Digital Faculty:
Professors, Teaching and Technology, 2012

I. Elaine Allen and Jeff Seaman with Doug Lederman and Scott Jaschik

AGREE   DISAGREE

10 Faculty Perspectives on What Works in Lecture Capture

"I was concerned that streaming courses may encourage absenteeism but the attendance has been 100 percent, and they are all viewing the lecture as well. I think that is remarkable. It tells me the students are interested in going back for learning purposes."

— Dr. Imran Currim
Chancellor's Professor of Marketing
The Paul Merage School of Business
University of California, Irvine

"The fact that we use Mediasite for students to do practice interviews, role playing, peer critiques, self and faculty assessments helps our students stand out against other job candidates. Of our students who go into the workforce, the job placement approaches 100 percent."

— Deirdre Jones
Associate Director and Instructor
Schmidt School of Professional Sales
University of Toledo

"Mediasite levels the playing field for the distance students, who are every bit as good— and in many cases better—than campus students. Learning via Mediasite, they do well on exams, show tremendous insight on projects and ask provoking questions."

— Dr. Douglas Montgomery
Regents Professor
Ira A. Fulton School of Engineering
Arizona State University

"Course offerings are very intense and highly visual. Using Mediasite our students end up sitting at the equivalent of an actual dental chair with a front row seat. They can go back into the lecture capture to a point that's important to them, and have the faculty member, who has just finished doing the demonstration, right there to answer their questions."

— Dr. James Craig
Professor and Educational Consultant
School of Dentistry
University of Maryland, Baltimore

"When you're getting ready to stream a class, your success is going to depend on your attitude. If you come into it thinking this is going to be pain and suffering, it's going to be a frustrating experience. If you come into it with a more positive attitude, you will have a rewarding experience and grow as an instructor."

— Dr. Anne-Marie Lerner
Assistant Professor
School of Engineering
Univeristy of Wisconsin – Platteville

"I'm getting extremely positive feedback. We have the person speaking in one window and the slides very clearly presented and in sync in the other window. Mediasite has been absolutely integral to us delivering this seminar series to a worldwide audience."

— Dr. Glenn Geher
Professor/Director of
Evolutionary Studies
State University of New York
at New Paltz

"Here's what I call hybrid teaching. I record a Mediasite lecture and ask students to view it as homework. Then when they come to class, we use that time to engage in active dialogue versus having just a couple of minutes to answer questions at the end. Having an active discussion is an effective and really appealing way to teach."

— Dr. Christina Eyers
Assistant Professor
Central Michigan University

"The biggest challenge from the instructor view was feeling that people were judging my teaching. But as soon as students watched and gave feedback I realized this isn't about judging. Mediasite captures the classroom experience - they hear me, they hear their peers, and they learn from that."

— Dr. Jennifer Flatt
Associate Dean and Professor
University of Wisconsin – Marinette

"I could not promote deep learning in the way that I do without Mediasite lecture capture. I'm using video streaming for mentoring messages, for coaching and for lectures themselves."

— Dr. Diane Zorn
Course Editor, York University

"Students like the idea that, when they did meet in the classroom, if they had watched the lecture captures ahead of time, then they were able to use the class time to talk to the faculty, and ask more engaging questions."

— Dr. Pamela Havice
Associate Professor, Clemson University

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A Joint Project of
The Babson Survey Research Group
and
Inside Higher Ed

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EXECUTIVE SUMMARY

The same digital revolution that is changing day-to-day life for the general population also presents new options to faculty for their research and teaching. The growth of e-textbook options is one example – over one-third of faculty regularly assign books that are available in both e-textbook and traditional formats. Another area of rapid faculty adoption is in the use of video and simulations in courses.

Faculty members are not only selecting digital material from other sources, they are also creating their own for use within their classes. Forty-three percent of instructors say they create digital teaching materials, open educational resources, or capture lectures on a regular or occasional basis, but they do have concerns that the time and effort they put into the creation and production of their own materials will not be respected and rewarded by their institution.

Faculty are not yet abandoning traditional scholarly publishing outlets to embrace digital-only publications. The lack of faculty digital publication submissions does not mean that they do not respect online-only publications. When asked if the quality of online-only journals can be equal to work published in print, a majority of faculty members agreed that it could.

Faculty do not believe that online-only work is currently given the same level of respect in tenure and promotion decisions, but many faculty members believe that it *should* be.

While faculty members may make considerable use of social media in their personal lives, only a minority say they use it regularly for communications with students and with their peers.

Nearly one-half of faculty report that digital communication has increased their productivity. Faculty also report increased levels of creativity, and better connection to the scholarly community and to their students. But this comes with a price - faculty overwhelmingly report that digital communication has increased the number of hours that they work. This has also translated into an increased level of stress.

The majority of faculty see between 11 and 50 work e-mails per day, with a smaller group dealing with between 51 and 100, and about 6 percent seeing over 100 per day. A majority of faculty report that they respond to at least 90 percent of all student e-mails with 24 hours.

The most common Learning Management System (LMS) use is sharing syllabus information with students. Communicating with students and recording of grades are also very common. Other functions are used by relatively few faculty.

The first volume of this report series noted that faculty felt more fear than excitement about the growth of online education, but this does not translate into a general level of concern among faculty for all aspects of the technology infusion. Over 60 percent of faculty report that they have "more excitement than fear" about e-textbooks and e-resources replacing traditional print textbooks, the growth of free online educational content, the changing faculty role to spend less time lecturing and more time coaching students, libraries focusing on digital instead of print collections, the growth of blended/hybrid education, and the increasing collection and analysis of data on teaching and learning, on a course-by-course basis.

The largest concern, by far, among faculty members remains the growth of for-profit education, where only 12.0 percent say they have more excitement than fear and fully 88.0 percent say that they have more fear than excitement.

The Study:

This study reports the results of two related, but separate, surveys. The first is a nationally representative sample of higher education faculty members who are teaching at least one course during the current academic year. A total of 4,564 faculty responded to the survey, representing the full range of higher education institutions (two-year, four-year, all Carnegie classifications, and public, private nonprofit, and for-profit) and the complete range of faculty (full- and part-time, tenured or not, and all disciplines). Three-quarters of the respondents report that they are full-time faculty members. Just over one-quarter teach online, they are evenly split between male and female, and over one-third have been teaching for 20 years or more.

A second outreach effort focused on academic administrators – in particular those responsible for academic technology at their institutions. These administrators were asked many of the same questions directed to the faculty, to enable a comparison of how they match (or differ from) the views of the instructors they support. There are a wide variety of titles among those invited to participate – the most common being "Director of Academic Computing" and "Director of Instructional Technology." A total of 591 administrators provided a sufficient number of responses to be included in the study. The respondents include slightly more men than women, with about one-quarter having been in their current position for 20 years or more.

The study focuses on what aspects of digital life faculty members are embracing and which they do not use or do not like. The study is primarily concerned with the faculty perspective, and uses results from the administrators to show where the two groups are either in agreement or diverge in their views.

Digital Media in the Classroom

The array of technical options now available to the general population continues to expand. With smart phones, tablets, navigation built into automobiles and phones, most of the population is seldom without some new device on their person or by their side. The increase in physical devices is matched by the corresponding growth in the online functions and services, ranging from text messaging and video chatting to posting status updates on multiple social media sites.

The same digital revolution that is changing day-to-day life for the general population also presents many new options to faculty for their research and teaching. Professors now have multiple options for the use of digital materials in the classroom, including e-textbooks. They can also do video capture of their lectures for future playback, as well as include other video and simulations as part of their teaching. This section examines if, and to what extent, faculty are adopting these new techniques in their teaching.

Faculty now have a wide range of options in what material they choose to assign for their courses beyond the traditional paper-based textbook. The growth of e-textbook options is clear – with over one-third of faculty regularly assigning books that are available in both e-textbook and traditional formats, and another 29.7 percent reporting that they do so occasionally.

ASSIGNED BOOKS FOR WHICH E-TEXTBOOKS AND TRADITIONAL FORMATS ARE AVAILABLE - FACULTY
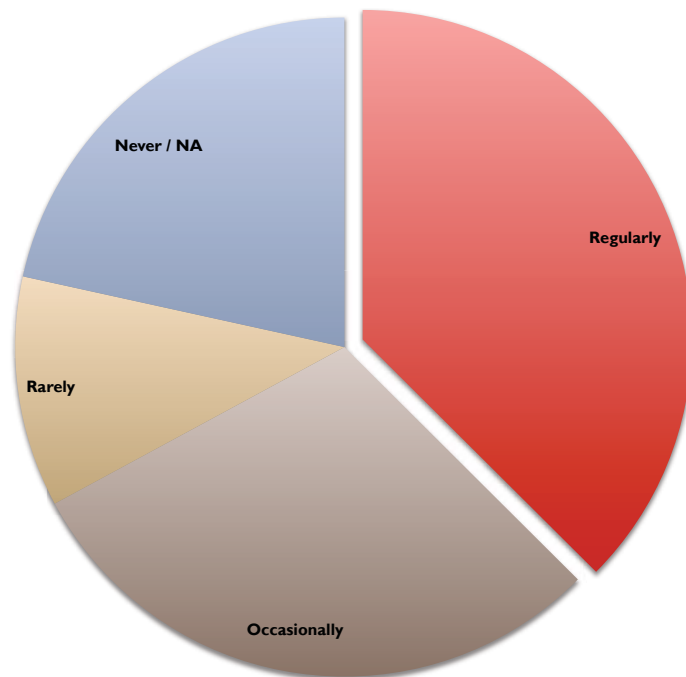
The proportion of faculty who assign material that is available only in e-textbook formats is much lower – with only 12.1 percent assigning this type of material on a regular basis and 16.7 percent doing so occasionally. The lower rates of e-textbook-only assignments may reflect the smaller percentage of offerings that are available in the e-textbook format alone. It may also reflect that faculty are reluctant to force adoption by their students. Given the continued concerns about the cost of higher education, however, it might be expected that options that lower the costs for students would be quickly adopted.

ASSIGNED MATERIAL AVAILABLE ONLY IN E-TEXTBOOK FORMAT - FACULTY
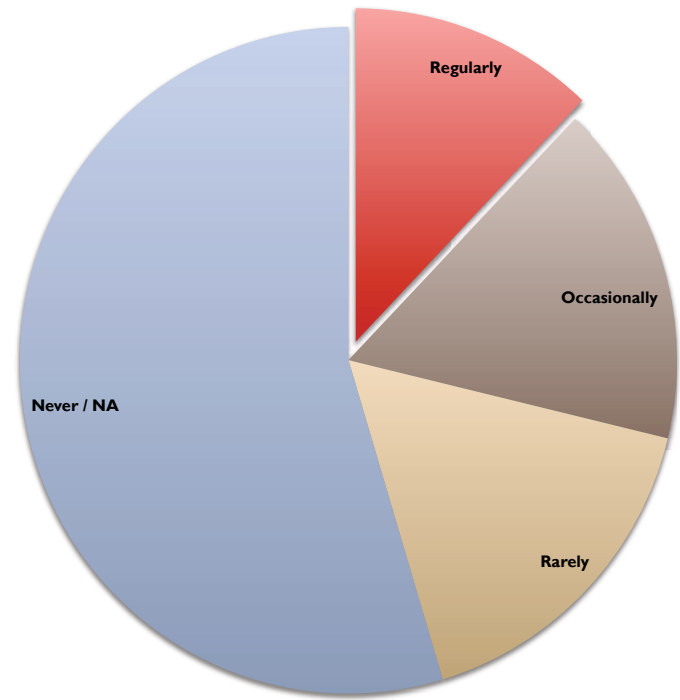
The discipline where electronic-only material seems have the widest adoption is for mathematics and computer science, where 18.8 percent of faculty assign it on a regular basis – a rate that compares to just of over 10 percent for all other disciplines. This may reflect the greater availability of e-textbook-only material for these disciplines, as much as it does a willingness on the part of faculty in those fields to embrace the new formats.

ASSIGNED MATERIAL AVAILABLE ONLY IN E-TEXTBOOK FORMAT BY DISCIPLINE - FACULTY
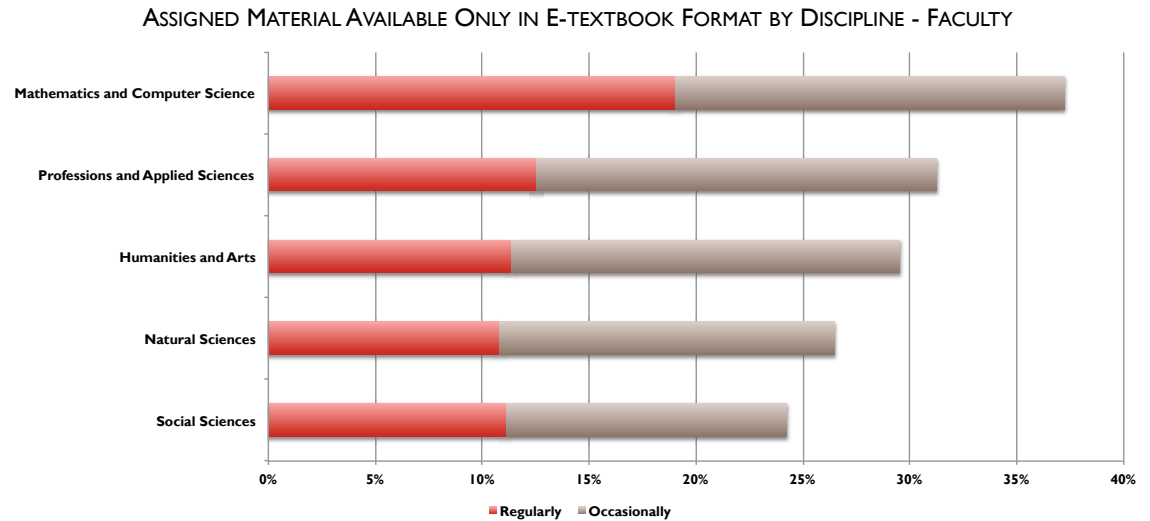
Unlike e-textbook-only adoption rates, one area where faculty are rapidly adopting digital media is in the use of video and simulations in their courses. Only 5.8 percent of faculty members report never using video or simulations in their courses, with 46.7 percent saying they do so regularly and 36.2 percent reporting they do so occasionally.
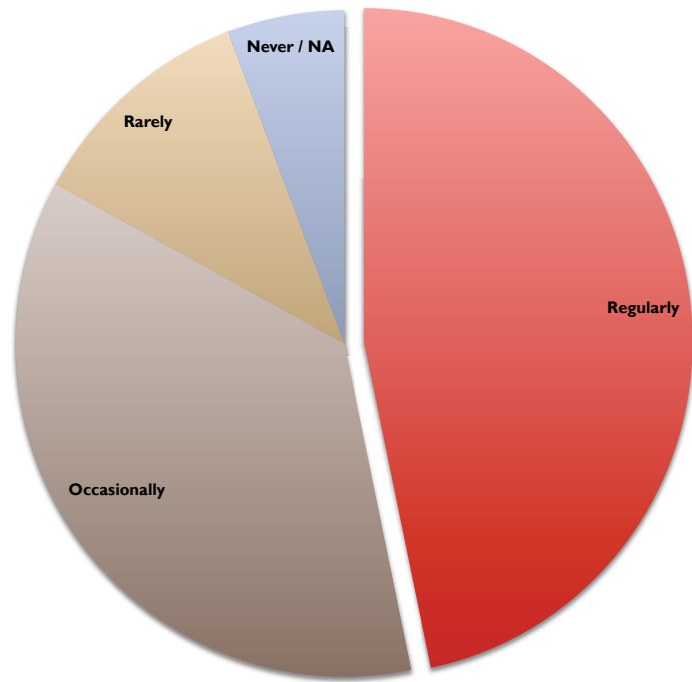
While almost all faculty use video or simulations as part of their teaching, those instructors who are teaching online or blended courses do so at even greater rates. Among faculty members who teach neither online nor blended courses, 40.9 percent report regular use of simulations or videos in their courses. This number jumps to around 54.5 percent if the faculty member teaches blended and 54.7 percent if he/she teaches online courses, and to 59.1 percent if he/she teaches both online and blended courses.

USED DIGITAL MATERIALS SUCH AS SIMULATIONS AND VIDEOS IN COURSE PRESENTATIONS BY
ONLINE AND BLENDED TEACHING STATUS - FACULTY
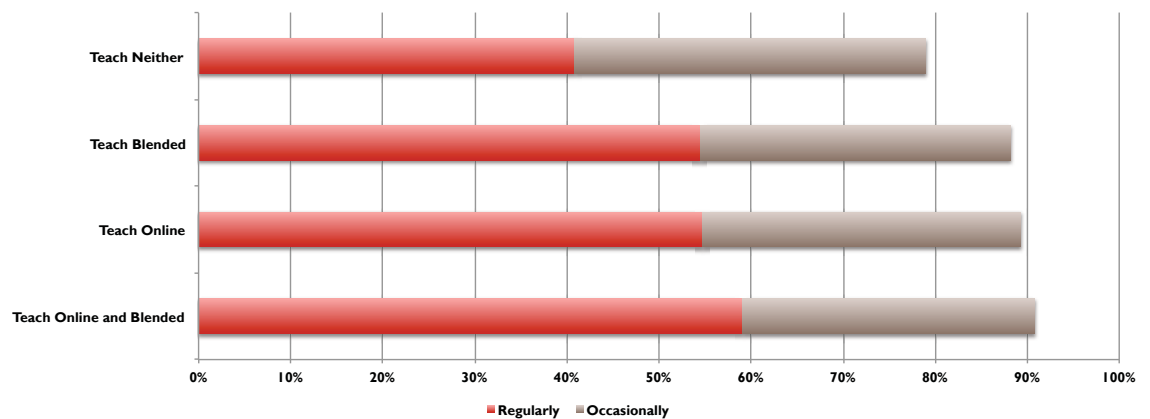
Faculty members are not only selecting digital material from other sources, they are also creating their own for use within their classes. Forty-three percent of instructors say they create digital teaching materials, open educational resources, or capture lectures on a regular (20.2 percent) or occasional (22.8 percent) basis. An additional 17.0 percent report that they do so, but only rarely.

CREATED DIGITAL TEACHING MATERIALS/OPEN EDUCATIONAL
RESOURCES OR CAPTURED LECTURES - FACULTY
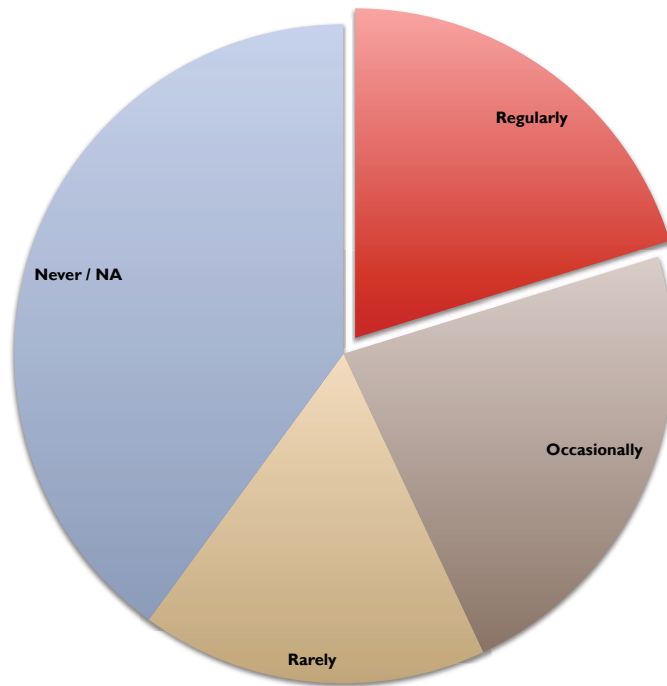
As was the case in the use of videos and simulations, faculty members who teach online and blended courses lead in this area as well. Professors who teach both online and blended courses create digital teaching material at a rate that is twice that of their peers who teach neither online nor blended courses (66.4 percent compared to 32.1 percent).

CREATED DIGITAL TEACHING MATERIALS/OPEN EDUCATIONAL RESOURCES OR CAPTURED LECTURES BY ONLINE AND BLENDED TEACHING STATUS - FACULTY
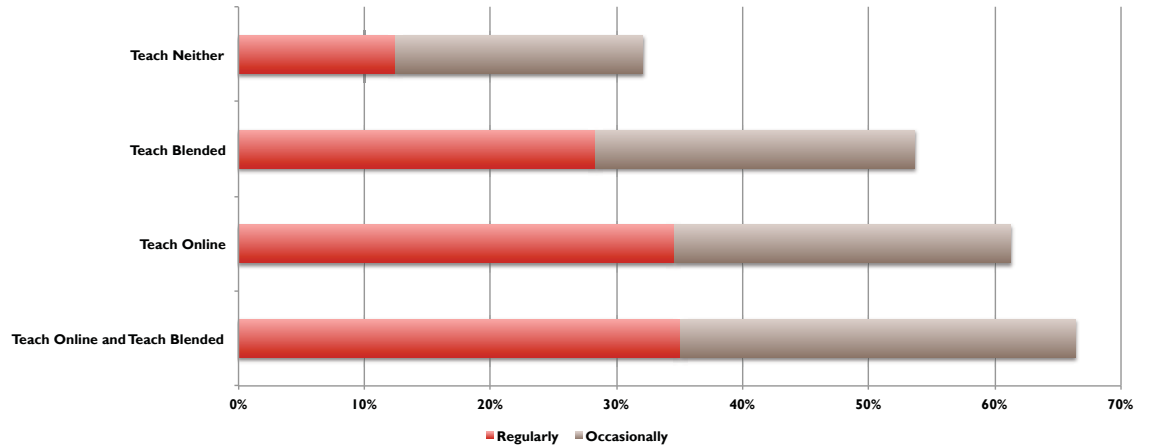
While nearly half of faculty respondents report that they regularly or occasionally create digital material, the proportion of faculty who are creating digital materials through lecture capture remains relatively small. Only 9.3 percent of faculty say they use lecture capture regularly, with 10.8 percent reporting occasional use. Over two-thirds (67.0 percent) of all faculty members say that they never make use of lecture capture.

USED LECTURE CAPTURE TO RECORD OR STREAM IN-ROOM INSTRUCTION - FACULTY
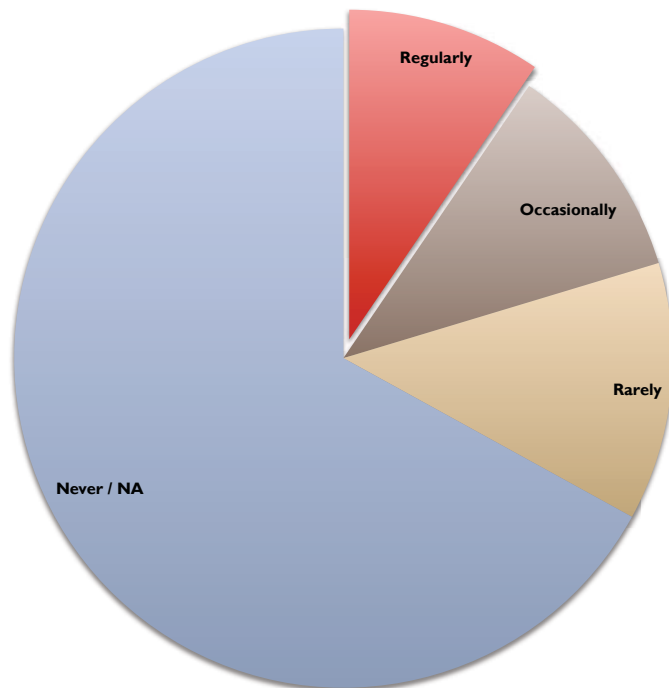
There are large differences in the pattern of use of lecture capture by discipline, however. Instructors in the natural sciences use lecture capture at rates that are almost three times that of their peers in the humanities and the arts (29.3 percent who report regular or occasional use as compared to 11.4 percent).

USED LECTURE CAPTURE TO RECORD OR STREAM IN-ROOM INSTRUCTION BY DISCIPLINE - FACULTY
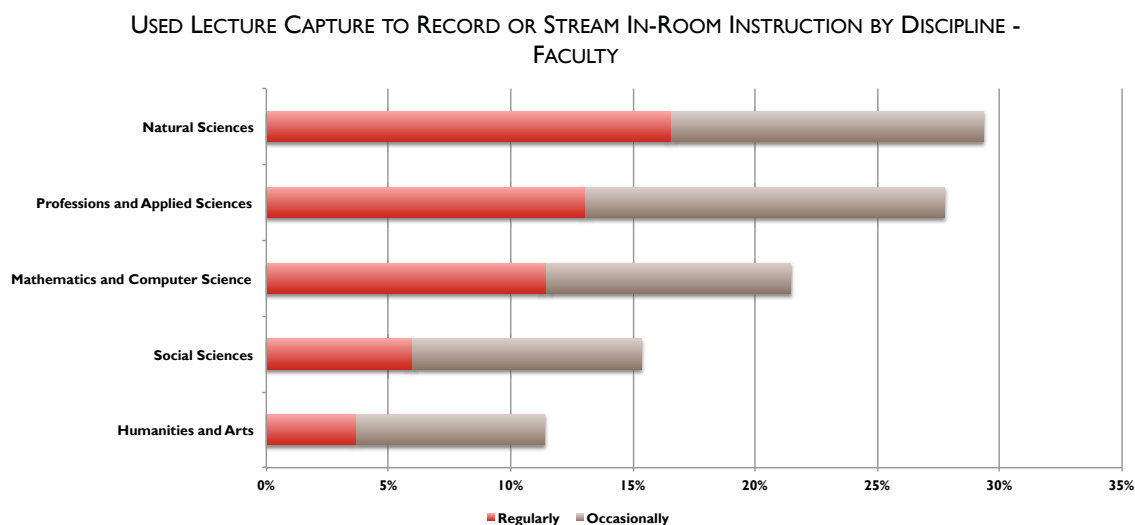
Faculty must continually decide if the adoption of new material or new digital techniques is worth the investment of their time and effort. Will the use of a simulation improve comprehension and understanding by their students? Does a new e-textbook provide the same or better presentation of the critical class material? And if the faculty members do put considerable time and effort into the creation and production of their own materials, will the effort be respected and rewarded by their institution?

Faculty do have concerns about this last issue. When asked if their college or university has a fair system of rewarding contributions made to digital pedagogy, a greater number of faculty disagreed (23.7 percent) or strongly disagreed (9.1 percent) than agreed (21.1 percent) or strongly agreed (6.3 percent). The largest group, however, remain neutral on the topic, indicating that while there is disagreement and a reasonable level of concern, the issue is not the most pressing for all faculty.

MY INSTITUTION HAS A FAIR SYSTEM OF REWARDING
CONTRIBUTIONS MADE TO DIGITAL PEDAGOGY - FACULTY
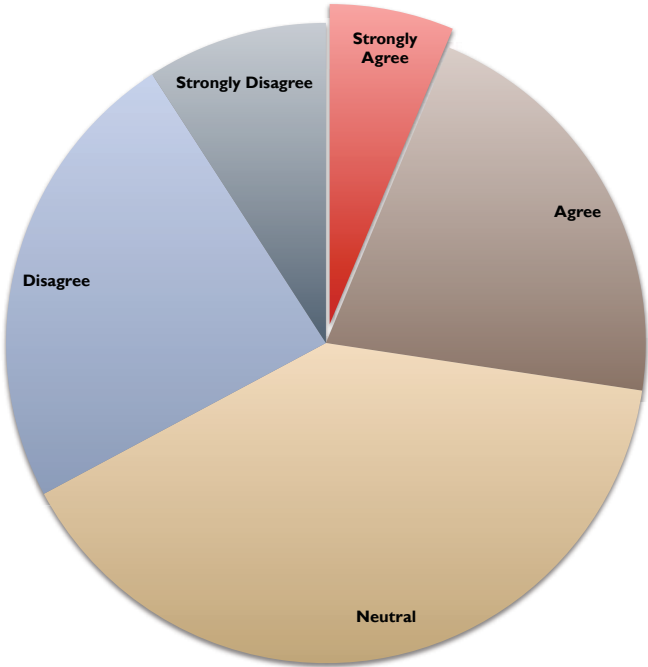
As has been the case for virtually every dimension examined in this study, administrators hold generally more positive views of their institutions' performance than do faculty members. The issue of a reward system for digital pedagogy is no different – administrators are almost twice as likely as are faculty members to strongly agree that their institution has a fair system in place (11.0 percent compared to 6.3 percent). It is worth noting that neither faculty nor administrators rate their institutions very highly on this issue; this is one area in which administrators seem to concede that they're not doing as well as they could be.

MY INSTITUTION HAS A FAIR SYSTEM OF REWARDING CONTRIBUTIONS MADE TO DIGITAL PEDAGOGY - FACULTY AND ADMINISTRATORS

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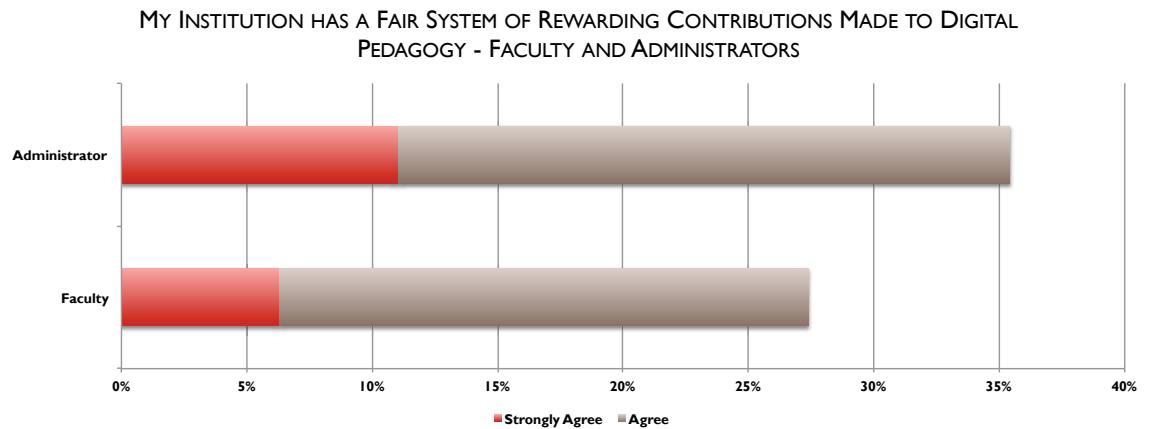
The Faculty and Digital Publishing

When it comes to scholarly publishing, faculty members are not rapidly abandoning traditional outlets to embrace digital-only publications. Only 5.2 percent of faculty say that they regularly publish digital scholarship (beyond publishing an online version of a traditional scholarly paper). Another 11.9 percent report that they do so occasionally. Over two-thirds of faculty (67.9 percent) report that they never publish digital scholarship.

PUBLISHED DIGITAL SCHOLARSHIP (BEYOND PUBLISHING AN ONLINE VERSION OF A TRADITIONAL SCHOLARLY PAPER) - FACULTY

Regularly

Occasionally

Rarely

Never / NA
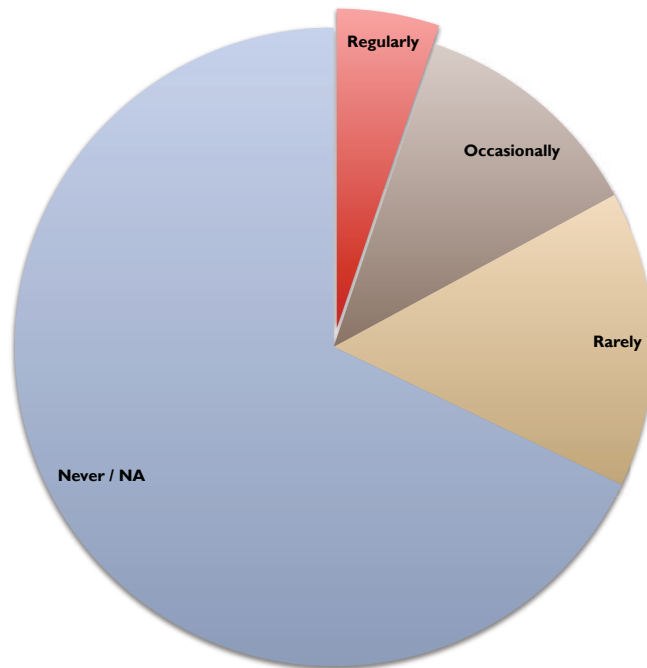
The lack of faculty digital publications does not mean that they do not respect digital scholarship or online-only publications. When asked if the quality of online-only journals can be equal to work published in print, a majority of faculty members either agreed or strongly agreed. Slightly under one-quarter (23.9 percent) were neutral, with only 11.0 percent in the "disagree" or "strongly disagree" group.

THE QUALITY OF ARTICLES IN ONLINE-ONLY JOURNALS CAN BE
EQUAL TO WORK PUBLISHED IN PRINT - FACULTY
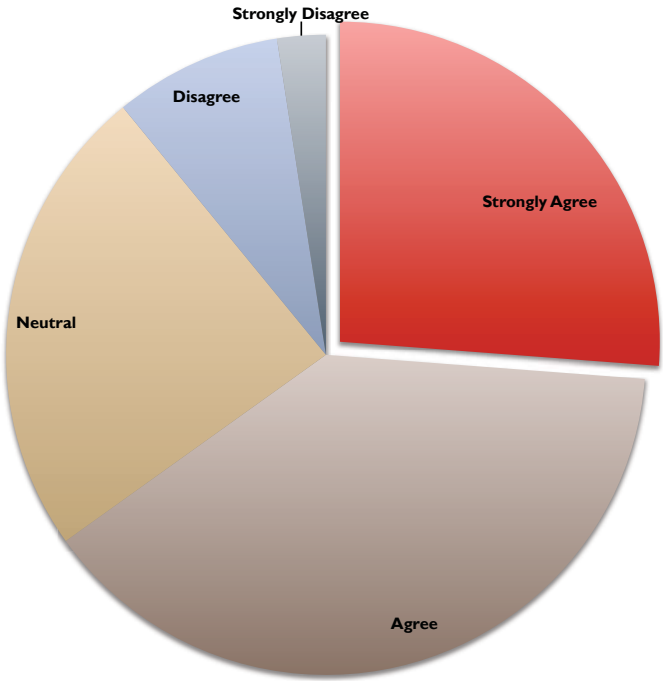
When asked if online-only work is given the same level of respect in tenure and promotion decisions, faculty overwhelming said that it is not. Almost one-half of faculty either disagreed (37.3 percent) or strongly disagreed (12.6 percent) with this statement. Thirty-seven percent were neutral, with only 12.8 percent agreeing or strongly agreeing.

ONLINE-ONLY SCHOLARSHIP IS GIVEN THE SAME RESPECT IN TENURE/PROMOTION DECISIONS - FACULTY
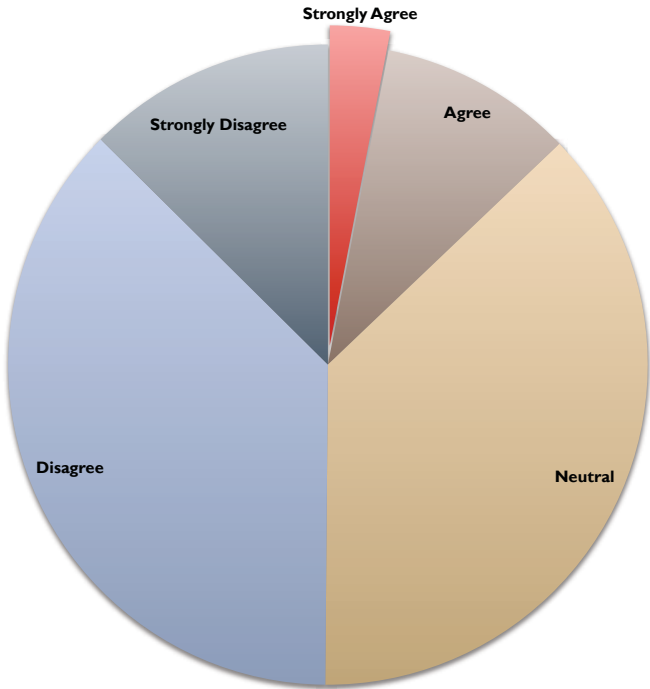
This is one area where the opinions of faculty members and administrators align. Administrators have a slightly – but only slightly – more positive view of this issue, as most agree that online-only scholarship is not given the same level of respect in tenure and promotion decisions.

ONLINE-ONLY SCHOLARSHIP IS GIVEN THE SAME RESPECT IN TENURE/PROMOTION DECISIONS - FACULTY AND ADMINISTRATORS

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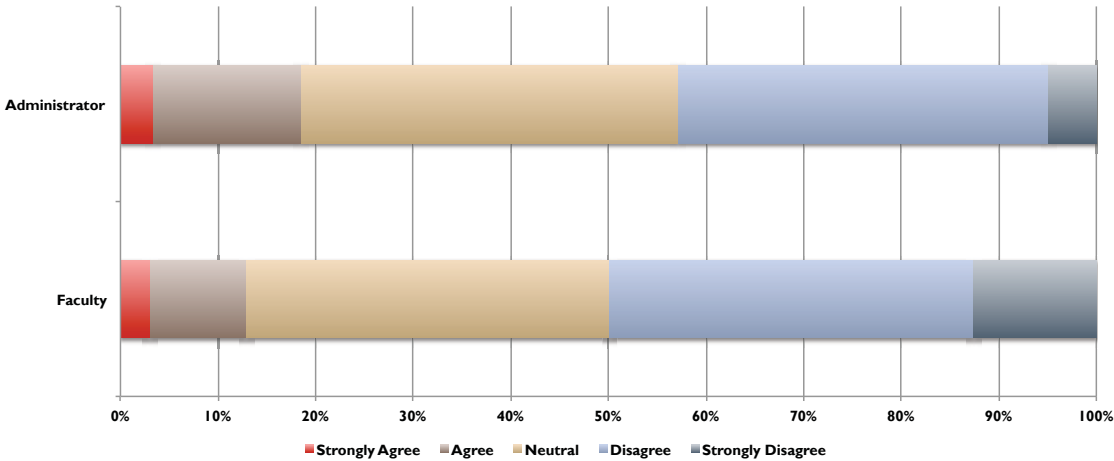
Not surprisingly, given their largely favorable views about the quality of online-only scholarship, many faculty members believe that such work *should* be given the same level of respect in tenure and promotion decisions: a majority either agree (33.3 percent) or strongly agree (24.1 percent). Twenty-nine percent are neutral, leaving only 9.7 percent who say that they disagree and 3.2 percent who say they strongly disagree.

ONLINE-ONLY SCHOLARSHIP SHOULD BE GIVEN THE SAME
RESPECT IN TENURE/PROMOTION DECISIONS - FACULTY
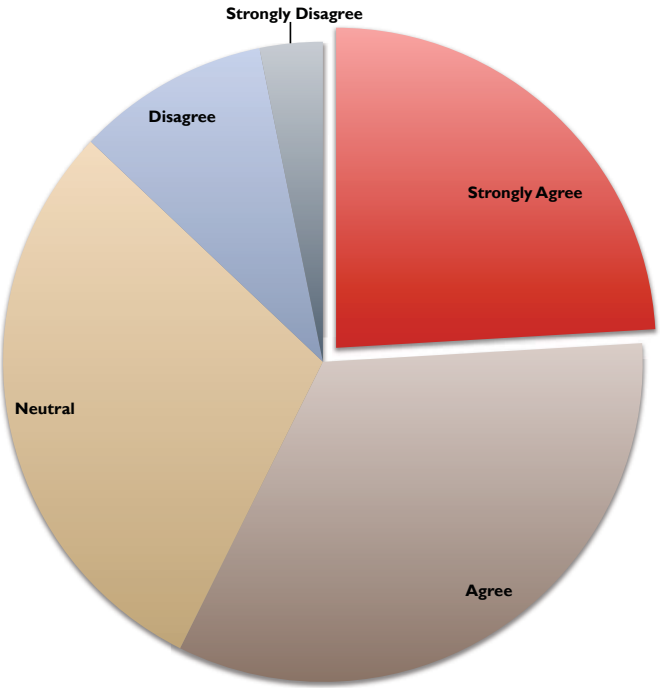
The view of the current level of respect for online-only scholarship and what it should be is relatively consistent across all faculty groups. Tenured faculty are the least pessimistic about the current state of respect, but even they are overwhelmingly negative. Non-tenured faculty are the most likely to say it should be accorded the same level of respect, but again the differences are not large.

ONLINE-ONLY SCHOLARSHIP IS/SHOULD BE GIVEN THE SAME RESPECT IN TENURE/
PROMOTION DECISIONS BY TENURE STATUS - FACULTY
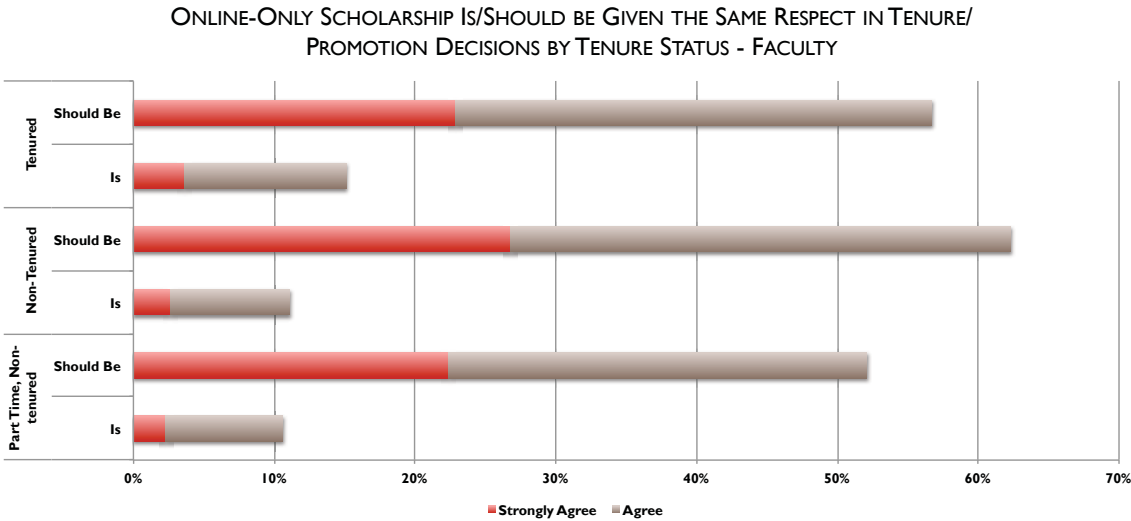
Faculty hold a more positive view of their institution's policies to protect intellectual property rights – where they are evenly split between those who agree that their institution has strong policies in place and those who disagree. The largest group (44.3 percent), however, remains neutral on the question.

MY INSTITUTION HAS STRONG POLICIES TO PROTECT
INTELLECTUAL PROPERTY RIGHTS FOR DIGITAL WORK - FACULTY
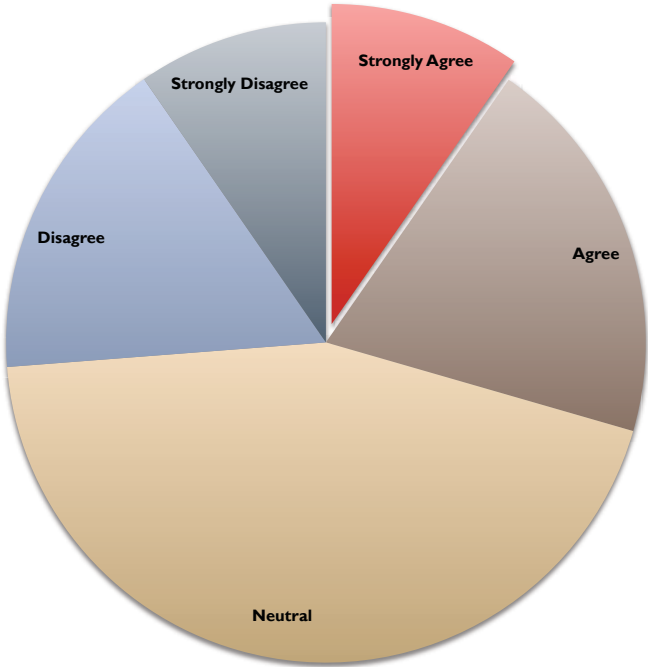
As expected, administrators hold a much more positive view of their institution's performance on this dimension than do faculty members. Administrators are twice as likely to strongly agree that their institution has strong policies than are faculty (19.2 percent compared to 9.7 percent). While administrators are more positive than faculty, neither administrators nor faculty give very high marks to the institutional efforts in this area.

MY INSTITUTION HAS STRONG POLICIES TO PROTECT INTELLECTUAL PROPERTY RIGHTS FOR
DIGITAL WORK - FACULTY AND ADMINISTRATORS
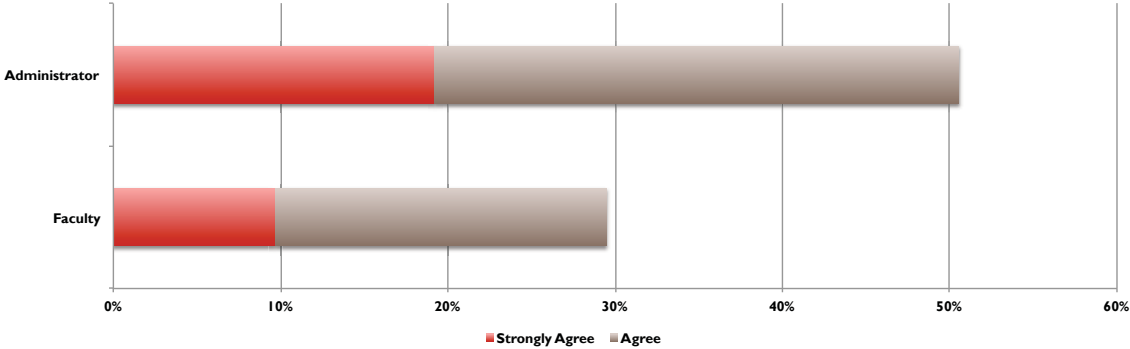
Faculty and Social Media

It is becoming increasingly difficult to escape the impact of social media. With hundreds of millions of users, such sites as Twitter, Facebook, LinkedIn and Google+ now regularly serve as a major communications mechanism for a growing portion of the population. While faculty members may make considerable use of social media in their personal lives, only a minority say they use it regularly for communications with students and with their peers. Slightly over one-third of faculty members report that they regularly or occasionally interact with students using social media; another fifth say they do so only rarely. The largest group (44.7 percent) say they never use social media to interact with students.

USED SOCIAL MEDIA TO INTERACT WITH STUDENTS - FACULTY
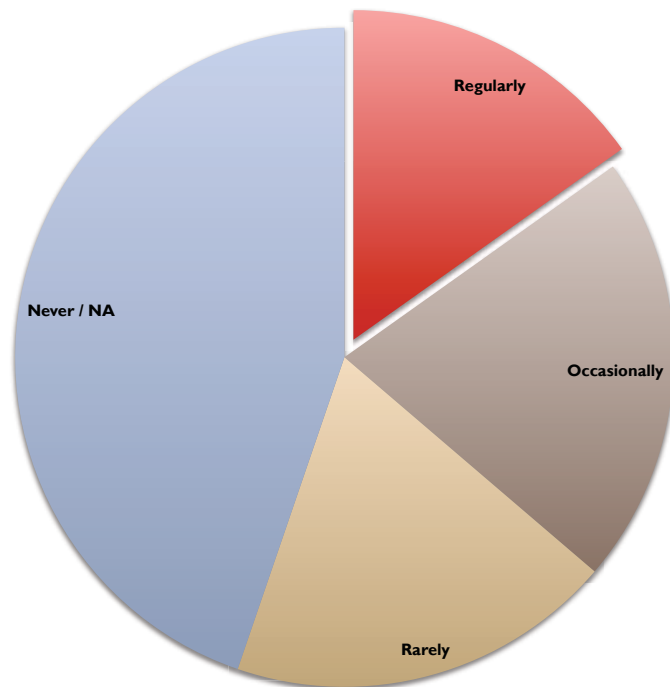
Faculty members are slightly more likely to use social media to interact with their colleagues than with their students. The proportion reporting that they regularly or occasionally interact using social media with their colleagues is 43.5 percent, compared to 36.3 percent who reported doing so with students. The largest group of respondents, however, still say they never use social media in this way.

USED SOCIAL MEDIA TO INTERACT WITH COLLEAGUES - FACULTY
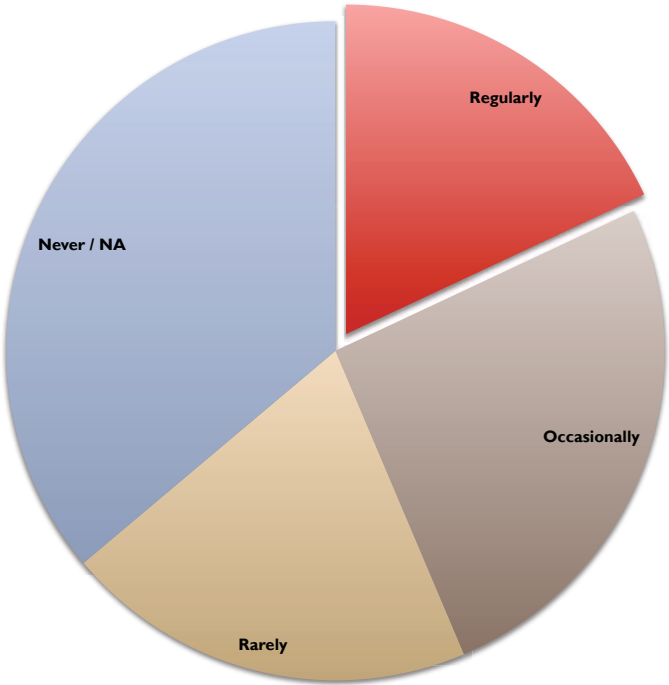
The Impact of Digital Communication on Faculty

What impact is the widespread adoption of digital communications, online scholarship, and social media having on the daily lives of faculty members? Are they better able to communicate? Are they more creative? Is the workplace more stressful?

Faculty believe that the advent of digital communication has made them more productive. For this question digital communication includes all forms of communications, including e-mail usage. Nearly one-half (48.8 percent) of instructors report that digital communication has increased their productivity. A third (32.7 percent) believe that it has had no impact on the productivity, while only 18.5 percent think the impact has been negative.

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON YOUR PRODUCTIVITY - FACULTY
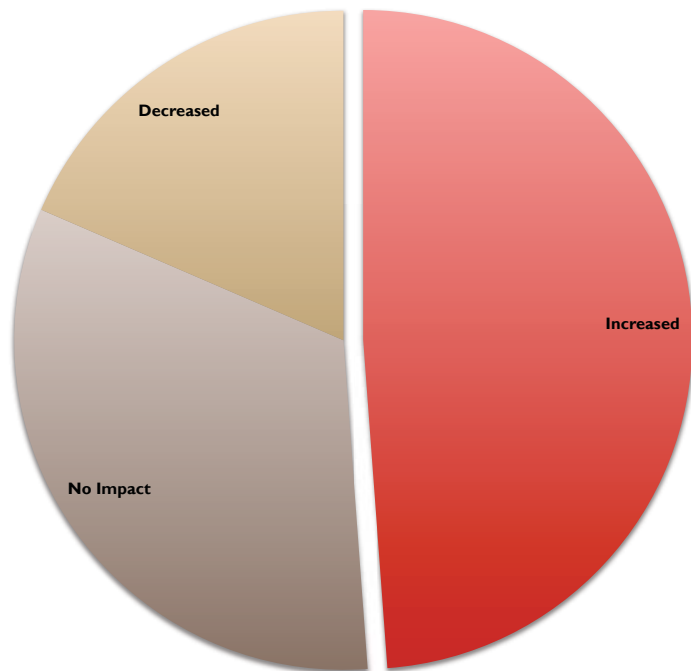
Despite the sometimes negative reputation that the influx of technology can have, similar results are observed when faculty are questioned on the impact of digital communication on their level of creativity. Over one-half (51.7 percent) think that digital communication has increased their level of creativity, 38.1 percent say it has had no impact, and 10.2 percent report that they believe digital communication has decreased their level of creativity.

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON
YOUR LEVEL OF CREATIVITY - FACULTY

Decreased

Increased

No Impact
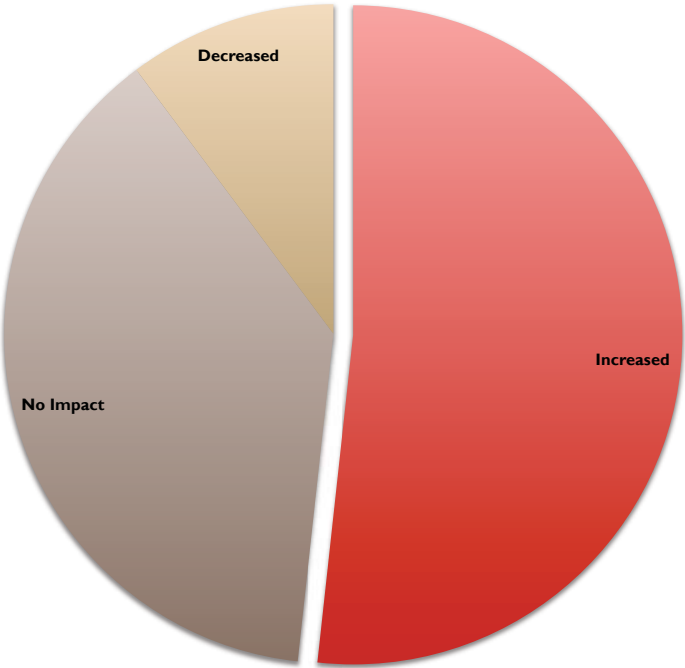
The "communication" aspect of digital communication is quite apparent when faculty are queried about the changes in their level of communication with specific groups. A majority of faculty members (53.5 percent) report that digital communication has increased their connection to the scholarly community, with most of the remaining faculty (40.1 percent) believing that there has no impact for them. Only 6.3 percent report a decrease in their level of connection to the scholarly community.

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON YOUR CONNECTION TO THE SCHOLARLY COMMUNITY - FACULTY

Decreased

No Impact
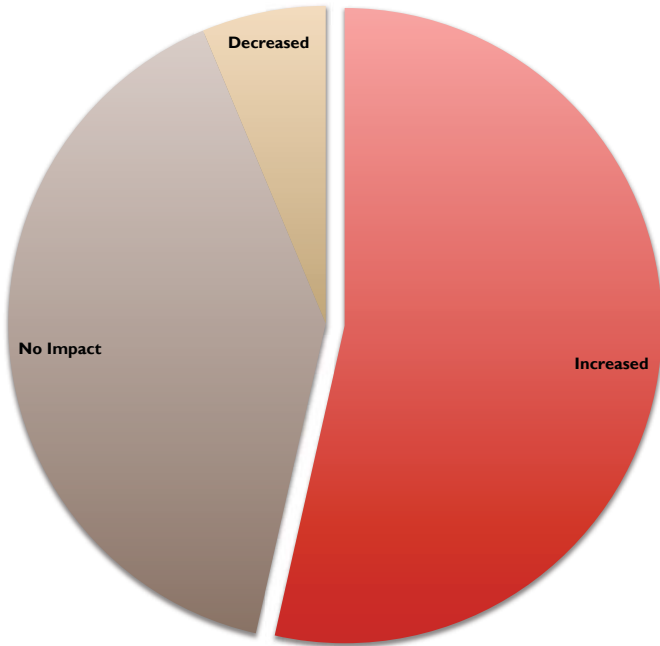
Increased

The positive impact of digital communication is even more apparent when faculty are questioned about the level of communication with students. A substantial majority (75.4 percent) report that digital communication has increased student-faculty communications. Only 4.1 percent believe the impact has been negative.

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON
YOUR COMMUNICATION WITH STUDENTS - FACULTY

Decreased

No Impact
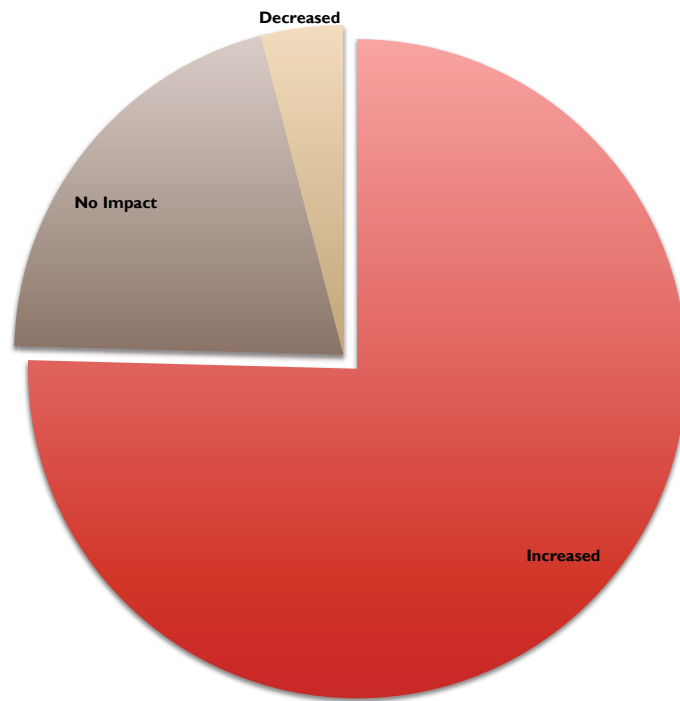
Increased

Faculty members also report a positive impact of digital communication on their ability to discover new ideas or to find collaborators, with a majority (56.1 percent) seeing an increase. Only 3.5 percent of faculty report that digital communication has resulted in decreased ability to discover new ideas or find collaborators, with the remaining 40.4 percent seeing no change.

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON YOUR ABILITY TO DISCOVER NEW IDEAS OR FIND COLLABORATORS - FACULTY

Decreased

No Impact
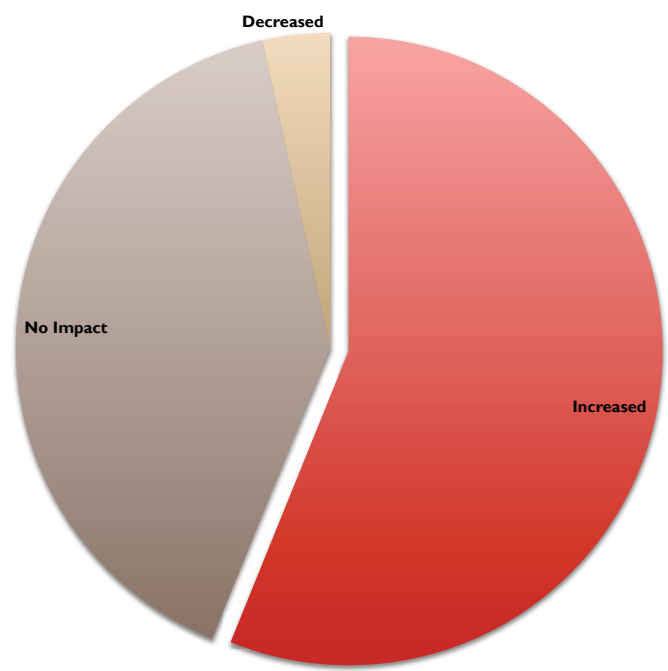
Increased

Faculty Workload

With faculty members reporting increased creativity, greater productivity, and better connection to the scholarly community and to their students, the overall picture of the impact on digital communication on daily faculty life has been mostly positive. A common complaint from faculty, however, is that all of these new communications channels take too much time. Faculty overwhelmingly report that digital communication has increased the number of hours that they work. Sixty-five percent say the number of work hours has increased, 28.6 percent see no change, and only 6.4 percent say that they see a reduction in the number of hours that they work as a result of digital communication.

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON THE
NUMBER OF HOURS YOU WORK - FACULTY

Decreased

No Impact
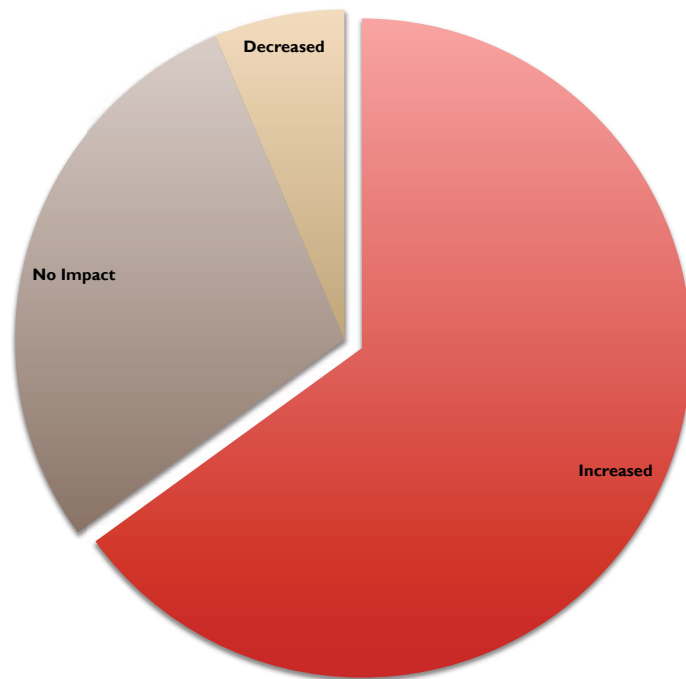
Increased

One measure of the potential for increased workload is the number of work-related e-mail messages that faculty members must deal with. While there are a few instructors (11.0 percent) who report 10 or fewer e-mails per day, the majority are seeing between 11 and 50 e-mails per day. A sizable proportion (16.2 percent) deal with between 51 and 100 e-mails on a daily basis, with a small group (5.9 percent) having over 100 per day.

NUMBER OF WORK E-MAILS PER DAY - FACULTY
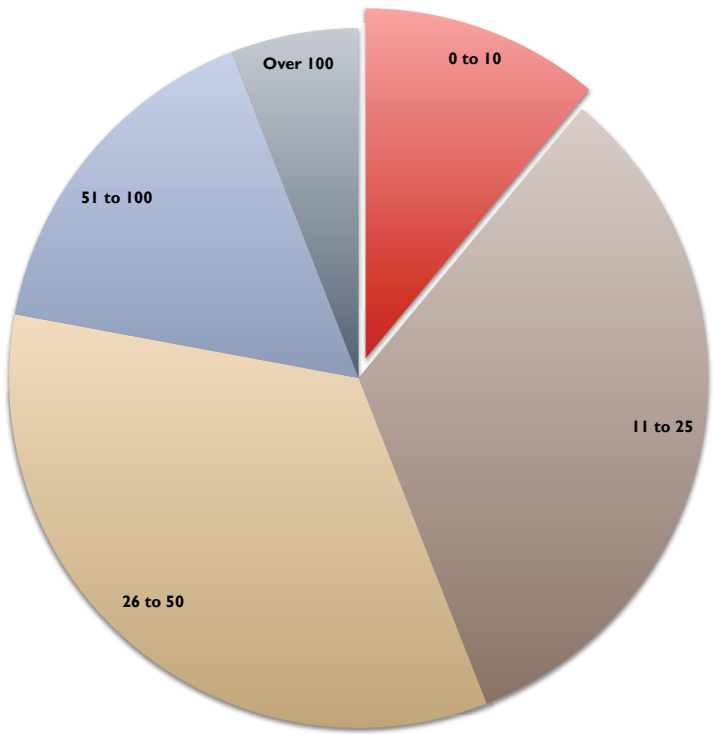
The number of work-related e-mails is relatively consistent for all disciplines. Faculty members in Professions and Applied Sciences tend to have the largest number per day (with 20.9 percent reporting 51 to 100 and 8.3 percent reporting over 100 e-mails per day).

NUMBER OF WORK E-MAILS PER DAY BY DISCIPLINE - FACULTY
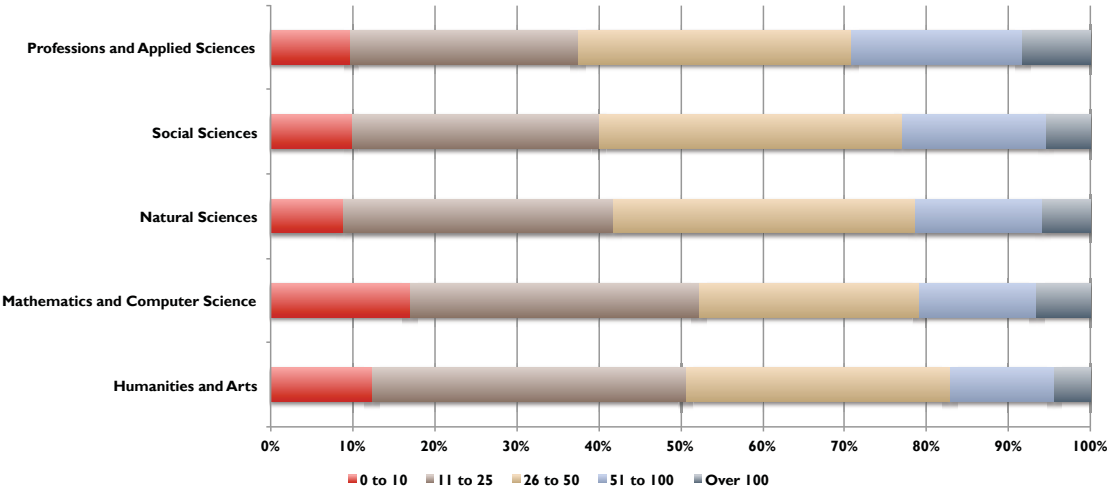
While faculty may report a large number of e-mails that they need to deal with each day, most of these are not coming from students. Nearly two-thirds of all faculty say they get 10 or fewer student e-mails per day, with an additional 28.5 percent reporting between 11 and 25 daily student e-mails. Not included in this analysis is the possible effect of differing class sizes – we can expect faculty teaching more and larger courses to deal with a larger number of students, and therefore potentially more e-mails.

NUMBER OF STUDENT E-MAILS PER DAY - FACULTY
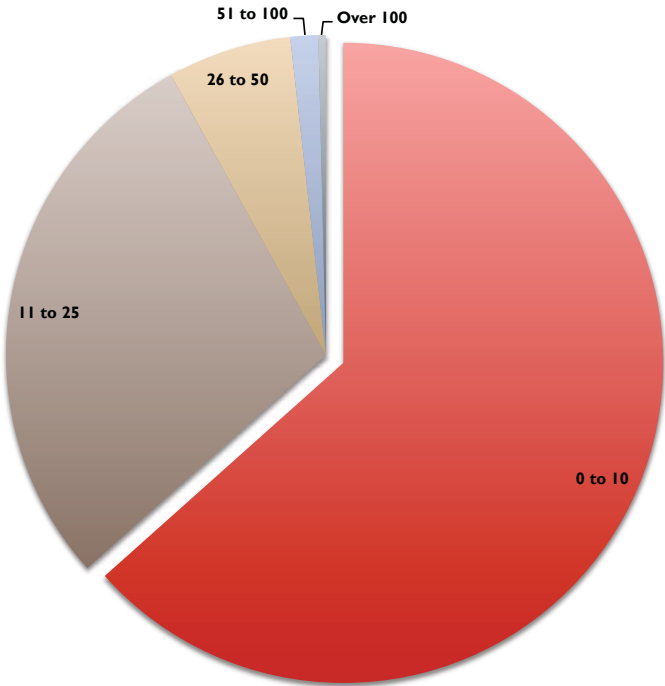
There is one group of faculty members who are seeing far more student e-mails – those who teach either blended or online courses. Only 40.4 percent of faculty members who teach both online and blended courses get 10 or fewer student e-mails per day – compared to 71.6 percent of faculty without such teaching responsibilities.

NUMBER OF STUDENT E-MAILS PER DAY BY ONLINE AND BLENDED TEACHING - FACULTY
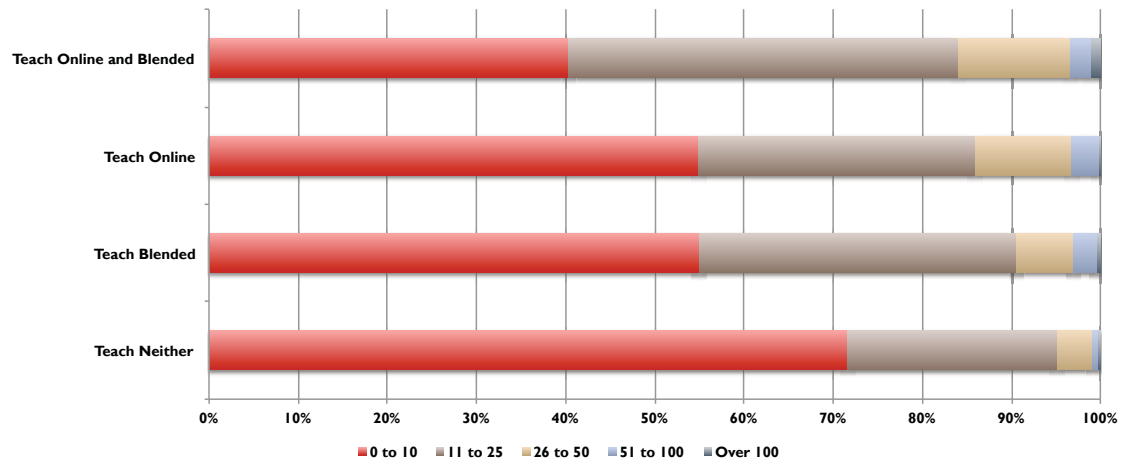
Faculty members appear to believe that student e-mails need quick responses. A majority of faculty (58.9 percent) report that they respond to at least 90 percent of all incoming student e-mails with 24 hours. Only 7.8 percent say they respond to fewer than half of student e-mails in a 24-hour period.

PERCENT OF STUDENT E-MAILS RESPONDED TO WITHIN 24 HOURS - FACULTY
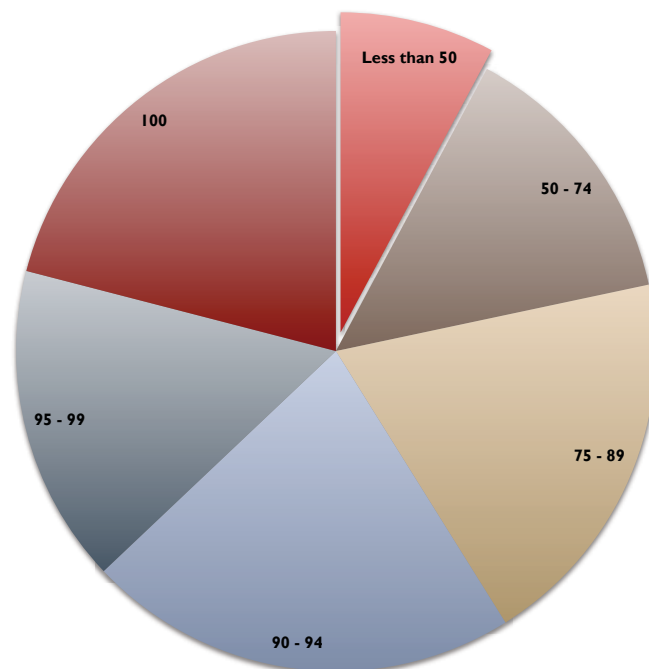
The high level of communications, coupled with an increase in the number of hours that they work, has resulted in faculty reporting an increase in their level of stress. Increased levels of stress arising from digital communications are reported by 41.4 percent of faculty members. A similar number (42.3 percent) report no change in their level of stress, and 16.3 percent think that digital communication has actually reduced their level of stress.

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON YOUR LEVEL OF STRESS - FACULTY
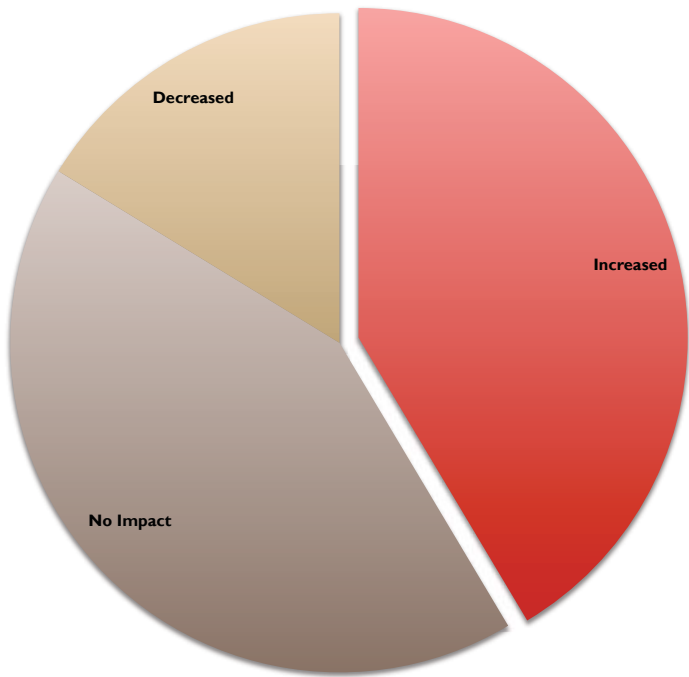
It is the more established faculty members, those with tenure or not tenured but on a tenure track, who are more likely to report an increase in the level of stress. Part-time faculty are much less likely to report increased stress.

DIGITAL COMMUNICATION HAS INCREASED YOUR LEVEL OF STRESS BY TENURE STATUS - FACULTY
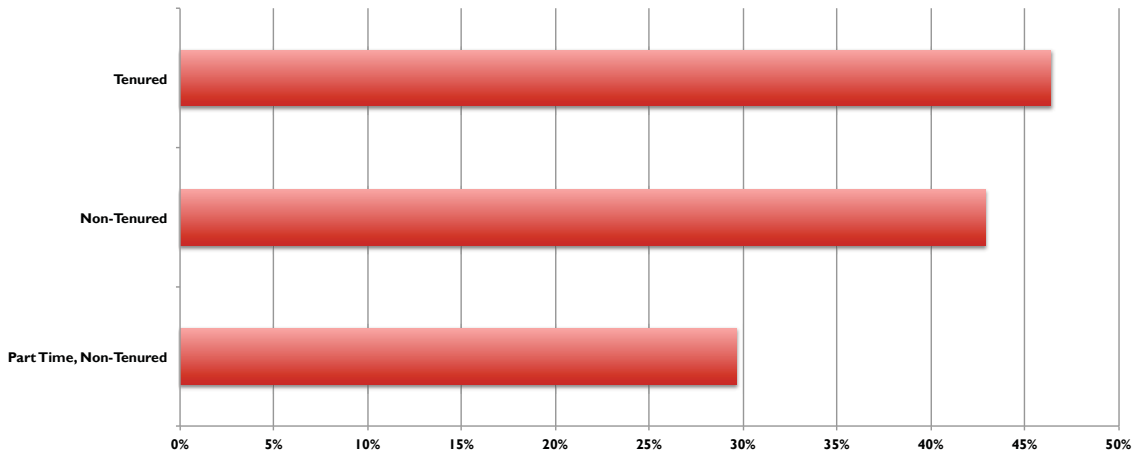
Female faculty members consistently report stronger responses, both positive and negative, to the impact of digital communications. Greater numbers of women than men report increased communications with students, increased connection with the scholarly community, and increased ability to find new ideas and collaborators. Greater proportions of female instructors also see increased creativity and increases in the number of hours worked. The male-female difference is smallest on the impact of digital communication on productivity, where the female and male rates are virtually identical. Female faculty members show the greatest difference from their male counterparts on the issue of whether digital communications has increased their level of stress. Only 36.4 percent of men report increased stress, compared to 46.3 percent of women.

THE IMPACT OF DIGITAL COMMUNICATION - GENDER DIFFERENCES (PERCENT REPORTING AN INCREASE) - FACULTY
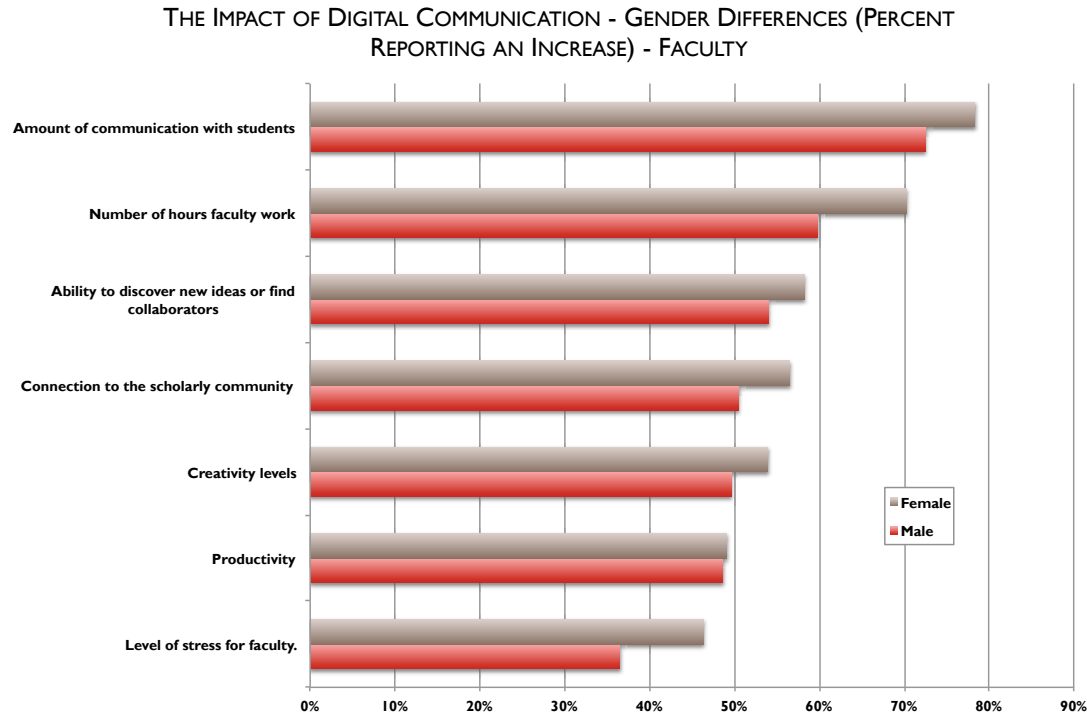
The impact of digital communications is relatively consistent across all disciplines. Faculty in the natural sciences tend to see smaller levels of effect on most aspects measured, while those in professional and applied sciences are the most likely to report increased levels of creativity and productivity.

THE IMPACT OF DIGITAL COMMUNICATION - DISCIPLINE DIFFERENCES (PERCENT REPORTING AN INCREASE) - FACULTY

33
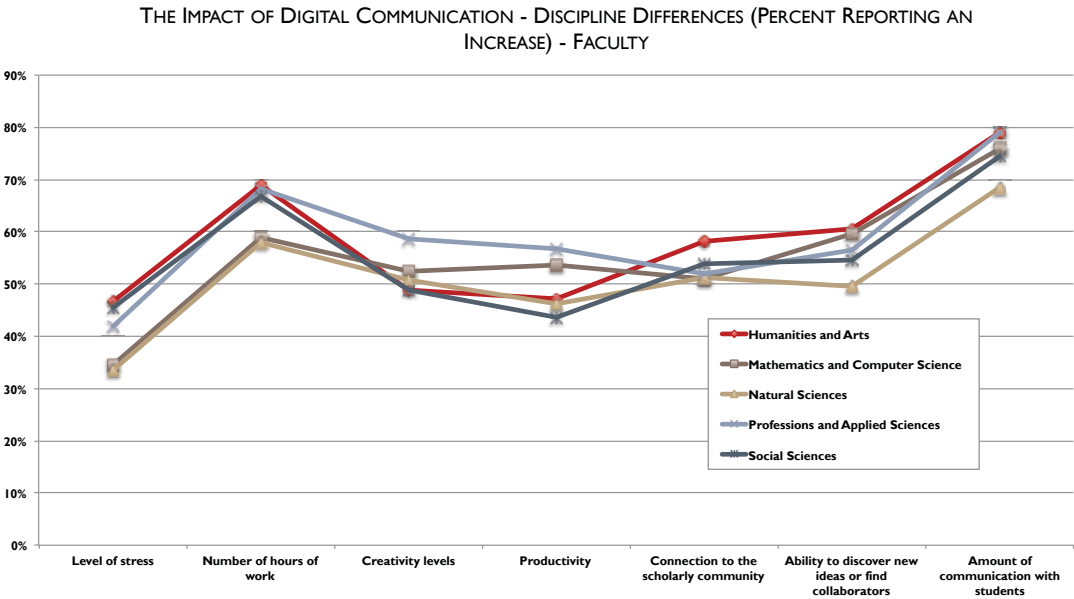
Faculty LMS Use

While most campuses are now using a learning management system (LMS, or course management system – CMS), the big question – in terms of gauging how big an impact those systems are having on the nature of instruction – is how widely those systems are used by faculty. Almost all faculty members make *some* use of their institution's learning management system. The degree of use varies considerably, however, depending on the specific type of use.

The most common use is sharing syllabus information with their students – with over 80 percent of all faculty saying that they do this regularly. Communicating with students and recording of course grades are also very common, with 66.0 percent of faculty reporting that they use these functions on a regular basis. Other functions are used by relatively few faculty; 37.1 percent say they regularly provide e-textbook and related material, 30.8 percent identify students who may need extra help, and 32.0 percent use the LMS to track student attendance. The least frequently used LMS function is integrating lecture capture, where only 15.3 percent of faculty report regular use.

LEARNING MANAGEMENT SYSTEM USE - FACULTY
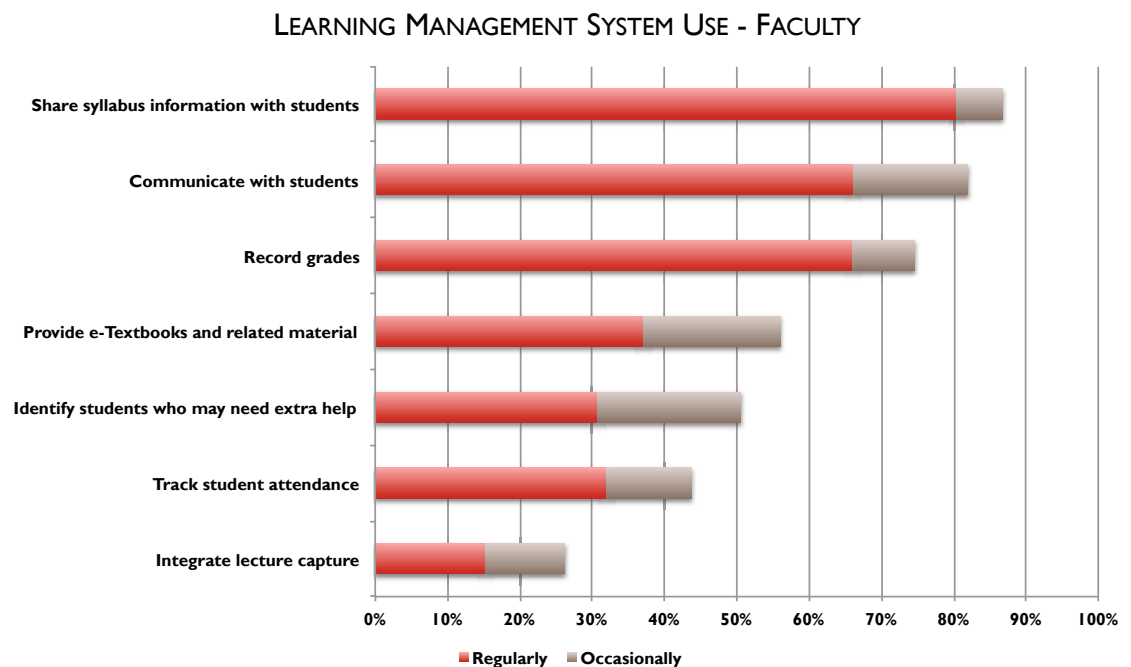
Institutional administrators' perception of faculty use of LMS systems does not match the reality of faculty usage. Administrators perceive a much higher degree of faculty use of LMS systems for every dimension than faculty actually report. In all cases the administrator perception is at least 10 percentage points higher than the reported faculty use. The largest differences come in the areas where faculty report the lowest levels of use – tracking student attendance and the integration of lecture capture. Nearly 80 percent of administrators believe that their faculty either regularly or occasionally use the LMS system to track student attendance, while only 43.7 of faculty report that they do so. A similar picture emerges for lecture capture – 48.8 percent of administrators report that their faculty are using this function, while only of 26.2 percent of faculty say they actually do use this function.

LEARNING MANAGEMENT SYSTEM USE - FACULTY AND ADMINISTRATOR PERCEPTIONS
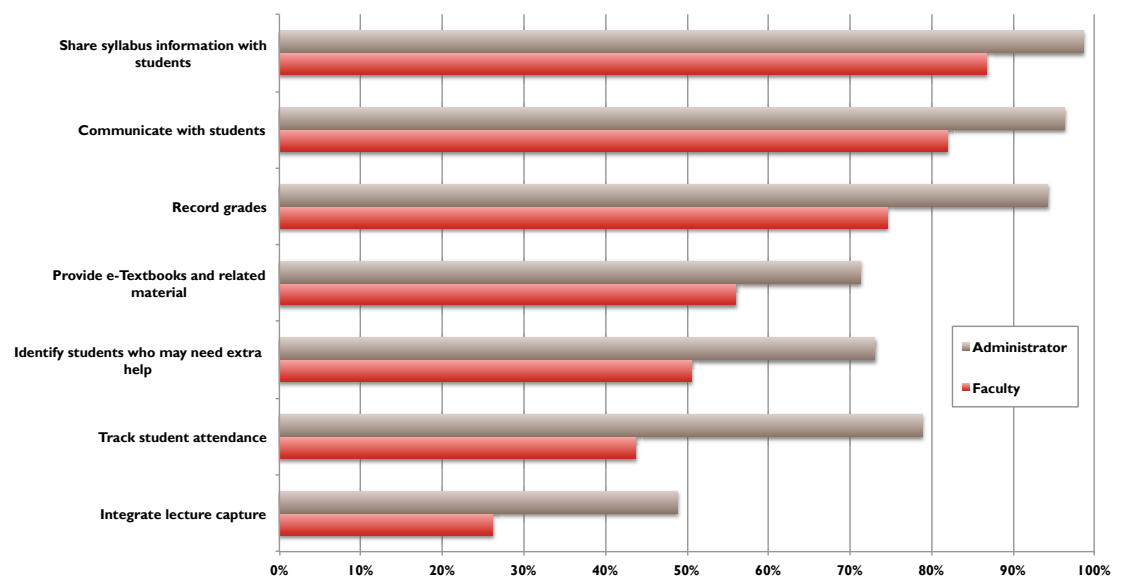
One reason that administrators may be overestimating faculty use of the LMS system is that they are basing their estimates on interactions with faculty who are teaching online or blended courses. Faculty with online or blended teaching responsibilities use the LMS at higher rates than do other faculty – rates that are very similar to those reported by academic administrators. Faculty who teach online or blended courses report usage rates double those of other faculty for several dimensions, including identifying students who need extra help, tracking student attendance, and the integration of lecture capture. Lecture capture remains at the bottom of the list even among this technology-literate group – with less than half reporting that they regularly or occasionally use this function.

LEARNING MANAGEMENT SYSTEM USE BY BLENDED AND ONLINE TEACHING - FACULTY
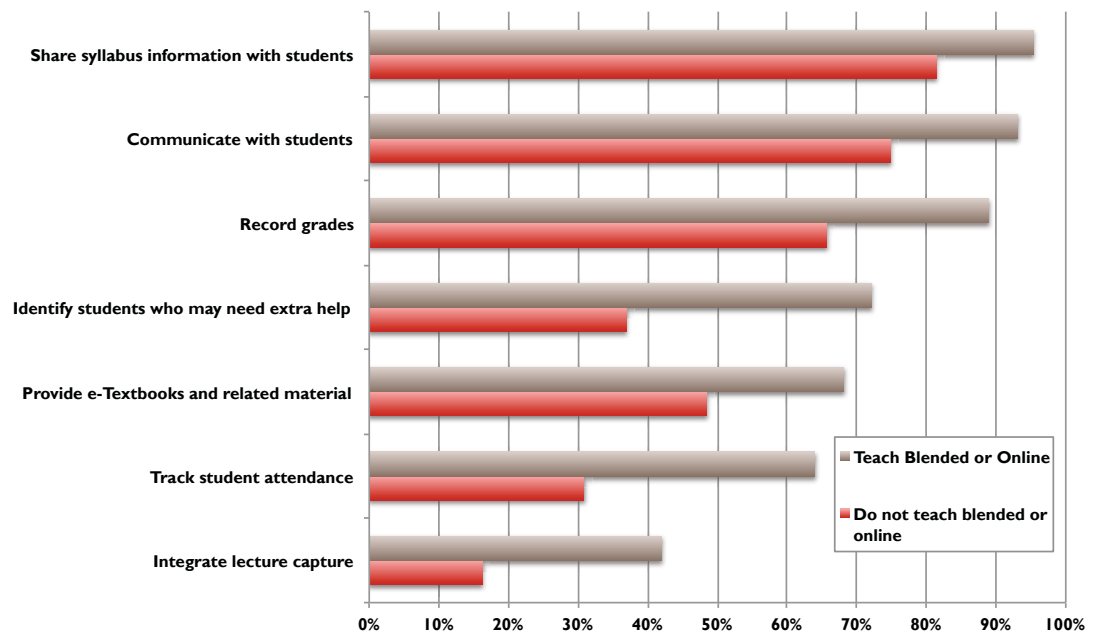
One reason for the widespread faculty adoption of learning management systems may be the degree of satisfaction they have with the level of support that their institution provides. Three times as many faculty agree as disagree that their institution provides excellent training and support for using digital tools in the classroom (62.5 percent compared to 21.3 percent).

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT
FOR USING DIGITAL TOOLS IN THE CLASSROOM - FACULTY
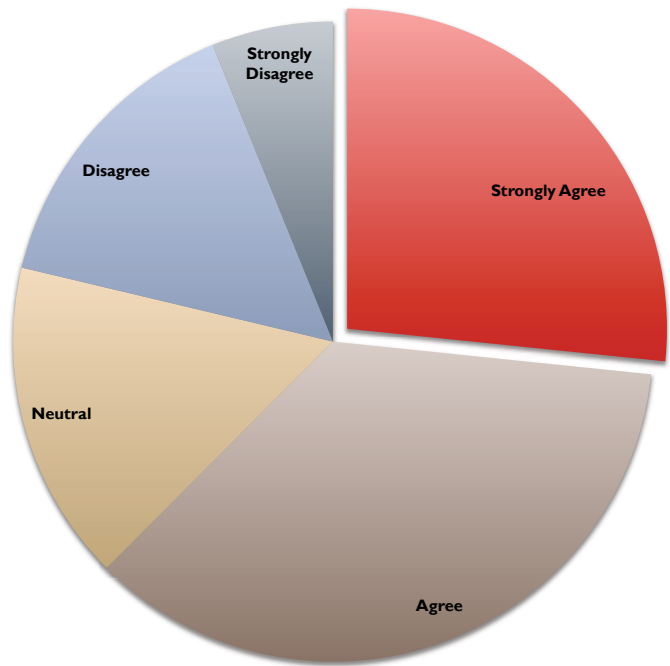
Administrators have an even more positive view of the quality of the institutional support than do faculty members. Among administrators, 36.0 percent strongly agree that their institution provides excellent support, with another 37.6 percent agreeing. The total of 73.7 percent is more than 10 percentage points higher than the 62.5 percent rate for faculty.

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT FOR USING DIGITAL TOOLS IN
THE CLASSROOM - FACULTY AND ADMINISTRATORS

37
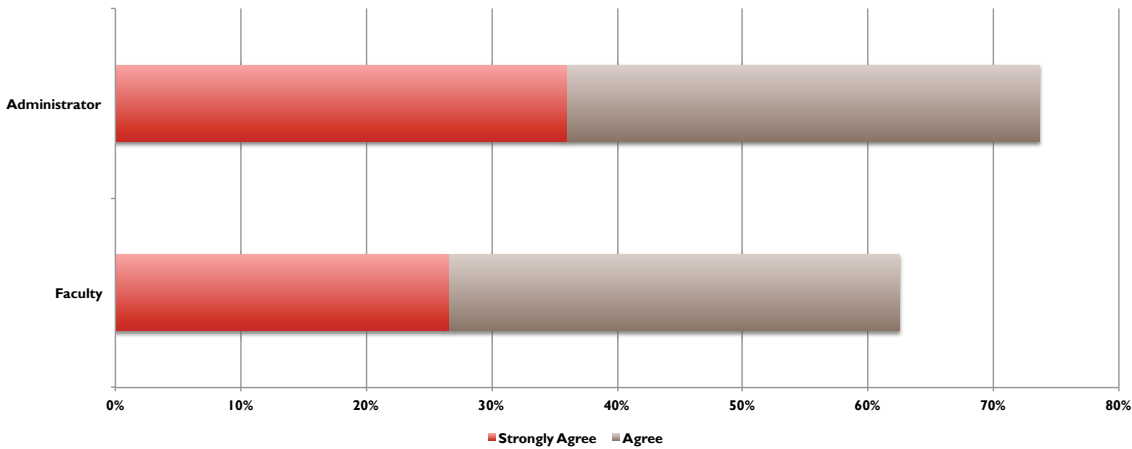
The picture is somewhat less positive when faculty are asked about the level of training and support for lecture capture – where more faculty disagree than agree that their institution provides excellent training and support. Only 11.0 percent of faculty strongly agree and 20.7 agree that their institution provides excellence in this area. Those who disagree make up 22.2 percent of faculty, with another 16.2 percent strongly disagreeing. The low use of lecture capture in conjunction with use of the institutional LMS may reflect a feeling among faculty that they are not well prepared.

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT
FOR THE USE OF LECTURE CAPTURE - FACULTY
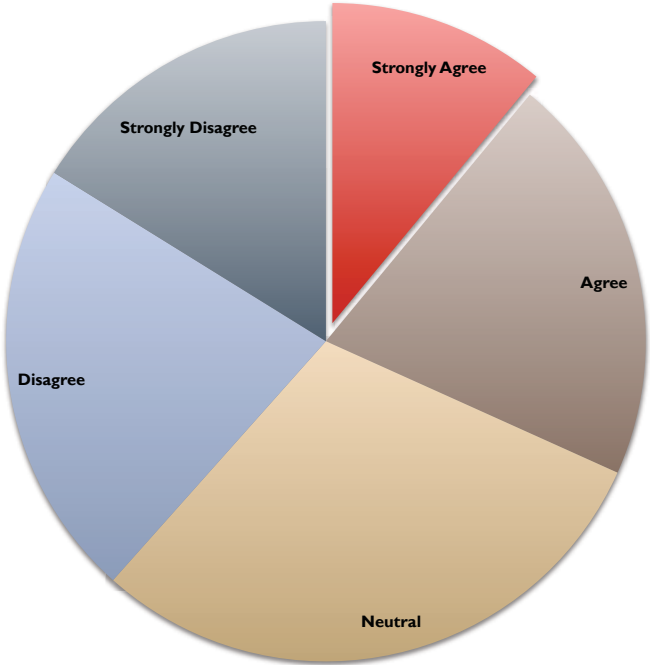
As was the case for the overall support of digital tools, administrators have a more positive view of the level of support provided for lecture capture than do faculty members. However, even among the mostly positive administrative group, less than half agree that their institution provides excellent training and support for lecture capture.

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT FOR THE USE OF LECTURE
CAPTURE - FACULTY AND ADMINISTRATORS
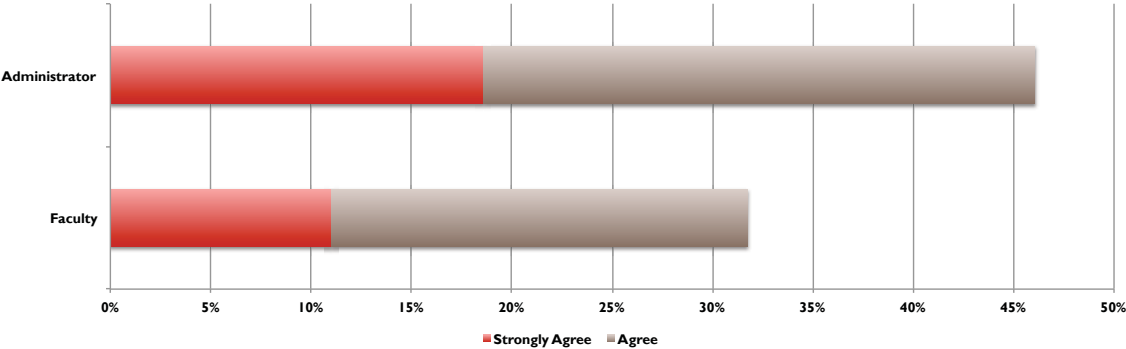
Excitement About the Future?

While faculty generally praise the level of training provided by their institution, they have a number of areas of concern about their institutions' policies.

The first volume of this report series noted that faculty felt more fear than excitement about the growth of online education. Does this translate into a general level of concern among faculty for all aspects of the technology infusion that is happening in higher education?

The short answer is no – for the most part faculty express more excitement than fear about various aspects of the new technology reality. Over 60 percent of faculty report that they have "more excitement than fear" about e-textbooks and e-resources replacing traditional print textbooks, the growth of free online educational content, the changing faculty role to spend less time lecturing and more time coaching students, libraries focusing on digital instead of print collections, the growth of blended/hybrid education, and the increasing collection and analysis of data on teaching and learning, on a course-by-course basis.

The growth of online education is much more problematic for faculty, with a majority coming out on the "fear" side. Of even more concern to faculty is the growth of scholarship outlets that do not use peer review models. But the largest concern, by far, among faculty members remains the growth of for-profit education, where only 12.0 percent say they have more excitement than fear and fully 88.0 percent say that they have more fear than excitement.

MORE EXCITEMENT THAN FEAR - FACULTY

39
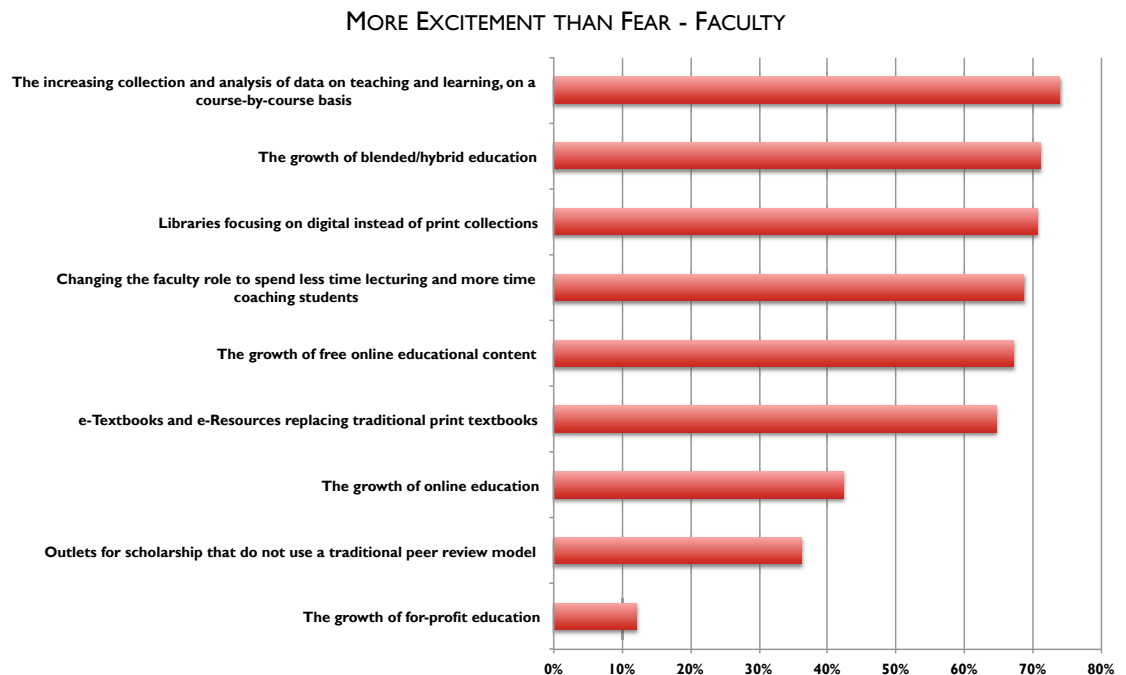
As has been evident for every dimension examined to date, administrators hold more positive views than do faculty members. The fear/excitement measurement is no exception – administrators report higher rates of "excitement" than do faculty members for every aspect measured. The largest disconnect continues to be online learning, where the administrator/faculty gap is largest in both absolute and relative terms.
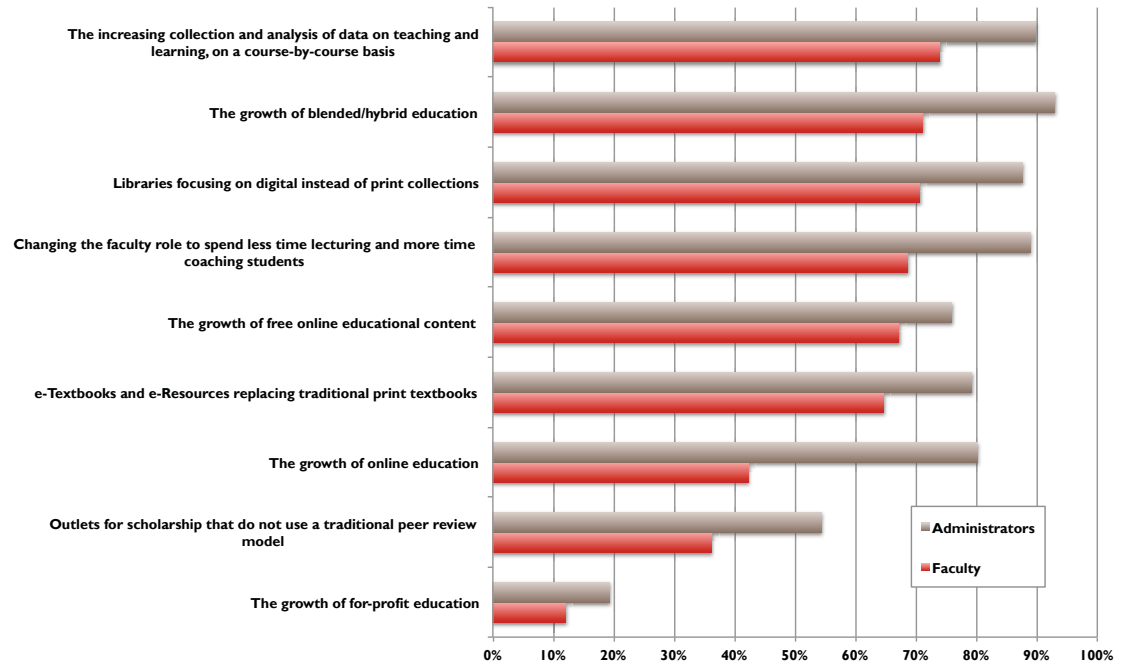
SURVEY METHODOLOGY

This study uses data from two surveys – one targeting a representative national sample of higher education teaching faculty and one targeting academic technology administrators in higher education. The questionnaires for both surveys were similar, with changes in only a few questions to reflect the different nature of the respondents. All potential respondents were promised that no individual-level data would be reported, and that the individual-level responses and contact information would not be shared with *Inside Higher Ed* or any of the project's advertisers. Data collection for both studies was conducted during May 2012.

The faculty sample comprises teaching faculty from all disciplines and was selected to be representative of the overall range of faculty members teaching in U.S. higher education. A multiple-stage selection process was used to select a stratified random sample of all teaching faculty. The process began by obtaining data from a commercial source, Market Data Retrieval, which claims that its records represent 93 percent of all teaching faculty. A total of 1,506,627 teaching faculty (defined as having at least one course code associated with their records) were included at that stage. Using information from the Carnegie Classification for each institution, faculty were then randomly selected from the master list in proportion to the number contained in each Carnegie Classification to produce a second-stage selection of 75,000 teaching faculty members. A number had e-mail addresses that were either no longer current or were eliminated because they were on opt-out lists, resulting in slightly under 60,000 total e-mail addresses to which survey invitation messages were sent. The number of messages that ended up in spam filters and did not reach the intended respondent is unknown.

Considerable effort was expended to ensure that the resulting sample was representative of all teaching faculty. In addition to comparing response rates by Carnegie classification, the responses were examined for any bias of early versus later respondent (which can indicate the only those most vested are responding), the results for selected questions were compared to those from other studies of faculty conducted by the authors, and the pattern of responses (by tenure status, years teaching, etc.) were compared to those seen in previous studies to ensure that there were no anomalies.

A total of 5,100 faculty members responded to the survey invitation and visited the online survey form, 4,564 of whom provided a sufficient number of responses to be included in the study. Three-quarters of the respondents report that they are full-time faculty members. Just over one-quarter teach online, they are evenly split between male and female, and over one-third have been teaching for 20 years or more. Tables showing the characteristics of the respondents are provided in the appendix. A set of response weights were calculated to adjust for any differences in response rates by Carnegie Classification. The weights made small adjustments to the results so that inferences could be made about the population of all higher education teaching faculty in the United States.

The administrator sample is made up primarily of those individuals with responsibility for some aspect of academic technology at their institutions, selected to represent the full range of U.S. higher education institutions. Potential respondents were selected from a combination of a commercial mailing list source (Higher Education Publications, Inc.) and lists maintained by the Babson Survey Research Group. Additional administrator titles with responsibility for academic programs (such as "Vice President for Instruction"), but not directly for academic technology, were also included. There are a wide variety of titles among all those invited to participate – the most common being "Director of Academic Computing" and "Director of Instructional Technology." Many others included "Vice President" or even a few with "Dean" as part of the title. Survey invitations were mailed to 5,726 administrators, of which slightly in excess of 200 were incorrect or no longer valid. A total of 681 administrators responded to the survey invitation and visited the online survey web site, 591 of whom provided a sufficient number of responses to be included in the study. The respondents include slightly more men than women and about one-quarter have been in their current position for 20 years or more.

The Babson Survey Research Group (BSRG) provided all sample selection, data collection, data processing, data analysis, charts, and data tables for the report.

CHART DATA

ASSIGNED BOOKS FOR WHICH E-TEXTBOOKS AND TRADITIONAL FORMATS ARE AVAILABLE - FACULTY

Regularly	Occasionally	Rarely	Never / NA
37.5%	29.7%	11.3%	21.6%

ASSIGNED MATERIAL AVAILABLE ONLY IN E-TEXTBOOK FORMAT - FACULTY

Regularly	Occasionally	Rarely	Never / NA
12.1%	16.7%	16.6%	54.6%

ASSIGNED MATERIAL AVAILABLE ONLY IN E-TEXTBOOK FORMAT BY DISCIPLINE - FACULTY

	Regularly	Occasionally
Social Sciences	11.1%	13.1%
Natural Sciences	10.8%	15.7%
Humanities and Arts	11.4%	18.2%
Professions and Applied Sciences	12.6%	18.7%
Mathematics and Computer Science	19.0%	18.2%

USED DIGITAL MATERIALS SUCH AS SIMULATIONS AND VIDEOS IN COURSE PRESENTATIONS - FACULTY

Regularly	Occasionally	Rarely	Never / NA
46.7%	36.2%	11.3%	5.8%

USED DIGITAL MATERIALS SUCH AS SIMULATIONS AND VIDEOS IN COURSE PRESENTATIONS BY ONLINE AND BLENDED TEACHING STATUS - FACULTY

	Regularly	Occasionally	Rarely	Never / NA
Teach Online and Blended	59.1%	31.7%	7.0%	2.3%
Teach Online	54.7%	34.6%	8.0%	2.7%
Teach Blended	54.5%	33.6%	8.2%	3.7%
Teach Neither	40.9%	38.1%	13.5%	7.6%

CREATED DIGITAL TEACHING MATERIALS/OPEN EDUCATIONAL RESOURCES OR CAPTURED LECTURES - FACULTY

Regularly	Occasionally	Rarely	Never / NA
20.2%	22.8%	17.0%	39.9%

Created Digital Teaching Materials/Open Educational Resources or Captured Lectures by Online and Blended Teaching Status - Faculty

	Regularly	Occasionally	Rarely	Never / NA
Teach Online and Teach Blended	35.0%	31.4%	14.0%	19.6%
Teach Online	34.6%	26.7%	13.2%	25.5%
Teach Blended	28.3%	25.3%	16.9%	29.5%
Teach Neither	12.4%	19.6%	18.6%	49.3%

Used Lecture Capture to Record or Stream In-Room Instruction - Faculty

Regularly	Occasionally	Rarely	Never / NA
9.5%	10.8%	12.7%	67.0%

Used Lecture Capture to Record or Stream In-Room Instruction by Discipline - Faculty

	Regularly	Occasionally
Humanities and Arts	3.7%	7.7%
Social Sciences	6.0%	9.4%
Mathematics and Computer Science	11.5%	10.0%
Professions and Applied Sciences	13.1%	14.7%
Natural Sciences	16.6%	12.7%

My Institution has a Fair System of Rewarding Contributions Made to Digital Pedagogy - Faculty

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6.3%	21.1%	39.8%	23.7%	9.1%

My Institution has a Fair System of Rewarding Contributions Made to Digital Pedagogy - Faculty and Administrators

	Strongly Agree	Agree
Faculty	6.3%	21.1%
Administrator	11.0%	24.3%

Published Digital Scholarship (Beyond Publishing an Online Version of a Traditional Scholarly Paper) - Faculty

Regularly	Occasionally	Rarely	Never / NA
5.2%	11.9%	15.0%	67.9%

The Quality of Articles in Online-Only Journals can be Equal to Work Published in Print - Faculty

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
26.2%	38.9%	23.9%	8.5%	2.5%

ONLINE-ONLY SCHOLARSHIP IS GIVEN THE SAME RESPECT IN TENURE/PROMOTION DECISIONS - FACULTY

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
3.0%	9.8%	37.2%	37.3%	12.6%

ONLINE-ONLY SCHOLARSHIP IS GIVEN THE SAME RESPECT IN TENURE/PROMOTION DECISIONS - FACULTY AND ADMINISTRATORS

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Faculty	3.0%	9.8%	37.2%	37.3%	12.6%
Administrator	3.4%	15.1%	38.6%	37.9%	5.0%

ONLINE-ONLY SCHOLARSHIP SHOULD BE GIVEN THE SAME RESPECT IN TENURE/PROMOTION DECISIONS - FACULTY

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
24.1%	33.3%	29.7%	9.7%	3.2%

ONLINE-ONLY SCHOLARSHIP IS/SHOULD BE GIVEN THE SAME RESPECT IN TENURE/PROMOTION DECISIONS BY FACULTY STATUS - FACULTY

Faculty Status		Strongly Agree	Agree
Part Time	Is	2.3%	8.3%
	Should Be	22.4%	29.7%
Non-Tenured	Is	2.6%	8.5%
	Should Be	26.8%	35.5%
Tenured	Is	3.6%	11.5%
	Should Be	22.9%	33.8%

MY INSTITUTION HAS STRONG POLICIES TO PROTECT INTELLECTUAL PROPERTY RIGHTS FOR DIGITAL WORK - FACULTY

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
9.7%	19.8%	44.3%	16.6%	9.6%

MY INSTITUTION HAS STRONG POLICIES TO PROTECT INTELLECTUAL PROPERTY RIGHTS FOR DIGITAL WORK - FACULTY AND ADMINISTRATORS

	Strongly Agree	Agree
Faculty	9.7%	19.8%
Administrator	19.2%	31.3%

USED SOCIAL MEDIA TO INTERACT WITH STUDENTS - FACULTY

Regularly	Occasionally	Rarely	Never / NA
15.2%	21.1%	19.0%	44.7%

Used Social Media to Interact with Colleagues - Faculty

Regularly	Occasionally	Rarely	Never / NA
18.0%	25.6%	20.2%	36.1%

The Impact that Digital Communication Has Had on Your Productivity - Faculty

Increased	No Impact	Decreased
48.8%	32.7%	18.5%

The Impact that Digital Communication Has Had on Your Level of Creativity - Faculty

Increased	No Impact	Decreased
51.7%	38.1%	10.2%

The Impact that Digital Communication Has Had on Your Connection to the Scholarly Community - Faculty

Increased	No Impact	Decreased
53.5%	40.1%	6.3%

The Impact that Digital Communication Has Had on Your Communication with Students - Faculty

Increased	No Impact	Decreased
75.4%	20.5%	4.1%

The Impact that Digital Communication Has Had on Your Ability to Discover New Ideas or Find Collaborators - Faculty

Increased	No Impact	Decreased
56.1%	40.4%	3.5%

The Impact that Digital Communication Has Had on the Number of Hours You Work - Faculty

Increased	No Impact	Decreased
65.0%	28.6%	6.4%

Number of Work E-mails per Day - Faculty

0 to 10	11 to 25	26 to 50	51 to 100	Over 100
11.0%	33.0%	33.9%	16.2%	5.9%

NUMBER OF WORK E-MAILS PER DAY BY DISCIPLINE - FACULTY

	0 to 10	11 to 25	26 to 50	51 to 100	Over 100
Humanities and Arts	12.4%	38.3%	32.2%	12.7%	4.5%
Mathematics and Computer Science	17.0%	35.3%	26.8%	14.3%	6.6%
Natural Sciences	8.9%	32.9%	36.9%	15.5%	5.8%
Social Sciences	9.9%	30.2%	36.9%	17.5%	5.4%
Professions and Applied Sciences	9.8%	27.8%	33.3%	20.9%	8.3%

NUMBER OF STUDENT E-MAILS PER DAY - FACULTY

0 to 10	11 to 25	26 to 50	51 to 100	Over 100
63.4%	28.5%	6.3%	1.4%	0.4%

NUMBER OF STUDENT E-MAILS PER DAY BY ONLINE AND BLENDED TEACHING - FACULTY

	0 to 10	11 to 25	26 to 50	51 to 100	Over 100
Teach Neither	71.6%	23.5%	4.0%	0.6%	0.3%
Teach Blended	55.0%	35.6%	6.4%	2.7%	0.4%
Teach Online	54.8%	31.1%	10.8%	3.1%	0.2%
Teach Online and Blended	40.4%	43.7%	12.6%	2.3%	1.0%

PERCENT OF STUDENT E-MAILS RESPONDED TO WITHIN 24 HOURS - FACULTY

Less than 50	50 - 74	75 - 89	90 - 94	95 - 99	100
7.8%	13.8%	19.4%	21.8%	16.1%	21.0%

THE IMPACT THAT DIGITAL COMMUNICATION HAS HAD ON YOUR LEVEL OF STRESS - FACULTY

Increased	No Impact	Decreased
41.4%	42.3%	16.3%

DIGITAL COMMUNICATION HAS INCREASED YOUR LEVEL OF STRESS BY TENURE STATUS - FACULTY

	Increased	No Impact	Decreased
Part Time, Non-Tenured	29.6%	47.2%	23.2%
Tenure Track, Non-Tenured	42.9%	40.5%	16.6%
Tenured	46.4%	41.2%	12.4%

THE IMPACT OF DIGITAL COMMUNICATION - GENDER DIFFERENCES (PERCENT REPORTING AN INCREASE) - FACULTY

	Male	Female
Level of stress for faculty.	36.4%	46.3%
Productivity	48.6%	49.0%
Creativity levels	49.6%	53.9%
Connection to the scholarly community	50.5%	56.5%
Ability to discover new ideas or find collaborators	54.0%	58.2%
Number of hours faculty work	59.7%	70.2%
Amount of communication with students	72.4%	78.3%

THE IMPACT OF DIGITAL COMMUNICATION - DISCIPLINE DIFFERENCES (PERCENT REPORTING AN INCREASE) - FACULTY

	Level of stress	Number of hours of work	Creativity levels	Amount of communication with students
Humanities and Arts	46.6%	68.8%	48.8%	79.0%
Mathematics and Computer Science	34.6%	58.9%	52.5%	75.9%
Natural Sciences	33.4%	58.0%	50.8%	68.4%
Professions and Applied Sciences	41.9%	68.3%	58.7%	78.9%
Social Sciences	45.6%	66.7%	48.8%	74.4%

	Productivity	Connection to the scholarly community	Ability to discover new ideas or find collaborators
Humanities and Arts	47.1%	58.1%	60.6%
Mathematics and Computer Science	53.7%	50.9%	59.7%
Natural Sciences	46.1%	51.3%	49.6%
Professions and Applied Sciences	56.9%	51.9%	56.5%
Social Sciences	43.6%	53.8%	54.6%

LEARNING MANAGEMENT SYSTEM USE - FACULTY

	Regularly	Occasionally
Integrate lecture capture	15.3%	10.9%
Track student attendance	32.0%	11.7%
Identify students who may need extra help	30.8%	19.8%
Provide e-Textbooks and related material	37.1%	18.9%
Record grades	66.0%	8.5%
Communicate with students	66.0%	15.8%
Share syllabus information with students	80.3%	6.4%

LEARNING MANAGEMENT SYSTEM USE - FACULTY AND ADMINISTRATOR PERCEPTIONS

	Faculty	Administrator
Integrate lecture capture	26.2%	48.8%
Track student attendance	43.7%	78.8%
Identify students who may need extra help	50.6%	73.0%
Provide e-Textbooks and related material	56.0%	71.3%
Record grades	74.5%	94.2%
Communicate with students	81.9%	96.3%
Share syllabus information with students	86.7%	98.6%

LEARNING MANAGEMENT SYSTEM USE BY BLENDED AND ONLINE TEACHING - FACULTY

	Do Not Teach Blended or Online	Teach Blended or Online
Integrate lecture capture	16.2%	41.9%
Track student attendance	30.8%	63.9%
Provide e-Textbooks and related material	48.5%	68.1%
Identify students who may need extra help	36.9%	72.1%
Record grades	65.6%	88.9%
Communicate with students	74.9%	93.1%
Share syllabus information with students	81.4%	95.3%

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT FOR USING DIGITAL TOOLS IN THE CLASSROOM - FACULTY

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
26.6%	35.9%	16.2%	15.2%	6.1%

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT FOR USING DIGITAL TOOLS IN THE CLASSROOM - FACULTY AND ADMINISTRATORS

	Strongly Agree	Agree
Faculty	26.6%	35.9%
Administrator	36.0%	37.6%

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT FOR THE USE OF LECTURE CAPTURE - FACULTY

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
11.0%	20.7%	29.9%	22.2%	16.2%

MY INSTITUTION OFFERS EXCELLENT TRAINING AND SUPPORT FOR THE USE OF LECTURE CAPTURE - FACULTY AND ADMINISTRATORS

	Strongly Agree	Agree
Faculty	11.0%	20.7%
Administrator	18.6%	27.5%

MORE EXCITEMENT THAN FEAR - FACULTY

	More Excitement than Fear	More Fear than Excitement
The growth of for-profit education	12.0%	88.0%
Outlets for scholarship that do not use a traditional peer review model	36.2%	63.8%
The growth of online education	42.3%	57.7%
e-Textbooks and e-Resources replacing traditional print textbooks	64.6%	35.4%
The growth of free online educational content	67.2%	32.8%
Changing the faculty role to spend less time lecturing and more time coaching students	68.7%	31.3%
Libraries focusing on digital instead of print collections	70.6%	29.4%
The growth of blended/hybrid education	71.1%	28.9%
The increasing collection and analysis of data on teaching and learning, on a course-by-course basis	73.9%	26.1%

MORE EXCITEMENT THAN FEAR - FACULTY AND ADMINISTRATORS

	Faculty	Administrators
The growth of for-profit education	12.0%	19.3%
Outlets for scholarship that do not use a traditional peer review model	36.2%	54.3%
The growth of online education	42.3%	80.2%
e-Textbooks and e-Resources replacing traditional print textbooks	64.6%	79.2%
The growth of free online educational content	67.2%	75.9%
Changing the faculty role to spend less time lecturing and more time coaching students	68.7%	89.0%
Libraries focusing on digital instead of print collections	70.6%	87.7%
The growth of blended/hybrid education	71.1%	92.9%
The increasing collection and analysis of data on teaching and learning, on a course-by-course basis	73.9%	89.9%

CHARACTERISTICS OF THE SAMPLE

Faculty:

GENDER

Male	49.5%
Female	50.5%

NUMBER OF YEARS IN POSITION

0 to 9	27.5%
10 to 20	35.0%
More than 20	37.5%

STATUS

Part Time	24.6%
Full Time	75.4%

TENURE STATUS

Institution Does Not Have Tenure	15.8%
Tenured	45.0%
Tenure track, not tenured	10.9%
Not tenure track	28.2%

DISCIPLINE

Humanities and Arts	27.7%
Mathematics and Computer Science	9.5%
Natural Sciences	21.3%
Professions and Applied Sciences	21.0%
Social Sciences	20.5%

TEACH ONLINE

No	74.6%
Teach Online	25.4%

Administrators:

GENDER

Male	51.2%
Female	48.8%

NUMBER OF YEARS IN POSITION

0 to 9	40.3%
10 to 20	34.0%
More than 20	25.7%