but, more important, will provide opportunities for students to take a broader range of classes, since classes will be offered in a greater number of time periods. Analysis of the actual scheduling data for Fall 2008 will help determine the effectiveness of the new guidelines while Harris is unavailable.

An outcome of these preliminary studies has been the identification of classrooms on the south campus, not just in Harris but also in Kresge Hall, that currently have more seats than are typically needed. While this has resulted in recommendations for Harris to reduce, not only the number of classrooms, but the number of seats per classroom (with one exception where the numbers of seats should be increased), further study of the situation in Kresge will be necessary. As time allows, additional studies need to be made of scheduling patterns and seat utilization in other campus locations.

Departmentally Scheduled Classrooms

Another significant initiative continues to be utilization of departmentally scheduled classrooms. Pilot efforts continue to be underway, not just to track usage of a selected group of departmentally scheduled classrooms, but to make these rooms accessible via a scheduling tool (Resource 25), and hence potentially more visible and available to users across departments within Schools. However, until a larger cross-section of departmental classrooms are on-line through this scheduling system, there will remain a lack of reliable information by which utilization of departmentally scheduled spaces can be meaningfully assessed, particularly relative to the number of these spaces that exist, and in relation to utilization of classrooms scheduled by the Registrar.

GOALS FOR FY09

- Develop priorities for FY 2009 funding and implement general improvements to University-scheduled classrooms.
- Improve scheduling of school and department teaching spaces
 - Work with Office of the Registrar as it creates an advisory committee to advise on the management and use of teaching space (including labs and seminar rooms) on our campuses.
 - Encourage adoption of Resource25 scheduling software for departmentally-scheduled classrooms and seminar rooms, in coordination with the Office of the Registrar.

- Work with Academic and Research Technologies to identify needs, demand, benefits and costs of installing videoconferencing and lecture capture technology in classrooms. Identify options and assess optimal levels for these resources. Provide an analysis, including recommended sites, technology and costs for review by Central Administration.
- Work with the Searle Center for Teaching Excellence to continue to develop and implement mechanisms that encourage and aid faculty and graduate students in using innovative pedagogies to improve student learning. Develop strategy for evaluating faculty utilization and experience of teaching in technology-enhanced classrooms.
- Review classrooms for overcrowded conditions, recommend alternatives, and define impacts.
- Continue to review and refine the scheduling policies.
- Seek additional funding for priority projects.
- Review the desirability of flexible classrooms, identify potential users, identify rooms that could be converted, define impacts and develop recommended strategy for implementation.

APPENDICES

- I. FY2008 Upgrades to General Purpose Classrooms**
- II. FY2008 - List of sixteen classrooms that were upgraded with laptop-based technology**
- III. Current listing of “smart” classrooms available for scheduling**
- IV. Report of the Subcommittee on Classroom Utilization**

I. FY2008 Upgrades to General Purpose Classrooms

Improvement	Room	cap	SF	Description	Conceptual Cost
room condition	Fisk B17	40	729	tablet armchairs, wall panels; implementation Dec. 2008	\$36,800
room condition	Tech L211	171	2,540	replace seating, carpet/flooring (reduced cost from 88k to 80k)	\$80,000
subdivide from 224	Parkes 223	35	666	construction, furniture (reduced cost by 5k)	\$30,000
subdivide from 224	Parkes 224	32	671	construction, furniture (reduced cost by 5k)	\$30,000
FY2008 laptop	Tech M349	34	572	new chalkboards, carpet, furniture, paint	\$25,000
FY2009 laptop	Lunt 101	18	280	tablet armchairs & carpet	\$9,603
FY2009 laptop	Lunt 102	12	224	tablet armchairs & carpet	\$7,360
FY2009 laptop	Lunt 103	25	335	tablet armchairs & carpet	\$13,944
FY2009 laptop	Lunt 107	40	594	fixed seating, new lights	\$33,000
Leverone Auditorium (Owen Coon Forum)	technology improvements only, add light lenses, add acoustic panels on rear face of projection room, reswitch lights and add lenses to fixtures. NO aesthetic improvements.	600	6,575	AV vendor: 100k; prep work for av install: 30k; light lenses 15k, rear acoustic panels & replacement proj rm glass: 5k	\$165,000
7 doors for 7 classrms	MARLOK: Parkes 212, 213, 214, 215, 222, 223, 224			\$62,000, or, \$8,857 per door	\$62,000

Appendix II: FY 2008 – List of sixteen classrooms that were upgraded with laptop-based technology

Tech L168
Tech LG 52
Tech LG 62
Tech LG 66 - Digital document camera
Tech LG 68
Tech LG 72
Tech LG 76 - Digital document camera
University Hall 312
University Hall 318 - Digital document camera
University Hall 412
University Hall 418
Tech M349
Parkes 223 (was Parkes 224) - Digital document camera
Parkes 224 (was Parkes 224)
Kresge 4-310 - Digital document camera
Francis Searle 3-220 - Digital document camera

Appendix III – Current listing of “smart” classrooms available for scheduling of Northwestern Classes

South Campus	Kresge 4-430	University Hall 418 (new)
555 Clark B01	Kresge 4-440	
555 Clark B03	Kresge 4-445	
Fisk 114	Parkes 212	
Fisk 217	Parkes 213	
Harris 107	Parkes 214	
Harris 205	Parkes 215	
Kresge 2-410	Parkes 222	
Kresge 2-415	Parkes 223 (new)	
Kresge 2-435	Parkes 224 (new)	
Kresge 3-420	University Hall 101	
Kresge 4-310 (new)	University Hall 102	
Kresge 4-335	University Hall 112	
Kresge 4-345	University Hall 118	
Kresge 4-365	University Hall 121	
Kresge 4-410	University Hall 122	
Kresge 4-416	University Hall 218	
Kresge 4-420	University Hall 312 (new)	
Kresge 4-425	University Hall 318 (new)	
Kresge 4-435	University Hall 412 (new)	

Central Campus

Annenberg G15
Annenberg G21
Annenberg G28
Annenberg G29
Annenberg G30
Annenberg G31
Annenberg G32
Annenberg 101
Leverone Auditorium
(Owen L Coon Forum)
(new)
Library 3322
Library 3370
Library 3622
Library 3670
Library 3722
Library 4622
Library 4670
Library 4722
Library 4770
Library 5322
Library 5722
Library 5746
Lunt 105
Swift 107

North Campus

Frances Searle 2-107
Frances Searle 2-378
Frances Searle 3-220
(new)
Frances Searle 2-407
Pancoe Auditorium
Tech A110
Tech L150
Tech L151 (LR3)
Tech L158
Tech L160
Tech L168 (new)
Tech L170
Tech 171 (LR2)
Tech L221
Tech L251
Tech L361
Tech LG52 (new)
Tech LG62 (new)
Tech LG66 (new)
Tech LG68 (new)
Tech LG72 (new)
Tech LG76 (new)
Tech M120
Tech M113 (LR4)
Tech M166
Tech M128
Tech M152
Tech M164
Tech M177
Tech M193 (LR5)
Tech M345
Tech M349 (new)
Tech MG28
Tech Ryan Family
Auditorium

Appendix IV – Report of the Subcommittee on Classroom Utilization

APPENDIX: OVERVIEW OF UTILIZATION DATA FOR REGISTRAR CLASSROOMS

Below is the summary of information for the Fall, Winter and Spring Quarters, which is shown in greater detail in attached charts and spreadsheets, and compared with classroom utilization data from previous years:

Daily Utilization for all Classrooms scheduled by Registrar:

Comparison with Fall Quarter 2000, Winter Quarter 2000, and Spring Quarter 2000 (extrapolated from two Acad. Yrs.)

Comparison with Fall Quarter 2002, Winter Quarter 2003, and Spring Quarter 2003 (Acad. Yr. 2002-03)

Comparison with Fall Quarter 2003, Winter Quarter 2004, and Spring Quarter 2004 (Acad. Yr. 2003-04)

Comparison with Fall Quarter 2004, Winter Quarter 2005, and Spring Quarter 2005 (Acad. Yr. 2004-05)

Comparison with Fall Quarter 2005, Winter Quarter 2006, and Spring Quarter 2006 (Acad. Yr. 2005-06)

Comparison with Fall Quarter 2006, Winter Quarter 2007, and Spring Quarter 2007 (Acad. Yr. 2006-07)

Utilization for Fall Quarter 2007, Winter Quarter 2008, and Spring Quarter 2008 (Acad. Yr. 2007-08)

Utilization based on rooms scheduled for Fall, Winter & Spring (2007-08): average of 63.1% 9 to 5 daily;

Comparison: utilization over the last few years dropped from 65% ('99-00) to 59% ('02-03) to 57% ('03-04) to 55.5% ('04-05), but overall, increased to 57.4% ('05-06), to 60.8% ('06-07) and once more to 63.1% last year.

Compared to previous years based on rooms scheduled 9 to 5 daily ('99-00 vs. '02-03 vs. '03-04 vs. '04-05 v. '05-06 v. '06-07 v. 07-08):

Fall Utilization: dropped from 66% to 61% to 58.1% to 57.8%, increased to 59.3% in Fall '05, to 63.2% in Fall '06, and to 64.1% in Fall '07.

Winter Utilization: dropped from 65% to 60% to 52%, increased in '05 to 58%, and dropped slightly to 57.5% in '06; increased in Winter '07 to 61.9%, and in Winter '08 to 63.9%.

Spring Utilization: dropped from 65% to 56% to 54% to 51%, and increased to 55.5% in '06, to and 57.3% in Spring '07 and again to 61.3% in Spring '08.

For 2007-08 classroom utilization was highest during the Fall and Winter Quarters. Relative to trends and previous years, utilization for all Quarters increased. The Winter (up 2%) and Spring (up 4%) quarters showed higher increases than the Fall quarter (up 0.7%). This continues the upward trend that began around 2005 reversing a previous decline in utilization.

While for a few years distribution across times had improved with implementation of policy changes and schedule modifications, the impact of these changes appears to be lessening. Patterns, while always skewed towards peak timeslots between 10 to noon (and to a lesser extent between 1 to 3), appear to have skewed even more strongly towards these timeslots during the last year, which means that increases in utilization are resulting from increased use during so-called "primetimes".

Daily Utilization for "Smart" Classrooms scheduled by Registrar:

During the Fall, Winter and Spring Quarters of Academic Year 2006-07, the number of "smart" classrooms increased to 71 from 82 the previous academic year. In comparison with the previous year, average utilization for "smart" classrooms decreased slightly in the Fall and rose slightly in the Winter and Spring quarters. It remains around 22% higher than utilization for "non-smart" classrooms. Utilization for "non-smart" classrooms 9 to 5 daily over the last year averaged 45% continuing a generally downward trend.. The increase in '05-06 to 54% notwithstanding, it seems in line with a downward trend since 2000.

Utilization of "smart" classrooms 9 to 5 daily: Fall '02 @ 66%; Winter '03 @ 72%; Spring '03 @ 67%;

Utilization of “smart” classrooms 9 to 5 daily: Fall '03 @ 65%; Winter '04 @ 64%; Spring '04 @ 61%;
 Utilization of “smart” classrooms 9 to 5 daily: Fall '04 @ 76%; Winter '05 @ 73%; Spring '05 @ 66%;
 Utilization of “smart” classrooms 9 to 5 daily: Fall '05 @ 71%; Winter '06 @ 70%; Spring '06 @ 68%;
 Utilization of “smart” classrooms 9 to 5 daily: Fall '06 @ 70%; Winter '07 @ 68%; Spring '07 @ 66%;
 Utilization of “smart” classrooms 9 to 5 daily: Fall '07 @ 69%; Winter '07 @ 68%; Spring '07 @ 67%;

Utilization is higher compared to utilization of all classrooms: 4.4% for Fall; 4.3% for Winter; 5.3% for Spring;
 Utilization is higher compared to utilization of “non-smart” classrooms: 20% for Fall; 22.5% for Winter; 20% for Spring.

Although consistent with Academic Year 2006-07, “smart” classroom usage is somewhat more skewed towards the peak timeslots between 10 to noon (and to a lesser extent between 1 to 3). Morning periods show a decline in usage, but usage is up slightly between 12-and 2pm (less than 1%) and up more significantly after 3pm (5%).

Room Utilization by Building 9 to 5 daily:

In buildings with multiple classrooms scheduled by the Registrar, Kresge, University Hall and Parkes are the three building locations with the highest utilization: Kresge at 81.1 (compared to 77.1% in '06-07); University Hall at 75%(compared to 70.2% in '06-07); and Parkes at 67.6%(compared to 65.3% in '06-07). Tech is fourth with 67.6%, and Harris follows with 65.9%. In buildings with only one classroom scheduled by the Registrar, Pancoe Auditorium has increased slightly in usage from last year (59.2% compared to 59% in '06-07. This is still down from 63.7% in '05-06 and 69.6% in '04-05). Swift Hall Lecture Room 107 has fallen somewhat from the previous two academic years (64.9% compared to 72.9% in '06-07, 67.4% in '05-06 and 62.9% in '04-05). Both are significantly higher compared to Coon Auditorium {Lev. Aud.} (27.7% compared to 29.4% in '06-07, 23.1% in '05-06 and 35% in '04-05).

University Library, which has classrooms primarily with less than 20 seats, no longer has the lowest utilization at 31.3% having risen slightly each year since '04-05 (compared to 25% in '06-07, 23.3% in '05-06, 21% in '04-05).

Based on Size of Room Scheduled: Up to 20 seats; 21 to 80 seats; 80 to 120 seats:

	'99-00	'02-03	'03-04	'04-05	'05-06	'06-07	'07-08
Up to 20:	52%	46%	43%	39%	45%	46%	48%
21 to 80:	65%	62%	60%	61%	66%	67%	66%
81 and larger:	62%	64%	61%	56%	64%	65%	63%

Over the last several years, the most consistent on-going decline had been in utilization of the smallest classrooms, which is the category in which the most departmentally controlled seminar/conference rooms have been added in new facilities such as the McCormick Tribune Center, Jacobs Center, Nano-Fab, and Pancoe. While utilization of these small classrooms (all of which are located in the Library) has increased over the last three years, utilization is still the lowest of the size-categories. In retrospect and given the trends, the notable decrease during Academic Year 2004-05 in the use of large classrooms (81 seats and larger) appears to have been an aberration.

Seat Utilization based on the Size of Scheduled Classrooms:

Seat utilization represents the percentage of seats occupied when a room is used. Average seat utilization for rooms scheduled from 9 to 5 daily has generally been somewhat higher than was the case 8 years ago, although it has dropped relative to Academic Years '03-04 and '04-05. Classrooms up to 20 seats consistently have had the highest seat utilization.

	'99-00	'02-03	'03-04	'04-05	'05-06	'06-07	'07-08
Up to 20:	61%	57%	65%	66%	64%	64%	66%
21 to 80:	47%	45%	53%	49%	45%	47%	48%
81 to 120:	48%	51%	56%	53%	44%	46%	45%
120 and larger:	39%	39%	44%	43%	40%	41%	43%
Average	45%	47%	54%	53%	48%	50%	51%

For any classroom potentially targeted for a decrease in the number of seats, seat utilization specific to the classroom needs to be considered, along with options for shifting some scheduled courses into classrooms with a larger number of seats.

Enrollment Utilization for Fall, Winter and Spring Quarters:

Requested maximum enrollments compared to actual enrollments for courses scheduled 9 to 5 daily:

	'02-03	'03-04	'04-05	'05-06	'06-07	'07-08
Fall:	74%	79%	77%	73%	79%	73%
Winter:	70%	75%	71%	75%	79%	70%
Spring:	51%	74%	72%	74%	76%	72%
Average:	65%	76%	73%	74%	78%	72%

Standard vs. Non-Standard Scheduling

During the last few years a University policy encouraged standard scheduling roughly between 9 to 2 daily for courses that use classrooms scheduled by the Registrar. Starting in '02-03, the impact was an increase in the percentage of courses conforming to standard scheduling. Standard vs. non-standard scheduling as defined by the 4 types established in '02-03 merits some discussion by the Classroom Utilization Subcommittee since, over the last 4 Academic Years, Standard Type 1 has been decreasing year-by-year from the high of 57% in '02-03 to the present low of 45%, and Standard Type 2 has been decreasing year-by-year from the high of 28.5% in '03-04 to 23% in '07-08. Non-standard Type 3 has risen from 8% in '02-03 to 17% in '07-08.