Binghamton University

Task Force on Undergraduate Education for the Digital Generation

April 2011
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Task Force on Undergraduate Education for the Digital Generation

Connecting students
- Advising/mentoring network
- New-student course
- Learning communities

Challenging students
- Undergrad research office
- Global engagement
- Entrepreneurial thinking

Digital technology
This icon indicates where technology might be used to facilitate implementation of a recommendation.

Supporting students
- Focus on learning
- Faculty engagement
- Efficiency and innovation

KEY TO RECOMMENDATIONS
Phase, description and recommendations within each phase.

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Executive Summary

The Task Force on Undergraduate Education for the Digital Generation has issued nine recommendations to strengthen and improve Binghamton University in the coming decade. These initiatives will meet the needs of tomorrow’s students, sharpen the University’s focus in key areas and contribute to the success of our graduates.

Three themes shape the task force’s recommendations: Connecting students, challenging students and supporting students.

Connecting students
Binghamton University undergraduates need to be introduced to the human, physical and virtual resources available to them, welcomed into the campus community and encouraged to engage deeply in topics that matter most to them.

Key recommendations in this area:
• Create an advising/mentoring network. (Phase 1)
• Provide a course for all new students (freshmen and transfers) during their first semester. (Phase 2)
• Expand the learning communities. (Phase 3)

Challenging students
Binghamton recruits bright and energetic students from around the world. The University has a responsibility to ensure that they are challenged to do their best, most imaginative work and prepared for the global marketplace they will enter after graduation.

Key recommendations in this area:
• Establish an office to support undergraduate research, scholarship and creative work. (Phase 1)
• Foster global engagement in all areas of curriculum and student life. (Phase 2)
• Facilitate entrepreneurial thinking throughout the University. (Phase 3)

Supporting students
Binghamton should provide its students with the best possible learning experiences, including meaningful interactions with engaged faculty members. The University also must provide the best possible campus infrastructure, a place where bureaucracy does not hamper student success.

Key recommendations in this area:
• Enhance the focus on undergraduate learning through increased support for excellence and innovation in teaching. (Phase 2)
• Reinforce and reward faculty engagement. (Phase 3)
• Increase efficiency and innovation in administrative structures. (Phase 3)
Introduction

Binghamton University’s history, tradition and reputation are deeply connected to undergraduate education. From its establishment as a small liberal arts college to its current place as a leading mid-sized research university with an international reputation, Binghamton’s core has always been the strength and depth of its undergraduate programs. It is important, therefore, that the University periodically undertakes a sweeping assessment of its initiatives. This helps to ensure that, as students change, programs serving undergraduates remain effective and new programs are developed to take advantage of emerging opportunities. Binghamton’s undergraduate education program should constantly adapt to provide the best possible opportunities and challenges for our excellent undergraduate population.

The Task Force on Undergraduate Education for the Digital Generation was constituted for this reason. When President Lois B. DeFleur established the parameters for the task force’s work, she gave the group a comprehensive, four-part charge:

(i) to weigh the effectiveness of prior initiatives;
(ii) to assess whether current educational programs continue to meet the broader educational objectives of the University;
(iii) to identify the changing needs of our students and how/whether the educational infrastructure (technology, programs, initiatives, etc.) can be modified in accordance with such needs; and
(iv) to examine major national trends in higher education and the extent to which the undergraduate experience at Binghamton University meets, exceeds or falls short of such trends.

After President DeFleur’s retirement, this charge was endorsed by President C. Peter Magrath.

Today’s Binghamton

The task force recognizes that, as a relatively young institution, Binghamton continues to grow and expand its role as a world-class institution known for its excellence in research, teaching and service. It has been our objective to undertake our task in a manner that productively engages these core attributes of the University’s academic culture, that strengthens its reputation and that supports its aspirations. At the same time, we recognize that there are serious challenges to be overcome in moving forward not just at Binghamton, but in institutions of higher education around the country.

Culture

Binghamton’s academic culture plays an important part in shaping the undergraduate experience. For a majority of students, the University’s core strengths in the liberal arts continue to anchor their curriculum. But the variety of educational options has grown dramatically since the University’s establishment and now includes a broad variety of programs outside the arts and sciences. These programs, some of which have attained outstanding national and international reputations, have helped the University attract an increasing number of applicants from across the country and around the world. In addition to this growth in undergraduate options, the role of graduate education has assumed increasing prominence, and strengthening graduate programs has been identified as a key initiative in the University’s recently adopted strategic plan. Binghamton has also moved deliberately to strengthen its identity as a research institution, with an active research faculty supported by initiatives undertaken by the Division of Research.
As the University has increased in size and diversified its undergraduate offerings, placed more emphasis on graduate education and worked to build a stronger reputation as a research institution, the nature of the undergraduate experience has evolved as well. Undergraduates have more opportunities to participate in research, scholarship and creative work and to engage with professionals in their disciplines. The University must ensure that as other parts of the University’s mission are expanded, its historic core strengths in undergraduate education remain fully supported. Continued excellence in undergraduate teaching and programs should remain a primary focus for the University.

**Reputation**

Binghamton is well known as a premier institution for undergraduate education and has enjoyed this reputation for some time. The number of applications has risen, the test scores of applicants have risen and independent college rankings consistently rate the University as a top educational value for both in-state and out-of-state undergraduates. When asked what they consider to be Binghamton’s strengths, many undergraduates identify the combination of diverse, high-quality programs and relatively low cost. Employers know Binghamton graduates as enterprising, motivated young men and women. Longstanding efforts to cultivate an international perspective have given the University a national profile and resulted in numerous awards.

At the same time, we must continue to seek ways to maintain an edge in areas that have traditionally been our strengths, including undergraduate education and internationalization. Increasing competition for top applicants means that we cannot rely on past achievements to maintain our reputation for excellence. Instead, we must look for new ways to attract and challenge the best students, to encourage faculty members to be engaged in undergraduate education and to incorporate emerging technologies into our classrooms and administrative functions.

**Aspirations**

In its long-term institutional planning, Binghamton University has established numerous objectives for continued growth, both in size and in quality. The University plans to increase its research output and its engagement with the community. For undergraduate education, growth brings with it new opportunities and challenges. With increasing numbers of students transferring to Binghamton from a variety of institutions, the University needs to ensure that these students are supported adequately during key periods of transition. We will need to maintain and increase the opportunities for undergraduates to develop meaningful relationships with faculty members. And we will need to ensure that increased size is accompanied by an emphasis on high-quality academic and co-curricular undergraduate programs.

**Current challenges**

The task force is aware of the challenges facing American higher education, and we recognize that Binghamton and the SUNY system continue to be profoundly impacted by an economic climate that has resulted in drastic cuts to state funding. Declines in faculty and staff have affected programs and entire units. The need for increased resources, both financial and personnel, was broadly recognized by the entire campus community as the major challenge to implementing any new initiatives on campus. Other challenges were also identified, including a substantial number who noted resistance to change as a possible impediment to the development of new ideas.

**Key finding**

The task force recognizes that the success of undergraduate education is built on faculty connections with students, in the classroom and beyond.
The task force recognizes that the success of undergraduate education is built on faculty connections with students, in the classroom and beyond. We support the University’s clear intention to increase the number of tenured/tenure-track faculty as a priority. Simply put, Binghamton needs a strong, diverse faculty that is energized and engaged. Much of what we recommend in this report depends strongly on faculty engagement and participation, and without an adequate number of full-time faculty members, the initiatives will be difficult to implement and will remain less effective than they would be with full faculty support. These challenges cannot be satisfied only through hiring; we must also find ways to engage existing faculty and staff in new and innovative ways.

**Today’s — and tomorrow’s — students**

Since our focus is on preparing the University’s undergraduate program for students that Binghamton anticipates enrolling during the next decade, we need to be aware that they are somewhat different than previous generations. These students:

- Are visual learners.
- Expect to work collaboratively.
- Expect immediate access to information.
- Have heavily involved parents.
- Have different ideas about “space,” and demand more digital interaction (especially mobile computing).
- See themselves as co-creators of knowledge.
- Are high achievers, with expectations they will go to graduate school.
- Represent more diverse populations.
- Are very interested in career outcomes.
- Take advanced technology for granted.

This is a generation that has grown up on MySpace, Facebook and other social media sites. They use text messages more than they use e-mail. Much of their life is lived online, and our challenge is to find meaningful ways to interact with students in this virtual space while also helping them to prepare for a variety of future professional environments that will require the ability to live and interact in both virtual and “real” space.

**New approaches to technology**

The task force considered multiple ways to address new approaches to technology, including an idea that would emphasize distance learning and related concepts. We recognize the importance of adapting to meet the challenges and opportunities presented by technological advances and an increasingly technology-savvy student body. In our final recommendations, we decided not to include a separate recommendation on distance learning and online/hybrid courses, but rather to emphasize the incorporation of technology in every new initiative.

We recognize that these modes of instruction are increasingly important in higher education and also that they need more attention at Binghamton. As technology changes, there are increasing opportunities to adapt pedagogical approaches in ways that can enrich the teaching-learning environment while ensuring academic rigor and high standards. Binghamton needs to explore these opportunities more widely, including a thorough campus discussion of the philosophy, procedures and policies involved. Faculty who want to explore alternate modes of instruction need to be given additional support, and the current recommendations include specific guidelines for the provision of this support, including the need to hire instructional design experts to assist faculty with the most effective approaches.
### Task force process
The task force adopted a broadly collaborative approach, offering multiple opportunities for the entire campus community to participate in the task force’s work. Our approach was to start with an examination of the previous task force’s recommendations and the programs that emerged in response to them. We then worked together with the campus community to identify existing strengths and weaknesses and to suggest new initiatives. The task force sifted through these ideas in conjunction with its own study of existing programs and its search for important national trends, evaluating ideas and coming up with a short list of issues to be explored further. After working to trim the list to ten major ideas, the task force took these back to the University. A series of forums was scheduled, and surveys were distributed to all students, faculty and staff, along with a group of alumni who had volunteered to participate. More than 2,600 responses were received.

Early on, we saw that the previous task force, which recommended several major initiatives — including the Discovery Program and the Scholars Program — had some notable successes. However, some of the recommendations from 1999 also ran into significant obstacles, chief among them a lack of faculty buy-in. As we noted in our interim report (see Appendix 4), the inclusion of highly detailed guidelines reduced freedom and flexibility for those who were assigned to implement some of the recommendations. As a result, our report includes recommendations and suggestions for implementation, but not prescriptive action plans. The task force envisions key faculty and staff members working and planning together, with input from students and alumni, to make its plan a reality.

The task force spent considerable time examining national trends in undergraduate education, examining current Binghamton University programs and soliciting the opinions of faculty, staff, current students and alumni to determine which recommendations are most essential to ensure that Binghamton maintains and strengthens its ability to provide the finest possible undergraduate education. We received hundreds of suggestions, looked at numerous developments in undergraduate education and examined the results of campus assessment initiatives. We eventually assembled a considerable list of promising new ideas; ideas that relate to our core strengths; and ideas that address areas where we need to improve. As we continued to evaluate the potential impact of these many possibilities and began to develop a group of key ideas, the task force debated the number of ideas to bring forward as recommendations in this report. Should the report include only a few top-priority initiatives, or should it include a broader range of recommendations? Each approach has its own benefits.

### Themes of this report
In the end, we decided to recognize the inherent value in each of the remaining ideas by including a larger number of recommendations but indicating clearly a hierarchy of priorities within these recommendations. We have grouped these ideas into three broad categories: Connecting Students, Challenging Students and Supporting Students. Each grouping contains three recommendations.

In the first theme, Connecting Students, we include measures aimed at strengthening the advising and mentoring that students receive, at helping them with the transition to Binghamton in their first semester and at helping them to integrate living and learning within learning communities.

In the second theme, Challenging Students, we look for ways to provide opportunities for deeper, more intensive intellectual and personal challenges.

### Key finding
The task force envisions key faculty and staff members working and planning together, with input from students and alumni, to make its plan a reality.
This could happen through close faculty-student interaction in an undergraduate research or creative work project, through increased exposure to global issues and opportunities or through a push to think — and act — more entrepreneurially.

In the third theme, Supporting Students, we identify ways to improve the undergraduate learning experience at Binghamton; we recommend that the University consider new ways to recognize and reward outstanding faculty engagement with undergraduates; and we urge the University to seek efficiency and facilitate innovative thinking throughout the institution.

**Phases for implementation**

Two recommendations emerged as immediate priorities within the task force and overwhelmingly within all campus constituencies: the establishment of an advising/mentoring network and the creation of a structure to strengthen undergraduate research, scholarship and creative activities. Three more recommendations were identified as very important but less urgent than the first two. Finally, four other recommendations are still considered quite important, but they were identified as less urgent than the other five.

We strongly believe that the two highest priority recommendations need immediate and thorough attention and should be addressed first. At the same time, we believe Binghamton undergraduates will benefit if the other recommendations are implemented incrementally and in conjunction with each other. When looking at the various recommendations in this report, virtually every unit in the University could contribute to an improved undergraduate experience at Binghamton by finding a recommendation that it can adopt. Even more, the current economic climate offers good reason to encourage the development of entrepreneurial thinking and to search for efficiencies in current operations, although these ideas were in the lower tier of priorities as ranked first by the task force and then the University community as a whole. For each of our top priorities, we have provided relevant metrics for evaluating the outcomes. We have also offered a timeline and general guidelines for implementation as well as a brief vision of what the final product might look like.

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**Task force members**

Donald Loewen, task force chair, vice provost for undergraduate education, chair and associate professor of Russian

Adam Blanden, undergraduate representative (2009-10)

Sharon Bryant, director of CSTEP, associate professor of nursing

Liz Carter, executive director of student services

Rachel Coker, director of research advancement

Terry Deak, chief of staff, associate professor of psychology

Madhusudhan Govindaraju, associate professor of computer science

Kim Jaussi, associate professor in the School of Management

Angelique Jenks-Brown, science reference librarian

Wayne Jones, chair and professor of chemistry

Jason Loew, graduate student representative

Florence Margai, professor of geography, associate dean of the Graduate School

Janice McDonald, director of the Office of External Scholarships, Fellowships and Awards

Michael McGoff, vice provost for strategic and fiscal planning

Frank Saraceno, associate director and chief architect in Information Technology Services

Heather Skolnick, undergraduate student representative (2010-11)

Leo Wilton, associate professor and chair of human development

Bill Ziegler, associate professor of computer science, faculty master and Binghamton Scholars director
Connecting students

Advising/mentoring network
New-student course
Learning communities
Connecting students

As a relatively young institution, Binghamton University cannot rely on a catalog of long-held traditions to give its students a sense of belonging. Rather, the University must build on the traditions it does have and find ways to capitalize on its key strengths as it continues to grow and mature. For instance, Binghamton’s residential college structure helps students feel that they’re enjoying many of the benefits of a small school as well as those available at a large research institution. Continued investment in the residential colleges will help students embrace life at Binghamton and all it has to offer, even as the University’s enrollment reaches 20,000 students sometime in the next decade.

The residential college system is perhaps the best example of the unique steps Binghamton already takes to connect its students. The residential colleges provide an early sense of identity within the institution, a readily available faculty mentor and, in some cases, a fairly small course. The University can and must provide more and better ways to connect its students in order to help them succeed. The University needs to pay as much attention to helping upperclassmen and transfer students through transitions as it does to helping freshmen when they first arrive. Undergraduates from all of the diverse groups that make up the student body need more ways to feel connected to each other, to the faculty and to the institution. They also need better guidance at key transition points, including choosing a major and deciding what to do after graduation.
As the University looks to the next decade, it’s vital to consider the shared experiences, the talents and the technological background of this new generation of students. How can Binghamton partner with students’ families at key transition points? Can apps and chat rooms supplement traditional forms of providing support and guidance? How can the University help these students connect with each other and with their professors offline? Can the University use the Alumni Career Network and other avenues to foster deeper connections between alumni and current students?

The task force identified three key initiatives that will improve student connections:

- An advising/mentoring network
- A new-student course
- Additional learning communities.

Implementation of the most vital of these, the advising/mentoring network, should begin immediately. While weighing its recommendations, the task force surveyed the campus community. Students, faculty, staff and selected alumni were asked about the importance of possible initiatives and then asked to rank their top priorities. Every group identified the need to improve advising and mentoring as being among its top two priorities. Indeed, successful advising is central to key elements in a successful student experience: progress on the academic path, choosing a major and making good choices in planning for a career.

Challenges related to advising at Binghamton are evident in the data gathered through the Alumni Survey as well as in the National Survey of Student Engagement, or NSSE. One challenge is that “advising” clearly means different things to different people. When Sean McKitrick, assistant provost and director of the Office of Institutional Research and Assessment, spoke to the task force about this challenge, he presented the issue succinctly:

- Advising is hard to define.
- The University doesn’t score very well in it.
- Everything else is correlated to it!

If Binghamton succeeds in bolstering student connections and, especially, improving advising, we will see dividends in terms of improved retention rates, graduation rates and even alumni loyalty. It will also help the University’s growing number of transfer students to thrive.
Create an advising/mentoring network.

Binghamton must improve the quality of the advising that our students receive. About 57 percent of Binghamton seniors rated their academic advising as good or excellent in the 2008 NSSE survey, compared to 68 percent nationally. In the same survey, 37 percent of Binghamton seniors said they had talked about career plans with a faculty member or advisor often or very often; that compares to 42 percent nationally. It’s clear that there’s room to improve. Doing so will take a concerted effort on the part of every faculty and staff member who comes into contact with undergraduates.

Not just about hiring more professional advisors; it’s about helping faculty and staff see that advising is part of their jobs.

The advising/mentoring network that we propose is a suite of diverse individuals and resources representing faculty, staff, peers and role models that a student can call upon in person and electronically for academic, career and life guidance. The task force expects this network to be integrated into the existing BU Brain portal so that students have easy access to the information as well as frequent reminders about it. Ideally, students will be assigned a first-year advisor and then be prompted and encouraged to build their own network from there, adding peer advisors, faculty mentors and career advisors throughout their time at Binghamton. The task force envisions students being required to seek advising before registration and perhaps completing a checklist in conjunction with DARS that would demonstrate a progression from general academic advising to more discipline-specific guidance.

To make this happen, we call upon the University to make a firm and public commitment and to allocate appropriate resources to create an advising and mentoring network for our undergraduates. First, the University will need to define “advising” and “mentoring” and help everyone on campus understand the importance of this initiative. Faculty and staff will need to see advising, mentoring and encouraging...
students as an important part of their responsibilities. Contributions should be acknowledged in meaningful ways. It should be our goal that each student leaves these interactions feeling positive and knowing for certain that they have just been advised or mentored. And students, faculty and staff alike should consider supplemental support on topics such as mental health, stress management and eating disorders to belong to this effort.

A key to the success of this program will be showing students the important role that they play in creating their own network. This skill is vital to their academic success as well as long-term career success. They should learn the diversity of advisors and mentors who can help them. Further, they need to learn how to identify, seek out and engage these key individuals.

While this initiative will absolutely require faculty to take a bigger role in the advising and mentoring process than they now do in many departments, the task force anticipates technology providing a boost as well. For instance, a Binghamton Advising mobile app could provide quick access to FAQs and allow students to check the availability of peer advisors and schedule in-person appointments with professional advisors. Skype and other teleconferencing programs could make brief advising appointments more convenient for students. A series of short videos, podcasts and webinars might provide basic guidance on a range of topics, including choosing a major and career prep, and allow students to access the insights of successful alumni. And a Web page with links to majors and possible career tracks could help some undeclared students investigate the options available to them.

As part of this initiative, the task force would recommend changes to the way the current BU Brain is used, especially when the university portal is fully deployed and personalized messages can be incorporated for students. (An undeclared sophomore, for instance, could be prompted to visit online tools related to choosing a major.) At the same time, a visual representation of the diverse network of advisors and mentors a student might want could be implemented on BU Brain (see below). In this way, a single screen provides a link to key members of a student’s network and a vision for the future that contains new advisors and mentors that a student still needs to find. A revision of the current difficult-to-understand DARS format would also be beneficial, with the development of a more contemporary, easy-to-interpret graphical interface.

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**ADVISING/MENTORING NETWORK**

- Faculty Master *
- First Year Advisor *
- Student
- College Academic Advisor
- Faculty Advisor (major)
- CDC Advisor
- Faculty Advisor (minor/double major)
- Peer Advisor
- Peer Advisor

* assigned on arrival

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**Digital technology**

A Binghamton Advising mobile app could provide quick access to FAQs and allow students to check the availability of peer advisors and schedule in-person appointments with professional advisors. Skype could make brief appointments more convenient. A series of short videos, podcasts and webinars might provide basic guidance on a range of topics. And a Web page with links to majors and possible career tracks could help undeclared students investigate their options.
The advising/mentoring network should:

- Improve the ratio of professional advisors to students, which currently varies dramatically by school.
- Show students how to take initiative in seeking support not only from professional advisors but also from faculty, peers and even alumni.
- Provide students with a model for career network building for their future.
- Leverage technology. Electronic delivery of at least some advising functions is key, possibly through online modules or mobile apps.
- Incorporate online portfolios that allow faculty, staff and future employers to better understand students’ academic background and achievements.
- Support students at key decision points (as they’re choosing a major, for example).
- Have increased capacity at key times (leading up to registration, for example).
- Incorporate both “push” and “pull” modes of service: kiosks, live online chats and sessions in residence halls and dining halls could supplement traditional office hours.

This will have an impact on:

- NSSE, alumni and senior survey scores on advising
- Retention rates
- Graduation rates
- Graduate school acceptance rates
- A metric to be devised by the implementation team related to digital delivery of advising

Timeline:

- Immediate priority, urgent need. Implementation to begin right away.

Guidelines for implementation:

Convene an implementation team that consults with existing stakeholders, including professional academic advisors, faculty, Discovery and New-student orientation planners, students, alumni, Career Development Center, employers, Communications and Marketing, DARS expert, registrar’s office, transfer initiative, Counseling Center, BU BRAIN and DARS expert from ITS. The network’s success should be evaluated regularly using the metrics outlined above.

Resources related to this recommendation:


Task Force on Undergraduate Education in the Digital Age Fall 2010 survey results — Appendix 4

Task Force on Undergraduate Education in the Digital Age Spring 2010 questionnaire results — Appendix 3
Provide a course for all new students (freshmen and transfers) during their first semester.

Binghamton University should provide a new-student course for all incoming freshmen and transfers during their first semester. This small class would introduce students to University resources and college research and study habits. It could be based in a discipline or a residential community. The new-student course will offer a common experience to all new students, building identity and community and ensuring that they have a common skill set. This class, which is already being piloted on a limited scale, offers a way to ensure that every student is brought into the Binghamton University culture in a meaningful way.

The new-student course should:
- Emphasize connections to the University (identity)
- Support the advising and mentoring mission.
- Provide a supportive relationship with faculty and staff and among students.
- Provide a small-group academic environment to facilitate adjustment to university life.
- Offer information about multiple aspects of this new phase of life (e.g. health/wellness, financial literacy, academic success, academic integrity, research methods and library skills, service/internship opportunities, planning for future success by taking advantage of the many opportunities available, and more).

The course could be offered in variations that are tailored to specific groups (e.g. transfer students, off-campus students, specific disciplines). The task force envisions the course having a common core content and approach, but variety where it makes sense for different groups or academic disciplines.

Responsibility for devising various ways to incorporate common core elements into the course would be assigned to a coordination team or course facilitator to ease implementation for instructors. These could include creative/nontraditional modules such as advising/mentoring networks, new-student courses, learning communities, and connecting students.

What this might look like:
Students enrolling for Binghamton’s fall semester join one of the many sections of the University-wide first-semester course. They are immediately part of a shared experience that links them not only to fellow new students, but also to all the other undergraduates on campus. It’s a relatively small class, taught by a faculty member who gets to know each of them by name and helps them to sort through their plans for the next four years.

The overall course coordinator ensures that each of the 70-plus sections of the course includes common core modules that link students to Binghamton University’s tradition and culture, introduce them to campus resources and opportunities and prepare them to succeed academically. But each section also has its own identity: Some sections are based in the residential colleges and enroll students who live near each other; others feature a focus on transfer students and the issues that interest them; many of them introduce students to a particular area of study, such as the natural sciences or humanities. In their first semester on campus, every student has the chance to participate in a small class while building connections to the University and developing a personal relationship with a Binghamton faculty member.
as a campus-wide scavenger hunt. A common set of clearly articulated learning objectives/outcomes should be included in the course design and implementation.

This will have an impact on:
- Transfer and freshmen retention rates
- Graduation rate
- NSSE data on “quality of relationships with students, faculty, administrators”
- Level of success in achieving learning outcomes established for the course
- A broad-based assessment tool that measures whether students who have had this course are better prepared for research and other projects

Timeline:
- Assessment of current models is already underway in some instances, and this could be extended and coordinated by the implementation team.
- A multi-year, phased-in approach would allow the new version of this course to be tested and modified in a pilot program (in response to feedback from instructors and students) before implementation for all new students. There should be a pilot version running by 2012.

Guidelines for implementation:
- Convene implementation team.
- Assess strengths and weaknesses of current models/variations of this course (FYE/HDEV105, HARP101, WATSON111). This course should streamline core elements of those classes and then leave room for discipline-specific implementation and/or complementary courses.
- Devise a flexible model that incorporates key elements/modules/lesson plans, such as a campus-wide scavenger hunt, but leaves opportunity for instructor contributions and content.
- The course should incorporate cutting-edge technology where relevant and appropriate, as well as introduce students to key programs and online resources such as BU Brain and Blackboard.
- The implementation team should consult with stakeholders/experts including professional academic advisors, faculty who have taught introductory courses, Discovery and New-student orientation planners, Residential Life, students, alumni, Career Development Center, the Center for Learning and Teaching, representatives of the schools and colleges, the Writing Center, the Libraries, Communications and Marketing, transfer initiative, Student Conduct Board, Counseling Center.
- Evaluate the outcomes of the course regularly using the metrics outlined above.
- Develop a cost estimate for this initiative.

Resources related to this recommendation:
Expand the learning communities.

Binghamton University has a strong history of successfully creating and implementing residential learning communities. Doing so has strengthened retention and student satisfaction scores, enriched learning and increased alumni loyalty and support. The task force recommends that the University continue to build on this core competency and further expand the notion of learning communities to include both residential learning communities as well as possible expansion into other spaces (e.g., learning lounges). Faculty and administrative support and involvement as well as physical resources are essential to this implementation.

Within Binghamton University, there are departments, residential colleges, athletic teams, research groups, student clubs and other ways of establishing a sense of community and belonging. New learning communities can be residential communities as well as non-residential communities that provide a place (a lounge or even a particular table) where students can gather.

New learning communities should:

- Build on the existing learning community experience.
- Bring an intellectual interest or curricular initiative into focus for a self-selecting group of students.
- Have a faculty or staff mentor.
- Respond to student interest/need. Students should be allowed to propose themes (e.g. theme-based, language- or area-based) and recruit participants.
- Provide transfers and off-campus students with an opportunity to participate in a piece of student life at Binghamton that’s among our core strengths.
- Have a chat room or other digital space that provides members a place to connect when they are not on campus.

There is evidence that learning communities bring significant benefits to students and residential communities when implemented effectively (see summary in interim report). Increasing and possibly further diversifying opportunities for participation in

What this might look like:

New learning communities develop in varying ways across campus. Some extend the reach of the learning communities in the residential colleges, adding to the existing course-based models or perhaps building on a student interest in a language and culture or an academic area. Faculty advisors, together with the Faculty Masters, provide support for the learning communities and facilitate the intellectual engagement of the students by doing things like linking courses, inviting speakers, encouraging undergraduate research initiatives or other activities.

Other learning communities could develop along less traditional lines to make participation possible for the thousands of students who live off campus and the transfer students who never experience residential life at Binghamton. These communities could find homes in shared “learning lounges,” places where a group of students and a faculty member could meet to engage a common intellectual interest in a context that encourages both curricular and extracurricular interaction. Although these groups lack the community-building benefits of physical proximity (central to the learning communities based in the residential colleges), they seek to augment relationships built in person by fostering a sense of community through forms of social media that most students already use frequently.
learning communities could increase identification with the community and the University, foster collaboration and increase student satisfaction.

**This will have an impact on:**
- Number of upperclassmen who stay on campus, if learning communities are designed to make this attractive
- Participation rate (opt-in from students in the host community)

**Timeline:**
- This initiative can be developed incrementally in response to student interest.

**Guidelines for implementation:**
- The Learning Environment Committee should be a resource on this topic and play a role in developing appropriate space and resources for learning communities.
- The learning communities should be evaluated regularly using the metrics outlined above.
- While the existing Residential Life and faculty master structure supports residential learning communities, non-residential communities would require a different support structure to support off-campus students.
- This effort will require social media expertise to ensure that offerings run parallel with the realities and needs of students. Undergraduates want and need more physical communities at college, but for many of them their real experience of friends is the Facebook model (lots of friends; most of the interaction is virtual).

**Resources related to this recommendation:**


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**Digital technology**
This effort will require social media expertise to ensure that offerings run parallel with the realities and needs of students. Undergraduates want and need more physical communities at college, but for many of them their real experience of friends is the Facebook model (lots of friends; most of the interaction is virtual).
Challenging students
Undergrad research office
Global engagement
Entrepreneurial thinking
Challenging students

Binghamton recruits bright and energetic students from around the state and, increasingly, from across the country and even the world. The University’s highly selective admissions process results each fall in a freshman class that’s even more accomplished than its predecessors. Many of these young people find their way into laboratories and internships, go abroad or learn something about what it means to be an entrepreneur. The task force wants to ensure that these opportunities, so vital for success in the 21st century, are widely available and regularly evaluated. It’s essential that Binghamton students feel supported, but also that they feel challenged.

What “challenging students” means in higher education is rapidly changing as undergraduates of the future experience their K-12 education and daily lives through and with technology. Students of the digital age have expectations and experiences as co-creators of knowledge rather than the recipients of knowledge that undergraduates have been traditionally. They will demand and thrive in a University experience that provides “challenges” in alignment with their generation’s mental models and schema for learning and growth. Binghamton should offer every student an opportunity to participate in a meaningful way in some sort of intellectual, international or civic experience. The task force hopes that every student would choose to engage in at least one of these areas.

Of course, it’s not only students who are seeking out ways to be challenged. The expectations of their future employers and graduate schools are rising, too. And, indeed, the expectations and possibilities of the global
marketplace are going to affect these students as they have no previous generation. As researchers and society at large question the value of an American college education, and as for-profit models proliferate, it’s vital that we take steps to ensure that there is, in fact, depth and purpose to the Binghamton undergraduate experience.

As its members weighed these concerns, the task force developed three key recommendations:

- More undergraduates should participate in research, scholarly work and creative activities.
- All of them should leave campus with a global mindset.
- Students and faculty alike should be encouraged to undertake entrepreneurial projects.

Support for the most urgent of these concepts, improving undergraduate access to research, scholarly and creative work experiences, is already evident across campus. The University must also redouble its efforts related to internationalization and entrepreneurship if it is to stand out from its peers in the decade ahead. Efforts in these areas have the potential to pay huge dividends in terms of recruiting and retaining talented students as well as faculty.
Establish an office to support undergraduate research, scholarship and creative work.

Research, scholarship and creative work remain a pillar of academic excellence at Binghamton University. In fact, NSSE data show that a quarter of Binghamton undergrads participate in research, compared to about a fifth nationally and at peer institutions. Although many of Binghamton’s most motivated undergraduates already obtain experience in research, scholarship or creative work on their own or through one of several small-scale programs (e.g., undergraduate honors theses and the McNair Scholars program), the University must create the structure necessary for more students to get involved. Too many undergraduates are unsure how to begin or are unaware of the potential of these experiences to enrich their education. A central clearinghouse for these experiences will enable the University to evaluate its progress, build capacity and publicize its success stories.

Further, Binghamton is losing ground to competitors due to the lack of a formal program (such as an honors college) that accommodates the interests of its best applicants and talented students. The task force sees the creation of an office dedicated to the promotion and facilitation of undergraduate participation in mentored research, scholarship and creative activities throughout the University as a key step toward regaining this edge — or maintaining this tradition.

Undergraduate research, scholarship and creative work experiences give students a chance to understand how the professionals in their fields solve problems. They offer students a chance to focus intensively and productively on a major project, developing skills that may not otherwise be part of their multi-tasking environments. In many cases, these experiences also provide an opportunity for students to work in teams and learn how their efforts can contribute to a larger whole.

Finally, participation in this type of intensive work on a substantial project is increasingly expected to be part of an undergraduate’s preparation for graduate school.

What this might look like:
The Office of Undergraduate Research, Scholarship and Creative Work serves as a matchmaker, pairing students with faculty members and facilitating the involvement of undergraduates in meaningful work. Students are able to speak with someone about their coursework, and see which opportunities are a good fit for them. Faculty members who want to bring undergraduates into their labs or who are interested in getting help from an undergraduate research assistant are able to post their openings in one spot. An online campus research journal featuring undergraduate work is launched, and an annual series of poster presentations provides another opportunity for the campus community to see the best undergraduate work. The University receives federal funding to support undergraduate project assistants, and establishes additional Research Experiences for Undergraduate programs in connection with the National Science Foundation. The number of Binghamton undergraduates participating in research, scholarship and creative work rises from a quarter to more than a third, and more Binghamton students are accepted into top graduate programs. The University sees its first Rhodes Scholar, and students win other major national awards.
Key finding
Undergraduate research, scholarship and creative work experiences give students a chance to understand how the professionals in their fields solve problems. They offer students a chance to focus intensively and productively on a major project, developing skills that may not otherwise be part of their multi-tasking environments.

for graduate and professional schools, and without this experience their applications are less competitive. Employers view involvement in a sustained research project and the development of expertise in evidence-based analysis as extremely important preparation for success in today’s workplace. And for all students, participation with a mentor in an experience like this is one of the most effective high-impact undergraduate educational practices, according to the Association of American Colleges and Universities.

The Office of Undergraduate Research, Scholarship and Creative Work should:

- Increase student participation in research, scholarship and creative projects across all disciplines.
- Serve as a clearinghouse for research, scholarship and creative opportunities in the way that the Center for Civic Engagement serves as clearinghouse for service opportunities.
- Include incentives for faculty participation, especially in underrepresented disciplines (e.g., humanities, some social sciences).
- Make undergraduate research achievements more visible on campus and beyond (e.g., undergraduate research fairs, online undergraduate research journals, a newsletter).
- Collect information and track achievements in undergrad research.
- Be closely linked to faculty.
- Help students make connections with potential faculty research mentors.
- Educate students by stressing the importance of research to student success in graduate school and jobs.
- Inform students about existing funding that can support research and seek to increase the types and amount of such support available to undergraduates. Students who wish to continue their work over the summer should have the resources to do so.
- Provide information on research opportunities on campus and beyond and seek to build additional capacity in Binghamton through a variety of programs, including Binghamton-based National Science Foundation Research Experiences for Undergraduates.
- Engage students from underrepresented minorities in research.
- Help students understand the differences between different types of involvement: research, scholarly and creative work; part-time jobs; and internships. The Undergraduate Research office will focus on projects that lead to papers suitable for publication, posters for display at conferences or creative work that could be published or performed.
- Build connections between Binghamton undergraduate and graduate students, offering another layer of opportunity for the first group to have mentors and for the second to gain experience being mentors.

This will have an impact on:

- NSSE shows Binghamton as being way ahead of its peers in work with faculty on research — 26 percent participation vs. about 20 percent nationally and at peer institutions. That score should improve or at least stay high.
- Retention rate, especially for top students if they can be linked early to research opportunities
- Enrollment rates for high-achieving students
- Success rates in external scholarship competitions
- Acceptance rates at the best graduate and professional schools
- Number of students presenting papers/posters at conferences
• Number of undergraduates supported by external agencies (e.g., Research Experiences for Undergraduates sponsored by the National Science Foundation)
• Number of students authoring or co-authoring papers

Timeline:
• This initiative is among the most urgent contained in this report. The initiative could take several years to achieve serious, measurable results, according to other research universities (Undergrad research directors at UCLA, UCSB).

Guidelines for implementation:
• As with other recommendations in this report, the creation of an implementation team should be among the first steps. This implementation team should include or consult with faculty in most disciplines, the Division of Academic Affairs, the Division of Research, the Career Development Center, Admissions, employers, students and alumni.
• Define what undergraduate research, scholarship and creative work is.
• Establish the baseline of current activity level in undergraduate research through a comprehensive effort to identify all existing opportunities and involvement at Binghamton.
• The office’s work should be evaluated regularly using the metrics above.
• The extensive network of Organized Research Centers on campus as well as the New York State Center of Excellence in Small Scale Systems Integration and Packaging should be leveraged to engage more undergraduates in their funded programs.
• This office should align/cooperate/communicate regularly with the Career Development Center, the Center for Civic Engagement and the Division of Research to ensure that opportunities don’t go unexploited. Connections should be made with alumni who may be able to mentor students in projects coordinated either through the Undergraduate Research office, the CCE or the CDC (tap into the Alumni Career Network). The University could then say that every student is guaranteed an opportunity for engagement via community service, internships or research, scholarly and creative work.

Resources related to this recommendation:


Foster global engagement in all areas of curriculum and student life.

Binghamton’s stated goal is to produce graduates who have developed a “global competency.” In the 1980s and 1990s, it may have been enough to send some students abroad and have a minimal foreign language requirement. The 21st century presents a deeper challenge to our graduates, many of whom will work with — and compete with — people from other cultures throughout their careers. The University needs to ensure that more students have an international experience of some kind, even if it’s not for an entire semester, and that classes and student life on the Binghamton campus provide ongoing opportunities for global engagement. More than that, Binghamton students should find a curriculum and campus so steeped in all things international that they should be having these experiences even when they are not seeking them.

The University’s historic strength in this area cannot be overstated. Binghamton has received every major national award given for comprehensive internationalization:

- The American Council on Education launched a competition in spring 2000 to identify institutions with outstanding records of comprehensive internationalization in their undergraduate programs. In fall 2000, Binghamton University and Indiana University (Bloomington) were selected as models for research universities.
- In January 2004 the Institute of International Education selected Binghamton’s Languages Across the Curriculum (LxC) program to receive an Honorable Mention for 2003-2004 in the annual competition for the Andrew Heiskell Awards for Innovation in International Education. LxC was identified as a “best practice” in campus internationalization.
- NAFSA: Association of International Educators presented the Senator Paul Simon Award for Campus Internationalization to Binghamton in 2004. NAFSA designated Binghamton as one of five institutions nationally where an international perspective permeates the institutional culture.
• Binghamton received the National Association of Student Personnel Administration International Best Practices Award in 2007.
• The State University of New York’s dual-diploma programs with Turkey, in which Binghamton has played a leading role, received the Andrew Heiskell Award for International Exchange Partnerships in 2007 from the Institute of International Education.

All of that said, however, this global culture will not continue to be a signature strength for Binghamton unless the University increases its investment in internationalization. Peer institutions are not standing still; they continue to innovate and find ways to build their own global credentials. And changing technology presents creative institutions new ways to internationalize their offerings.

In the years ahead, Binghamton needs to do more to help students, faculty and staff see the value in international experiences and to accept that these experiences can take place under conditions that differ from the traditional semester abroad. There are opportunities in short time frames (including winter and summer sessions) as well as ways to be “globally engaged” without leaving the country. The University must also find ways to tap into the wealth of knowledge and experience that resides with international students — now 10 percent of Binghamton’s population — and scholars.

As the State University of New York’s strategic plan notes, an emphasis on internationalization will also contribute to New York’s global competitiveness.

This focus on global engagement means:
• Students develop competence/fluency in a second language.
• Students, faculty and staff are able to interact with and understand people from other cultures and to reflect on what their own culture means.
• Global issues are integrated into courses in all schools and disciplines.
• Encouraging increased use of technology to provide international content, context and contact for courses, research collaboration and student interaction (e.g., Skype, webinars).
• Faculty members are encouraged to have an international focus in their research and scholarly work.
• Building global exchange opportunities for faculty as well as staff through Fulbright and other international partnerships.
• Encouraging faculty to incorporate international perspectives when teaching, particularly in subjects that aren’t so directly tied to a foreign language or culture. Perhaps ask every department and program on campus to articulate the ways in which their curriculum reinforces the University’s “global engagement” emphasis.
• Encouraging global interactions in student life.
• Creating a bridge between University-sanctioned study abroad programs and the wide variety of short-term (generally for-profit) international travel/study opportunities that students are taking advantage of already. (Can the Office of International Programs evaluate at least some of these and help students sort out which programs have an educational component and which are just tourism? The best of these might even be worthy of some sort of experiential education credit, perhaps after students complete a paper or project of some kind.) One way to do this would be to offer a pre-departure workshop that establishes some educational goals before the student travels. Students could then choose to write a paper, complete some sort of travelogue or even respond to questions pushed to them via an app while they’re traveling.
• Identifying resources, possibly through fundraising and grants, to support students who lack the money to go abroad.
• Encourage and facilitate international internship experiences; some of this is happening, but more could be done.
• Finding a shared location for International Student and Scholar Services, the Office of International Programs and other related offices. (The Division of Student Affairs has discussed the creation of a Globalization Center, and it’s in the next capital plan. Such a center could provide room for meetings and other resources.)

This will have an impact on:
• Percentage of students studying abroad
• Percentage of international students
• Participation in dual-degree programs, which should include U.S. students going abroad as well as international students coming to Binghamton for two years
• Growth in LxC course offerings; student participation in LxC and Global Studies minor
• Growth in international research collaborations
• Number of courses that feature (or add) global elements
• Number of international events on campus, to be measured through Resource 25 or other comprehensive system
• A measure of global competency or outcomes, rather than focusing on experiences

Timeline:
• This initiative should be pursued immediately and developed as staffing and resources permit.

Guidelines for implementation:
The administrative structure to support global engagement is well established at Binghamton. However, additional investment of time and money will be required to do more than is already being done. The staff of the Office of International Programs and International Student and Scholar Services should have an opportunity to work with the Center for Learning and Teaching, the Multicultural Resource Center, the deans’ offices and other campus stakeholders to promote and encourage new programs, deepen global content and additional support for students, faculty and staff with an interest in global issues. A broad-based steering committee that maintains comprehensive internationalization as its focus would help to make these ideas a reality. International efforts on campus should be evaluated regularly using the metrics outlined above.

Resources related to this recommendation:


Facilitate entrepreneurial thinking throughout the University.

Like so many great American universities, Binghamton provides a rich innovation ecosystem. Faculty, students and staff should have opportunities to exercise their entrepreneurial spirit in the course of their regular teaching, learning and work. Just as graduates are expected to have global competencies in the new international marketplace, they are increasingly expected to have an entrepreneurial mindset. That doesn’t always mean starting their own businesses, just like international experiences don’t have to take place overseas. In fact, companies and institutions of all sorts have come to expect a degree of “intra-preneurship” in which employees conceive of new and better ways of doing business. They innovate from within. The University needs to embrace this model and apply it to its own faculty, students and staff.

Binghamton has already declared itself Entrepreneurial U., and now it needs to put this concept at the core of its undergraduate education. It complements what the University hopes to accomplish with student research and scholarly work, and it dovetails with the State University of New York’s Entrepreneurial Century proposals. Implementing this recommendation also would allow the University to capitalize on the scrappy, innovative spirit already demonstrated by so many faculty, students and staff and turn it into a prized characteristic of our graduates.

Recent publications indicate the growing realization that the innovative thinking that lies at the root of entrepreneurship is something which a broad liberal arts education can provide very effectively. In this area, the humanities have a great deal to offer with their emphasis on original thought, critical thinking and effective development of arguments, according to Dan Edelstein and M. Godwyn.

Promoting entrepreneurial thinking and projects means:
• Students understand the components of innovation, including licensing and ownership as well as social entrepreneurship, and how to apply them to their own fields.
• Faculty incorporate ideas related to innovation and entrepreneurship into their teaching.
• Students and faculty outside engineering and applied sciences see the concept of entrepreneurship as relevant and important to their work.

This will have an impact on:
• Number of faculty, student and alumni start-ups
• Number of courses that feature (or add) entrepreneurial elements

Timeline:
• Elements of this initiative are being developed by the Office of Entrepreneurship and Innovation Partnerships and can be augmented as staffing and resources permit.

Guidelines for implementation:
• The Office of Entrepreneurship and Innovation Partnerships, Catalysts for Intellectual Capital and other interested parties should join with faculty to capture some of the ideas that faculty and students develop. The Office of Entrepreneurship and Innovation Partnerships, which recently added a student liaison, should offer workshops for students and create a student-friendly website that outlines relevant principles in this field. Student groups for young inventors, such as SIFE, should have a place at the table. And students should be encouraged to take advantage of Small Business Development Center programs and other such offerings for entrepreneurs.
• Efforts should be evaluated regularly using the metrics outlined above.
• The existing Entrepreneurship Across the Curriculum program offers a model that could be expanded with additional funding.

Resources related to this recommendation:


Supporting students
Focus on learning
Faculty engagement
Efficiency and innovation
Supporting students

Undergraduate students who enroll at Binghamton University are entering an exciting world of opportunities, where faculty members move back and forth between innovative research and creative projects and the classrooms in which they teach. Many faculty link the two, bringing the results of their research into their teaching opportunities and drawing some of their undergraduate students into the research process. As a research university with a growing graduate program and a historic strength in undergraduate education, Binghamton University seeks to create an environment where research and undergraduate education are dynamically connected.

This means that we strive to provide the best possible learning experiences for our undergraduate students, to look for ways to foster close relationships with engaged faculty members, and to establish a university infrastructure where bureaucratic structures don’t stand as obstacles to student success.

Today at Binghamton, the quality of teaching and learning varies from course to course. Faculty members and graduate students alike can lack formal training in pedagogy. There is a need to increase support for those interested in taking advantage of new technology or teaching methods. The University does not do as much as it should to help good teachers become great and needs to work even harder to help all teachers hone their craft over the course of their careers. And faculty members need to be convinced that teaching effectiveness and engagement with students are highly valued when it comes to evaluations by their faculty peers and University
administrators. Current resources in support of high-quality teaching, such as the Center for Learning and Teaching, are underfunded and undervalued.

That must change if the undergraduate experience at Binghamton is to reach its full potential. Stellar teaching must be valued, encouraged and recognized. The University must offer additional seminars, workshops and retreats designed to improve teaching. Curriculum design specialists and technology experts must partner with instructors to ensure that new techniques are applied effectively. Existing reward structures must be reconsidered to further reinvigorate the teaching culture at Binghamton.

Beyond these concerns, the University needs to find ways to become more nimble and efficient. From the construction of course schedules to the process of completing an intra-university transfer, we need to ensure that our processes support student success.

As the task force members weighed these issues, three key recommendations emerged:

• The University must improve the undergraduate learning experience by providing increased opportunities for graduate students and faculty members to strengthen teaching skills and develop innovative instructional strategies.
• The University should more deliberately use incentives, formal recognition and perhaps promotion to encourage faculty engagement and high-quality teaching.
• The University needs to find ways to foster efficiency, innovation and creativity in administrative structures.

Key finding
The University needs to find ways to become more nimble and efficient. We need to ensure that our processes support student success.
Enhance the focus on undergraduate learning through increased support for excellence and innovation in teaching.

There’s a direct link between the success of Binghamton University faculty in all areas — including teaching and scholarship — and the success of our undergraduate students. The University will improve the learning experience for undergraduates by fostering a teaching culture on campus; supporting graduate student teaching and long-term career success; providing assistance for faculty who face teaching challenges; and helping faculty adapt courses to take advantage of new technology and methods in a way that makes the learning experience more effective.

Results from both of the task force’s surveys show that undergraduate students, graduate students and faculty all support increased efforts to facilitate effective teaching. Although the Institute for Student-Centered Learning is an excellent resource in this area, the campus needs additional ongoing support for teaching that is informed by the best current research and that uses technology most effectively. There’s also a clear need for a group that works collaboratively with stakeholders across campus to think strategically about the changing needs in the learning environment, and how to meet those needs.

As technologies change and teaching approaches need to be adapted, it is difficult for individual instructors to know what is available and how it can be used. And as the University works to expand online and hybrid offerings, improving the quality of teaching and learning should remain the central focus in both the digital and face-to-face environments. Innovative ideas in curriculum, instructional mode, use of technology and so forth should be evaluated on the basis of whether they will improve quality. Campus attitudes about distance learning are varied; in both the faculty and student responses to this idea, the number of respondents who considered it “Not important” was close to, or higher than, the number of respondents who considered it “Very important.”
To that end, the task force recognizes that there’s a spectrum of digital education, ranging from a course in which the syllabus and perhaps a few presentations are posted online to a course that's taught entirely over the Web. To meet the needs of our students and to remain competitive with our peers, Binghamton faculty must take steps to travel along that spectrum wherever appropriate. The University needs curriculum-design specialists who can help with adapting course content for a digital environment. This is a resource that needs to be available if Binghamton wants to provide the best possible hybrid/online teaching and learning experience.

A significant expansion of the current Center for Learning and Teaching, including the addition of expertise in curricular design, could push this recommendation toward realization. Other areas of campus, including the Graduate School, the Office of Institutional Research and Assessment, Academic Computing and Educational Communications, should also be called upon to support these goals.

**Focusing on undergraduate learning means:**

- Keeping up with the latest developments in technology and teaching methods.
- Helping faculty members adapt materials for the digital environment if that will make a particular course better.
- Having curriculum-design specialists assist faculty and graduate teaching assistants.
- Offering workshops targeted to improving teaching across the University.
- Helping departments devise ways to evaluate their teaching strengths and weaknesses.
- Working with departments and individual instructors to build success strategies to address teaching concerns as they arise.
- Addressing language and cultural barriers in the classroom. Evaluations of spoken English should take place before graduate students have teaching responsibilities. We should explore new support mechanisms for all instructors who are identified as less proficient in English or have poor classroom communication skills. Examples include participation in ESL workshops, or pairing with a mentor/colleague (possibly even an undergrad) with experience as a TA in the course.
- Offering additional one- or two-credit Teaching College XXXX classes, discipline-specific teaching seminars such as those offered in chemistry and psychology, to build teaching and language skills. Communication, classroom management and other topics should be addressed.

Encouraging or requiring graduate students to complete the certification in college teaching, along with other graduate workshops that are designed for these purposes would be helpful.

**This will have an impact on:**

- Scores on the Student Opinion of Teaching (SOOT) survey
- NSSE and/or alumni survey data
- Participation in graduate-level classes focused on teaching skills
- Number of graduate students earning teaching certificates

**Timeline:**

- This recommendation is one of the most important contained in this report. Work should begin as soon as possible.
Guidelines for implementation:

- As with other recommendations, implementation of this concept should begin with the convening of an implementation committee that includes key stakeholders.
- Evaluate Binghamton’s existing Certificate in College Teaching program. Consider recommending that graduate students complete it before or during their first semester as instructor of record for a course.
- Require new faculty members to participate in a series of Center for Learning and Teaching or discipline-based workshops during their first year on campus. Topics could include teaching as well as time management, advising/mentoring, manuscript revision, grant writing, an introduction to the Libraries and more, although the heaviest emphasis should be on teaching. Provide pay-based incentives for those who meet the requirement. This could be built as an FYE course for faculty. Perhaps these are twice-monthly events, with faculty required to attend at least half of them. There could be 12 modules, with faculty required to attend six or eight.
- Hire staff with instructional/curriculum design expertise to support this effort.
- Facilitate faculty-to-faculty mentoring in course design.
- Evaluate these efforts regularly using the metrics outlined here.
- Academic Computing and Educational Communications should be linked to Academic Affairs in new ways.

Resources related to this recommendation:


Reinforce and reward faculty engagement.

Students value the opportunity to build close relationships with faculty and staff during their college years, and some of those relationships last for decades after students graduate. Binghamton has many faculty members for whom engagement with students is a high priority, and student responses on the National Survey of Student Engagement show that students value the way these faculty members share their time.

However, Binghamton’s culture and reward structure could do even more to encourage faculty engagement through such work as great teaching and involvement with student groups and activities. Emphasis on research and scholarship sometimes leads to less engagement with students and less interest in teaching. While this task force is not in a position to make specific recommendations about how this culture and this system might be altered, it’s worth noting that they do need to change if the institution wants to maintain its tradition of offering world-class education at the undergraduate level. Limited time and energy mean that faculty members cannot be all things to all people; forced to choose, many will focus on research and scholarship unless there are clear indications that teaching and engagement with students are also highly valued.

One reason to emphasize the value of faculty engagement is its broad importance in all aspects of the undergraduate experience. Past initiatives related to undergraduate education have shown that faculty participation is essential to success, but faculty may be reluctant to give up research time to participate in initiatives that they consider to have little positive impact on promotion and tenure. Without recognition and incentive programs, the task force fears that faculty participation in key initiatives is likely to be more limited and the long-term success of the initiatives will be jeopardized.

At the same time, some faculty members effectively dedicate so much effort to students, service and teaching that their research is substantially reduced, making promotion in the current process unlikely. Allowing the
possibility of promotion in exceptional cases where faculty truly distinguish themselves in areas aside from research would recognize these efforts. Other institutions use this method in various ways, either to recognize outstanding contributions or to distribute teaching and research assignments in the most effective way. For example, Carnegie Mellon University has a non-tenure teaching professor track, which begins with assistant teaching professor and includes all ranks. Syracuse University has recently instituted several multi-rank non-research faculty tracks and in a separate policy statement explicitly acknowledges that when it comes to tenure and promotion decisions, consideration should be given to the freedom that units have in distributing teaching, research and service allocations variously among individual faculty. A broader understanding of scholarship recognizes the benefits to students of teaching-related scholarship and “public scholarship.” Initial discussions at Binghamton show that there is support for considering additional flexibility in this area.

This will have an impact on:

- Workload and faculty responsibilities. (Should the University consider implementing multiple faculty tracks, establish a specific target ratio for teaching-intensive track vs. research-intensive track faculty. Consider what criteria would govern workload, as well as tenure and promotion decisions, for teaching-intensive faculty.)
- Measure participation/engagement rates with an incentive and compare to non-incentive rates.

Timeline:

- Some of these ideas would require major adjustments in Binghamton’s culture and will require careful attention and time. Others, including the development of incentives to reward high-quality teaching, could be launched within the coming academic year.

Guidelines for implementation:

- As with other recommendations, implementation of this concept should begin with the convening of an implementation committee that includes key stakeholders.
- Evaluate these efforts regularly using the metrics outlined here.
- Faculty groups should have opportunities to discuss these ideas.

Resources related to this recommendation:


Increase efficiency and innovation in administrative structures.

Binghamton University must become more nimble and efficient. There are too many bureaucratic obstacles to doing what’s right and a disturbing resistance to change. The University should take advantage of the creativity and innovative thinking of its students, faculty and staff to streamline and improve administrative structures. The task force would like to see the creation of a “clearinghouse” that can deal with curricular and co-curricular ideas that don’t fit into traditional models. This committee or individual should provide well-publicized opportunities for submission of ideas that foster efficiency and proposals that present innovative ideas. The next step would be responding quickly to these new opportunities.

Binghamton should promote an environment in which everyone is encouraged to look for ways to make things better. Essentially, the task force is saying that continuous improvement should be part of this campus’ culture.

Examples of ideas that could be considered by such a clearinghouse include:

- Decouple orientation and registration and make registration and advising for the first semester available online.
- Streamline registration so that students, especially freshmen, only see the courses they’re actually eligible to take. At the very least, we could provide sample schedules by discipline. Is there a way to harness the algorithms that make it possible for Facebook to suggest friends or for Amazon to suggest products? Can the Banner system do it?
- Pre-register more students for some of the first courses in their first semester. This has already been done by the Watson school with some success. Students could be issued a tentative schedule or allowed to select some courses online in advance and then be encouraged to “confirm” it during orientation.
- Examination of innovative or multi-disciplinary program proposals that don’t fit neatly into existing academic units.

What this might look like:
A committee on efficiency and innovation begins meeting during the 2011-12 school year and sets up a website, phone number and e-mail through which students, faculty, staff and alumni are able to contribute ideas. Academic units or groups of faculty members submit proposals for innovative or interdisciplinary academic programs. Other types of suggestions are received anonymously or with a name attached and receive prompt consideration. In the first year, the committee makes changes that result in a savings of $50,000 for various campus programs and units; it also forwards a recommendation concerning a new interdisciplinary minor to the Faculty Senate through the Educational Policy and Priorities Committee. The committee serves as a mediator and, occasionally, an instigator: It brings representatives of the schools and colleges together for discussions about scheduling and other issues. It initiates discussions about ways outside vendors can better serve the campus. And it helps to administer a fund that encourages academic innovations.
• Create a faculty panel to review curricula to find efficiencies across departments and schools.
• Look for different and better ways to educate faculty members about distance-education and online tools that could benefit students. Use technology to produce bite-size chunks of learning within disciplines to make it easier for students to review certain concepts.
• Augment the present Academic Computing and Educational Technology Committee so that it becomes a faculty-led oversight body for computing and educational technology. The group could take the lead in seeking leading-edge technology for the classroom.
• Reorganize Academic Computing to better meet the needs of faculty and students.
• Formalize the Learning Environment Committee so that it has direct oversight not only of general-purpose classrooms but all learning environments on the campus.
• Ask each department or program to establish a student advisory board. Mechanical engineering has one that could serve as a model.
• Invite alumni to offer feedback about their departments. Ideally, our graduates would feel as strongly about their departments as they do about their residential colleges. If departments stay in touch with alumni, the alumni will have more opportunities to engage with students and can offer feedback about curriculum and career directions.
• Closely analyze classroom utilization and course scheduling in order to optimize opportunities for students to take courses. Strictly enforce the prime-time rule in class scheduling. (No more than an appropriate percentage of courses within a school or department can be offered between 10 a.m. and 2 p.m.)
• Ask schools to enforce faculty getting their book orders to the campus bookstore in advance by a certain deadline. (Why is it that the off-campus bookstores can accept last-minute book orders and sell books for less?) Same goes for course reserves at the library.
• Create a faculty group to look into intra-university transfers and establish ways for students to move from one discipline to another. It shouldn’t be harder to transfer from Watson to SOM than it is to transfer from an outside institution into SOM, for example.
• Revisit demand analysis to discover where students want to be taking courses.
• Use the prerequisite checking strengths of Banner to enhance the registration system. (So that a student who doesn’t have the right prereqs doesn’t block a qualified student from registering for a course, for example.)
• Establish a Provost’s Innovative Learning Fund to encourage innovations in curricular and discipline-specific learning.

This will have an impact on:
• Efficiency ideas could be measured by resources conserved.
• Innovative new ideas could be measured by individually designed assessment metrics that fit the particular situation or proposal.

Timeline:
• Work on this recommendation could begin as soon as the appropriate stakeholders are identified and asked to participate.

Guidelines for implementation:
• Create a group that is charged with soliciting and responding to ideas that promote efficiency or that propose new ideas or emphases that don’t fit into existing models. This could involve new curricular initiatives (e.g.,
• Minors that don’t fit into existing departments) or other ideas.
• Evaluate these efforts regularly using the metrics outlined here.

**Resources related to this recommendation**
Moving Forward From Here

The nine recommendations outlined in this report are all important and the task force strongly advocates the adoption and development of each one through the formation of an implementation team to oversee the shift from recommendation to reality. Each implementation team should be guided by the goals within this report. This report also outlines metrics that should be used to measure the outcomes of the initiatives.

The task force’s process of investigation and consultation has also provided clear direction on which of the recommendations need to be carried out immediately and which should be developed in successive implementation phases.

**Two recommendations should be adopted and implementation teams convened immediately:**
1. Establish an office of undergraduate research, scholarship and creative activities
2. Create an advising/mentoring network for students

**Three more recommendations should be developed in the next phase of implementation:**
3. Focus on undergraduate learning
4. Foster increased global engagement
5. Provide a course for all new students

**Four more recommendations will be implemented in the third phase:**
6. Expand the learning communities
7. Boost/Reinforce and reward faculty engagement
8. Increase efficiency and innovation in administrative structures
9. Facilitate more entrepreneurial thinking

### Timeline for recommendations

<table>
<thead>
<tr>
<th>Phase 1 (Immediate)</th>
<th>Phase 2</th>
<th>Phase 3</th>
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<tr>
<td>1. Establish an office of undergraduate research, scholarship and creative activities</td>
<td>3. Focus on undergraduate learning</td>
<td>6. Expand the learning communities</td>
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<td>2. Create an advising/mentoring network for students</td>
<td>4. Foster increased global engagement</td>
<td>7. Boost/Reinforce and reward faculty engagement</td>
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<td>5. Provide a course for all new students</td>
<td>8. Increase efficiency/innovation in administrative structures</td>
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<td>9. Facilitate more entrepreneurial thinking</td>
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Appendix 1: Our Approach

The Task Force on Undergraduate Education for the Digital Generation was established by President Lois DeFleur to consider a range of important questions. The charge to the task force was comprehensive: (i) to weigh the effectiveness of prior initiatives; (ii) to assess whether current educational programs continue to meet the broader educational objectives of the University; (iii) to identify the changing needs of our students and how/whether the educational infrastructure (technology, programs, initiatives, etc.) can be modified in accordance with such needs; and (iv) to examine major national trends in higher education and the extent to which the undergraduate experience at Binghamton University meets, exceeds or falls short of such trends.

From the outset, task force members agreed to take a collaborative approach both in internal deliberations and in soliciting broad participation by the entire campus community. We considered it important that the task force should both exercise leadership and represent campus concerns and aspirations. At our second meeting, we established the following multi-part plan to address the various aspects of the charge:

Fall 2009
- Organize, plan and assess initiatives from the previous task force
- Familiarize ourselves with national trends and issues
- Identify issues
- Schedule activities for Spring 2010

Spring 2010
- Finalize assessment of past initiatives
- Actively solicit ideas from BU community
- Look at initiatives at other campuses, further assess national trends, examine current BU programs and infrastructure
- Preliminary report by May 2010

Summer 2010
- Transition to formulating specific plans/recommendations

Fall 2010
- Identify and formulate specific plans/recommendations
- Solicit further feedback from BU community
- prepare final report

We were able to keep to this plan almost entirely and as a result we feel confident that not only are the recommendations contained in this report important for the strengthening of undergraduate education at Binghamton, but they are also broadly supported by the University community.

Initial stages
The task force began by inviting a series of guests to present information about current and past University programs, and to help us understand the new students who will be enrolling in the coming years. Guests in fall 2009 and spring 2010 included:

- Sean McKitrick, assistant provost in the Office of Institutional Research and Assessment, who spoke about the National Survey of Student Engagement, the University’s alumni survey and other useful metrics.
- Professor George Catalano, former director of the Binghamton Scholars Program.
- Professor H. Stephen Straight, who discussed international education and the integrated curriculum initiative proposed by the last task force.
- Elizabeth Carter, executive director of student services, who spoke about the Discovery Program.
- Chris Knickerbocker, who offered a statistical overview of our current undergraduate student body.
- Admissions Director Cheryl Brown, who discussed our student body as well as peer and rival institutions.
- Kristin Calegari, assistant director of Newing College, who talked about an online course she created for parents of freshmen.
• Provost Mary Ann Swain, who discussed the University’s forthcoming strategic plan.
• The faculty masters, Bill Ziegler, AlVos, Mark Reisinger, Jeff Barker, Tony Preus and Bob Emerson, who talked about the University’s unusual residential college structure as well as about learning communities.

The examination of initiatives recommended by the 1999 Task Force for Undergraduate Learning in the New Millennium led to observations that we consider to be key issues to consider in formulating our recommendations:
• Implementation recommendations were spelled out in considerable detail; while this provided a clear action plan, it limited flexibility when circumstances changed.
• Development of all three major initiatives was hampered by lack of faculty buy-in.
• Initiatives lacked accompanying assessment metrics that could guide ongoing evaluation and improvement.

As a result, the current task force reaffirmed its intent to collaborate broadly with the entire campus community, both in soliciting ideas at the outset and then in gauging support for potential recommendations later in the process. We also determined to do considerable work in drafting guidelines and suggestions for an implementation committee, but to allow the implementation team or teams latitude in responding to changing circumstances when devising specific action plans and programs. And we resolved to recommend that any new initiative be connected to a clear set of assessment metrics so that the degree of success could be evaluated and adjustments made as necessary to facilitate continuous improvement.

In spring 2010, we held seven forums and meetings in order to gather input and ideas from the campus community. These included open forums in the University Union and at the Downtown Center, special forums with resident assistants, meetings with department chairs and meeting with undergraduate advisors and curriculum committees. Dozens of students, faculty and staff members contributed ideas about our undergraduate program’s strengths, weaknesses and opportunities.

Responses were wide-ranging, but some themes emerged more frequently than others:
• Students need access to courses in a timely fashion in order to make progress towards their degree; smaller classes are better than very large ones.
• Faculty and students agreed that the overall advising pattern for students needs attention, with numerous speakers recommending greater faculty involvement.
• There is a lot happening on campus, but many students and faculty are not well-informed about events and services. Information flow is an issue.
• Faculty who are engaged and approachable make a big difference for students in creating a positive relationship to the entire University.
• Difficulties in the classroom (instructors who face language barriers, instructors who seem less invested in teaching) have a significant negative impact on student experience.
• Students value the opportunity to contribute to campus decision-making on all levels, including these open forums.
• The University needs to build a stronger sense of community, including more school spirit. Connections with alumni are important in this process, both for the sake of the alumni and of the current students.

The task force created an online questionnaire for students and for faculty to gather information. More than 250 responses were received. (See Appendix 3.) We also requested that directors of campus programs complete a brief self-assessment so that we could evaluate existing initiatives.

The task force then divided into four working groups, with each group asked to address a section of the task force’s charge. We used the results of this information collection on campus, together with additional research findings, to produce preliminary reports linked to the multi-part charge. (See Appendix 5.) Then we sorted through the preliminary reports and campus responses to assemble a list of strengths, challenges and ideas that could be pursued.

These ideas became a major focus for the task force from June through August 2010. Three smaller working groups convened to examine fourteen ideas in a matrix designed to help evaluate the costs and implications of implementation. In fall 2010, these “idea matrices” were presented to the entire task force.
After considerable discussion, the task force evaluated the relative urgency of implementing the various ideas. A hierarchy of ideas was established within the task force.

Rather than proceed directly to the formulation of recommendations in a final report, however, the task force stayed with its original plan to consult the campus community broadly once more. A survey was developed and the Office of Institutional Research implemented it electronically, inviting the following groups to participate: faculty, staff, all students and a 500-person alumni sample. In addition to the electronic survey version, the task force scheduled a number of forums and meetings. Three open forums were held, one forum was held for undergraduate directors, one forum was held just for students and individual meetings were held with the Faculty Senate Executive Committee and with several student groups that requested a chance to participate. Articles in the student newspaper, Pipe Dream, and in Inside reinforced the invitation for campus participation.

Campus response was significant, with more than 2,700 total responses, including more than 300 faculty responses and more than 1,700 responses from undergraduates. Overwhelmingly, the campus supported two initiatives as top priorities: an effort to help students develop an advising/mentoring network, and the establishment of a structure to support undergraduate research, scholarship and creative endeavors. (See Appendix 4 for the full survey results, broken down into numerous sub-groups.) Significantly, the broad campus response followed closely the results of the task force’s internal prioritization of the ideas.

Overall, the task force considers the effort to establish multiple opportunities for campus participation in its work to be an essential part of the process. We recognize that broad collaboration may reduce efficiency but the advantages of building consensus around key ideas outweigh any costs associated with increased task force work and an extension of the task force’s original time line. As we learned from the work of the previous task force, even the best recommendations will have difficulty achieving full success without faculty and campus support. The future success of our undergraduate programs is central to the University’s pursuit of excellence. With that end in mind, our objective has been to involve the entire campus first in identifying issues that need to be addressed, and then to galvanize campus support around the vital ideas moving forward as top-priority recommendations.
Appendix 2: Task force questionnaire and summary

In February, 2010, in conjunction with a series of open forums, the task force generated an open-ended questionnaire for the campus community to help identify strengths, areas of concern, and other ideas that the task force should consider. Responses were received from 223 students and 26 faculty members via the web questionnaire; in addition, numerous respondents submitted their feedback via e-mail or paper forms.

Below is the web form sent to students; responses were collected through Google Docs. A summary of the most commonly received ideas follows the form. We noted several key elements in the responses:

- Students appreciate Binghamton’s great value: affordability and high quality are a very attractive combination.
- Students are frustrated when classes do not accommodate all those who wish to enroll; the strain on departments in a time of fiscal constraint has a direct effect on undergraduates.
- One issue emerged in both the “positive” and the “needs improvement” responses: instructor quality and the relationships students build with faculty. They recognize that Binghamton has many great teachers who are extremely dedicated to undergraduate teaching and mentoring. However, there are also numerous responses which describe unsatisfactory instructional experiences and difficulties connecting with faculty.

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President’s Task Force Wants Your Ideas — Help Improve Undergraduate Education at Binghamton

The President’s Task Force for Undergraduate Education is looking for your ideas to help make Binghamton’s undergraduate program even better. Your answers to a few simple questions will be used by the task force to improve existing programs and initiate new ones.

If you’d like your contributions to be considered for a bookstore gift certificate (5 available to those with the most useful ideas), please include your name and e-mail address at the bottom; otherwise, your response will be anonymous. You can also contact the task force directly at utf@binghamton.edu. Answer as many questions as you like — participation is completely voluntary. Just click the “Submit” button at the bottom when you’re done.

Thanks for taking a few minutes to help make your university better!

Donald Loewen
Chair, Task Force for Undergraduate Education for the Digital Generation

What’s best about Binghamton’s undergraduate education?

Where do you think we should improve?

What are other schools doing that we should consider? Are there great new programs in place elsewhere?

Do you have any other suggestions or comments that can help us?

Are you: (Please check all that apply)

- A transfer student
- Living off-campus
- Freshman
- Sophomore
- Junior
- Senior

If you’d like to be considered for a bookstore gift certificate, please include your name and e-mail address here.
Summary of approximately 250 student responses to questions 1 and 2:

1. What's best about Binghamton's undergraduate education?

<p>| | |</p>
<table>
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<td>Variety of programs/classes</td>
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<td>Instructors &amp; Students</td>
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<tr>
<td>Quality of education (inc. specific program/class)</td>
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<td>Affordability</td>
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<td>Academic support (e.g, instructors’ office hours, tutoring)</td>
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<td>Extracurricular (clubs, sports, research, etc.) - social &amp; academic, combined</td>
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<td>Grounds &amp; facilities (inc. libraries)</td>
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2. Where do you think we should improve?

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</thead>
<tbody>
<tr>
<td>Scheduling/Course Selection; Course &amp; Program Availability</td>
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<tr>
<td>Instruction issues including things like: motivation to teach vs. do research; ability to communicate effectively; availability/office hours; effectiveness</td>
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<tr>
<td>Class size &amp; need for greater variety of courses (e.g. Experiential, Online)</td>
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<tr>
<td>Advising service</td>
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<tr>
<td>Dining &amp; Facilities</td>
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<td>Current Issues: Winter Storm-related issues, Emphasis on athletics</td>
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<td>Consistency issues: course level/workload relationship, grading policies</td>
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<td>Provide more career-preparation support (e.g. internships, job placement, grad school prep)</td>
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<td>General Education Requirements</td>
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<td>Technology-related needs</td>
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</table>
Appendix 3: Task force survey and data

In October 2010 the task force conducted an informal poll of its members to gauge support for a group of ideas that had been evaluated according to a common matrix of questions. Rather than proceed to draft prioritized recommendations based only on members’ perspectives, the task force affirmed its intent to make its work as collaborative as possible. The 14 ideas were reformulated and pared down to ten; these ten ideas became the basis of a campus-wide survey, a series of open forums, and meetings with specific groups (including undergraduate advisors, the Faculty Senate Executive Committee, and several student groups).

More than 2,600 responses were received and tabulated; the results are included below. The strongest support from virtually all constituencies was directed to two ideas: the establishment of an advisory/mentoring network, and increasing support for undergraduate research, scholarship and creative work.

All of the ideas gained support from a significant number of respondents; some ideas (e.g. increasing emphasis on entrepreneurship and improving approaches to distance learning) generated both support and resistance. The task force recognizes that even in these cases, however, a substantial group considers the ideas “Very Important” or ranks them very highly in relationship to the other ideas.

When working through the results of the surveys and formulating the recommendations for this report, the task force decided not to formulate a separate recommendation focused on technology and distance learning (Idea #5 in the survey). Instead, we saw the need to productively incorporate technology within each recommendation since we’re dealing with a generation that doesn’t associate technology with just one approach or educational context. We also recognized the urgent need to provide more support for those instructors who want to explore new approaches in teaching, whether it be in a traditional face-to-face classroom, in a hybrid course, or in a fully online course; our recommendation on improving the learning experience addresses this need directly. The teaching environment is changing and while we continue to offer a variety of types of classes at Binghamton, we cannot afford to ignore new opportunities and approaches; instead, we must explore them and engage them productively.

On the following page is the survey instrument as it was circulated.
Undergraduate Education Task Force Seeks Your Feedback

The Task Force on Undergraduate Education for the Digital Generation seeks your feedback on several key ideas that may be included in its recommendations early next year. These concepts were developed with input from students, faculty and staff and we’re eager to hear what YOU think is most important.

Please Evaluate Each Idea On A Scale Of 1-5.
Next, choose the five ideas you feel are most important and rank them 1-5 (with 1 as your top choice) on the blanks provided.

_____ Build an advising/mentoring network to help students through the transitions of the various stages in their University progress and beyond.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Provide incoming freshmen and transfers access to a new-student course during their first semester. This small class, which might be similar to the First Year Experience class, would introduce students to University resources and college research and study habits. It could be based in a discipline or a residential community.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Boost student access to research, scholarship and creative work experiences. This could be supported by departments, the Center for Civic Engagement and/or an undergraduate research office.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Promote deeper and more comprehensive global engagement, on campus and beyond. This could include sending more students and faculty abroad, possibly during winter and summer sessions, as well as incorporating more international content into existing classes.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Improve approaches to distance learning and related concepts such as hybrid and online classes. This could also involve effective use of the digital learning environment and mobile computing applications.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Increase opportunities for graduate students and faculty members to strengthen teaching skills and promote innovative instructional strategies.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Develop more learning communities to facilitate the living/learning environment.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Find new and innovative ways to promote faculty engagement and high-quality teaching through the use of incentives, formal recognition and perhaps promotion.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Foster efficiency, innovation and creativity in administrative structures across the University.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

_____ Promote entrepreneurial thinking and projects by students and faculty members.
   Evaluate this idea: (not important) 1 2 3 4 5 (very important)

What do you think are the barriers to implementing the ideas you selected as most important?

Is there something you feel is missing from our list? Tell us about it below.
Survey Results

A. Rankings
Survey respondents were asked to select the five ideas they consider most important and to rank these five ideas from 1 – 5, with 1 indicating “most important.”

The votes were then weighted according to the following scale:

- 1st place = 5 points
- 2nd place = 4 points
- 3rd place = 3 points
- 4th place = 2 points
- 5th place = 1 point

The results of these rankings are given below, divided into the following groups:

1. All undergraduates
2. Faculty
3. Staff
4. Alumni
5. Graduate Students
6. Transfer students
7. Undergraduates divided by school/college
## Survey Rankings

### All Undergraduates (1478 responses)

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<th>Rank</th>
<th>Idea</th>
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<td>8</td>
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<td>16</td>
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<tr>
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<td>Distance/hybrid learning</td>
<td>5</td>
<td>8</td>
<td>14</td>
<td>17</td>
<td>15</td>
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### Watson School (190 responses)

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<td>15</td>
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<td>17</td>
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B. Evaluations (Likert scales)
Respondents were also asked to evaluate the importance of each idea, allowing them to comment on each of the ideas rather than just their top five choices. Results of the evaluations are included below, with the ideas appearing in the sequence in which they appear as recommendations in the task force’s final report.

Immediately noticeable are the ways in which the responses differ. While some ideas generated dominant responses towards the “very important” end of the spectrum, others show a much more even distribution, with similar numbers of respondents at opposite ends of the spectrum (“very important” and “not important”).

Results follow.
Connecting students

Advising/mentoring network
New-student course
Learning communities

Advising/Mentoring Network
Undergraduate Students (1444 responses)

Advising/Mentoring Network
Transfer Students (352 responses)

Advising/Mentoring Network
Graduate students (281 responses)
1 = not important
5 = very important
Connecting students

Advising/mentoring network

New-student course

Learning communities

### New-Student Course
Undergraduate Students (1448 responses)

<p>| | | | | | |</p>
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</table>
1 = not important
5 = very important

**New-Student Course Faculty (305 responses)**

**New-Student Course Staff (197 responses)**

**New-Student Course Alumni (190 responses)**
Connecting students

- Advising/mentoring network
- New-student course
- Learning communities

Learning Communities

Undergraduate Students (1417 responses)

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Learning Communities

Transfer Students (347 responses)

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Learning Communities

Graduate Students (269 responses)

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</table>
1 = not important
5 = very important
Challenging students

Undergrad research office
Global engagement
Entrepreneurial thinking
Undergraduate Research and Creative Activities
Faculty (313 responses)

1 = not important
5 = very important

Undergraduate Research and Creative Activities
Staff (197 responses)

Undergraduate Research and Creative Activities
Alumni (191 responses)
Challenging students

Undergrad research office
Global engagement
Entrepreneurial thinking

Global Engagement
Undergraduate Students (1445 responses)

Global Engagement
Transfer Students (354 responses)

Global Engagement
Graduate Students (279 responses)
Global Engagement
Faculty (305 responses)

1 = not important
5 = very important

Global Engagement
Staff (198 responses)

Global Engagement
Alumni (191 responses)
Challenging students

Undergrad research office
Global engagement
Entrepreneurial thinking

Entrepreneurial Thinking
Undergraduate Students (1416 responses)

Entrepreneurial Thinking
Transfer Students (344 responses)

Entrepreneurial Thinking
Graduate Students (272 responses)
1 = not important
5 = very important

Entrepreneurial Thinking
Faculty (299 responses)

Entrepreneurial Thinking
Staff (195 responses)

Entrepreneurial Thinking
Alumni (188 responses)
Supporting students

Focus on learning
Faculty engagement
Efficiency and innovation

Focus on Learning
Undergraduate Students (1395 responses)

Focus on Learning
Transfer Students (330 responses)

Focus on Learning
Graduate Students (275 responses)
Supporting students

Focus on learning
Faculty engagement
Efficiency and innovation

Faculty Engagement
Undergraduate Students (1398 responses)

Faculty Engagement
Transfer Students (333 responses)

Faculty Engagement
Graduate Students (272 responses)
1 = not important
5 = very important

Faculty Engagement
Faculty (302 responses)

Faculty Engagement
Staff (197 responses)

Faculty Engagement
Alumni (188 responses)
Supporting students

Focus on learning
Faculty engagement
Efficiency and innovation

Efficiency and Innovation
Undergraduate Students (1408 responses)

Efficiency and Innovation
Transfer Students (343 responses)

Efficiency and Innovation
Graduate Students (272 responses)
1 = not important
5 = very important

Efficiency and Innovation
Faculty (300 responses)

Efficiency and Innovation
Staff (196 responses)

Efficiency and Innovation
Alumni (188 responses)
Distance Learning

Distance/Hybrid Learning
Undergraduate Students (1433 responses)

Distance/Hybrid Learning
Transfer Students (352 responses)

Distance/Hybrid Learning
Graduate Students (272 responses)
1 = not important
5 = very important

Distance/Hybrid Learning
Faculty (305 responses)

Distance/Hybrid Learning
Staff (195 responses)

Distance/Hybrid Learning
Alumni (187 responses)
C. Open-ended responses identifying possible barriers to implementation

### Students (700 responses)

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<tr>
<td>2. Need to have more student involvement in key decisions, implementation planning</td>
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<tr>
<td>3. Lack of efficiency in present operations</td>
<td>137</td>
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<tr>
<td>4. University needs better information and communication flow</td>
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<tr>
<td>5. Lack of sense of community/shared vision/collaboration</td>
<td>109</td>
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<tr>
<td>6. Faculty need incentives/recognition to do more</td>
<td>98</td>
</tr>
<tr>
<td>7. Need more supervision, training for instructors to ensure high quality teaching</td>
<td>96</td>
</tr>
<tr>
<td>8. University administration needs to shift priorities, listen to students</td>
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<td>9. Students need to be more motivated</td>
<td>73</td>
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<tr>
<td>10. Faculty lack commitment to be mentors/advisors</td>
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### Faculty (187 responses)

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<td>2. Lack of time for faculty</td>
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<tr>
<td>3. Resistance to change</td>
<td>30</td>
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<tr>
<td>4. Emphasis on research detracts from focus on teaching</td>
<td>26</td>
</tr>
<tr>
<td>5. Faculty need incentives/recognition to do more</td>
<td>24</td>
</tr>
<tr>
<td>6. Personnel shortage – Need more faculty</td>
<td>21</td>
</tr>
<tr>
<td>7. Lack of technical skills, expertise</td>
<td>19</td>
</tr>
<tr>
<td>8. University administration needs to shift priorities, listen to faculty</td>
<td>17</td>
</tr>
<tr>
<td>9. Physical/technological infrastructure issues</td>
<td>10</td>
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<tr>
<td>10. Faculty lack commitment to be mentors/advisors</td>
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### Staff (125 responses)

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</tr>
<tr>
<td>2 Resistance to change</td>
<td>29</td>
</tr>
<tr>
<td>3 Personnel shortage – Need more faculty/staff</td>
<td>26</td>
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<tr>
<td>4 Lack of efficiency in present operations</td>
<td>19</td>
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<tr>
<td>5 Need strong faculty buy-in</td>
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<tr>
<td>6 Faculty/staff are over-committed already</td>
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<td>7 Lack of technical skills, expertise</td>
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</tr>
<tr>
<td>8 University administration needs to shift priorities, listen to faculty/staff</td>
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<tr>
<td>9 Lack of sense of community/shared vision/collaboration</td>
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<td>10 Faculty/staff need incentives/recognition to do more</td>
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### Alumni (100 responses)

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<td>2 Lack of sense of community/shared vision/collaboration</td>
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<td>3 Faculty need incentives/recognition to do more</td>
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<td>4 Faculty lack commitment to be mentors/advisors</td>
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<td>5 University needs better information and communication flow</td>
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<td>6 Emphasis on research detracts from focus on teaching</td>
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<td>7 Resistance to change</td>
<td>6</td>
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<td>8 Students need to be more motivated</td>
<td>5</td>
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<td>9 Need more emphasis on global thinking/study abroad</td>
<td>5</td>
</tr>
<tr>
<td>10 Lack of efficiency in present operations</td>
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</table>
Appendix 4: Interim Report

Interim report from the Task Force on Undergraduate Education for the Digital Generation

June 2010

Our charge
The charge to the task force was to (i) weigh the effectiveness of prior initiatives; (ii) assess whether current educational programs continue to meet the broader educational objectives of the University; (iii) identify the changing needs of our students and how/whether the educational infrastructure (technology, programs, initiatives, etc.) can be modified in accordance with such needs; and (iv) examine major national trends in higher education and the extent to which the undergraduate experience at Binghamton University meets, exceeds or falls short of such trends.

Our process so far
The task force began by taking in as much information as possible about our current student body, its likely makeup in the future, our current offerings in terms of academic programs and student support services, Binghamton’s resources and challenges and national trends in undergraduate education.

The task force has interviewed a variety of faculty and staff members with regard to specific programs and issues. They include:

- Sean McKittrick, assistant provost in the Office of Institutional Research & Assessment, who spoke about the National Survey of Student Engagement, the University’s alumni survey and other useful metrics.
- Professor George Catalano, former director of the Binghamton Scholars Program.
- Professor H. Stephen Straight, who discussed the integrated curriculum initiative proposed by the last task force as well as international education.
- Elizabeth Carter, executive director of student services, who spoke about the Discovery Program.
- Chris Knickerbocker, who offered a statistical overview of our current undergraduate student body.
- Admissions Director Cheryl Brown, who discussed our student body as well as peer and rival institutions.
- Kristin Calegari, assistant director of Newing College, who talked about an online course she created for parents of freshmen.
- Provost Mary Ann Swain, who discussed the University’s forthcoming strategic plan.
- The faculty masters, Bill Ziegler, Al Vos, Mark Reisinger, Jeff Barker, Tony Preus and Bob Emerson, who talked about the University’s unusual residential college structure as well as about learning communities.

The group also held seven forums and meetings in order to gather input and ideas from the campus community. These included sessions at the Downtown Center, with resident assistants in the evening and at the University Union. Dozens of students, faculty and staff members contributed their thoughts about our undergraduate program’s strengths, weaknesses and opportunities. Committee members also met with key constituencies such as department chairs and undergraduate program directors.

The task force created online surveys for students and for faculty to gather additional information. More than 250 responses were received. We also sent a self-assessment to directors of campus programs so that we could evaluate our existing initiatives.
Tomorrow’s students
Since our focus is on preparing the University’s undergraduate program for students that Binghamton anticipates enrolling during the next decade, we need to be aware that they:

- Are visual learners.
- Expect to work collaboratively.
- Expect immediate access to information.
- Have heavily involved parents.
- Have different ideas about “space,” and demand more digital interaction (especially mobile computing).
- See themselves as co-creators of knowledge.
- Are high achievers, with expectations they will continue on to graduate school.
- Are very interested in career outcomes.
- Take advanced technology for granted.

Where we stand
Having gathered so much data and anecdotal information from campus sources, the task force divided into smaller working groups to conduct additional research, to meet with additional campus experts and to prepare initial reports that address each of the major areas of our charge (see Appendices 1-4). We also began to see some clear themes emerging.

The following list represents the findings that emerge from our surveys of existing programs; meetings with faculty, staff and students; data drawn from the National Survey of Student Engagement and other surveys; and responses from hundreds of University faculty, staff and students. In this interim report, we will state some of the challenges the University’s undergraduate program is facing as well as some strengths the University has demonstrated in its support for undergraduate education.

Finally, we draw on the challenges and the strengths identified here, as well as our examination of national trends in higher education, to identify a list of ideas to be explored further.

Note: Two items came up repeatedly both as challenges and as strengths for Binghamton.
- Faculty engagement: Numerous sources cited faculty members who are engaged with undergraduates as a key strength of Binghamton University. However, those who do not demonstrate this commitment create challenges for sustaining initiatives designed to support undergraduate education.
- Digital infrastructure: Binghamton developed a “wired” campus and, now, an increasingly “wireless” campus. It provides a variety of IT services to its students, faculty and staff. However, problems with Blackboard and other technological concerns must be addressed and additional investments made to keep pace with changing expectations for mobile computing and other elements of the campus’ digital infrastructure.
Challenges

- Need for more advising
- Lack of faculty buy-in for initiatives
- Faculty engagement (organizational citizenship behaviors)
- Need for additional faculty
- Growing needs for a variety of student support services
- Problems with communication and information flow
- Digital learning environment, especially in online and hybrid courses
- Obstacles to taking classes outside one’s own school or college
- Lack of clarity in DARS

- Growing demands for computing/network/digital infrastructure
- Need for a better course management system (Blackboard, etc.)
- Demand for career placement service
- Issues with integration of transfers
- Increasing expectations that course content can be delivered anytime, anyplace, anywhere
- Organizational inefficiencies/red tape
- Failures to accommodate unique efforts/ideas (structural inertia)
- Inadequate resources, financial and otherwise

Strengths

- Faculty who are engaged with undergraduates
- Student satisfaction with breadth of undergraduate curriculum
- Opportunities for service learning/experiential education
- Residential colleges/faculty masters
- Reputation as an educational “best buy”
- Comprehensive internationalization
- Undergraduate research opportunities
- Student organization engagement

- Diverse student body
- Unique programs, including Languages Across the Curriculum
- Opportunities for cross-cultural experiences (on campus and abroad)
- Depth and variety of student support programs
- Existing network/digital infrastructure
- Student-leadership building
- Retention rate
- Graduation rate

Moving forward

Our expectation is that we will explore possible solutions to these challenges and ways to build upon these strengths during the course of this summer and next fall. We also will work to identify the best ideas and develop a series of recommendations to improve undergraduate education at Binghamton.

Ideas

Capitalizing on our strengths:

- Enhance honors/scholarship/research opportunities for students, possibly through the creation of an undergraduate research office/director
- Expand on First Year Experience class
- Provide more small-group experiences with faculty
- Improve the digital learning environment, increase use of e-services such as iTunes U and capitalize on growing popularity of mobile devices and e-readers
- Capitalize on the new Entrepreneurship Across the Curriculum program to encourage entrepreneurial thinking. (This could also include capstone projects such as one in which students develop “apps” to solve real-world problems and address needs.)
Responding to challenges:
- Provide enhanced mentoring
- Simplify DARS
- Build an advising network
- Improve and personalize online portal for students, faculty and staff to replace current BU Brain
- Reduce bureaucracy across the University and encourage more academic innovation and intra-program collaboration
- Plan an orientation for students at the start of each year, one for freshmen, one for sophomores, one for juniors, one for seniors and maybe others for transfers and spring admits
- Offer career placement and/or boost efforts to attract recruiters to campus
- Provide more help with freshmen course registration, especially for the first semester during orientation, possibly developing some samples of first-semester lineups for different majors

Other:
- Explore a formal path to a three-year bachelor’s degree
- Tap alumni for internships, jobs and as speakers
- Build learning communities
- Partner more effectively with parents
- Increase virtual group experiences

Appendices
1. A look at the evolution of the Discovery Program, the Binghamton Scholars Program and the integrated curriculum, three of the major initiatives of the previous task force on undergraduate education.
2. An assessment of our current educational programs.
3. A review of Binghamton University’s educational infrastructure and the changing needs of our students, with particular emphasis on the digital landscape.
4. A snapshot of some national trends in higher education and where Binghamton stands in relation to those trends.
5. Great ideas that may not fit into this report otherwise.
Appendix 1: Evaluating prior initiatives

The task force discussed the three major initiatives of the last group that evaluated undergraduate education. That report, issued in 1999, proposed a program to be called Discovery, an Integrated Curricula initiative and an honors program.

Discovery was to consist of four segments, each playing a part in providing a foundation for undergraduate education, experiential and service learning and career exploration. The Integrated Curricula was designed to promote interdisciplinary work that would relate students’ majors to their electives and extracurricular activities. The 1999 task force report also recommended a University-wide honors program be created, along with honors programs at the school and departmental levels.

One challenge in evaluating the effectiveness of these initiatives is that none of them were implemented in quite the way that the task force recommended. In addition, there were never measurable goals set for the programs that resulted from these recommendations. Rather than indicate that these efforts were or were not effective, we will offer an update on where each of the initiatives stands today and relay some observations from people who have been most intimately involved with them.

Discovery

Elizabeth Carter, executive director of student services, joined the University to establish and run the Discovery program. Discovery has never offered the full spectrum of courses envisioned by the last task force. (One of the primary reasons for this has been the difficulty in getting faculty and academic units to provide the courses that Discovery needed to succeed.) Instead, it has focused on providing aid to students transitioning from high school life and work to college life and work. It also serves as a first point of contact for a wealth of other services that can help students with academic and personal challenges.

Carter said that Discovery provides referrals to numerous other student-support programs on campus and educates undergraduates about topics ranging from time management to choosing a major. Students who take advantage of Discovery’s offerings have higher grades than their peers who do not seek such help. The program organizes events such as the successful Advising and Scheduling Fest. It also recently began a pilot program in which it serves as a sort of “early-warning system” for some students whose grades are poor at the mid-semester mark.

At this point, Discovery provides four key programs for undergraduates:

1) Discovery Advisors (peer academic advisors)
2) Discovery Centers
3) First-Year and Senior-Year Experience courses
4) Civic engagement and service-learning

Carter also spoke openly with the task force about the opportunities and challenges that arose as the program was implemented. Discovery has contributed in a variety of ways to campus life, student excellence and the University’s continued solid retention rate. However, the program has faced funding issues and does not generally receive strong support from academic departments. In fact, the program didn’t initially even have a means of offering courses. Its lack of connection to an academic unit was a serious detriment to its success.
**Integrated Curricula**

Professor H. Stephen Straight, who oversaw the creation of the Global Studies program as well as the Languages Across the Curriculum program while serving as vice provost for undergraduate education and international affairs, spoke to the task force about the Integrated Curricula. While the Integrated Curricula as detailed in the last task force report was to include programs in a range of disciplines, possibly on topics such as Science and Society, Public Service Leadership and Stewardship, the World of Commerce and Educating Our Youth, the Global Studies program was the only one that took root.

Straight believes that Binghamton could raise its profile by requiring all undergraduates to have an international experience, and noted that Goucher College and others provide models for the implementation of such a goal. He sees the Languages Across the Curriculum initiative as a successful model that could be adopted by other programs looking to introduce a subject in a variety of disciplines.

**Honors**

The honors proposals outlined in the last task force report led to the creation of the Binghamton Scholars program, a University-wide honors program designed to aid in the recruitment of top high school students. Professor George Catalano, who had served as director of the program until this year, spoke to the task force about the rewards and challenges he faced while running the program.

Among the best elements of the program as it existed under Catalano’s leadership:

- Classes that emphasized creativity, including one titled “Thinking Like Leonardo.”
- A class focused on leadership and project management.
- Service projects designed to help people in Greater Binghamton and far beyond.

Challenges included:

- Inadequate funding.
- A lack of faculty participation.

Enrollment in the program ranged from 200 in 2004-05 to nearly 400 in 2007-08. However, Cheryl Brown, director of undergraduate admissions, says that it is hard to measure the effect that the program had on recruitment in part because there was no direct effort to measure its impact. She noted that an honors college at Buffalo has seen considerable success, with much of that attributable to the significant financial incentives (including full four-year scholarships) that students are offered at Buffalo.

Binghamton's program initially offered some limited scholarship incentives, but these were reduced and then eliminated.

The program continues, now under the leadership of Associate Professor William Ziegler, who is also a faculty master. It provides an intellectual community for some of Binghamton’s highest-achieving students. However, renewed support from academic departments as well as commitment from faculty members will be essential to its survival in the years ahead.

Catalano told the task force that in the future Binghamton should consider establishing an Honors College with a faculty member as dean and a senior staff member as associate dean. The college would require full-time administrative support and would be complemented by the creation of an honors residential community, he said. To be competitive nationally, such a program would also need to provide enriching experiences such as travel, speakers and forums, Catalano added.
Conclusion and Findings
There’s no doubt that each of these programs has provided benefits to the University community and continues to do so. However, the programs’ development and the experience of those in leadership positions with the initiatives have persuaded the current task force that future efforts must be conceived of somewhat differently.

Most important, we would recommend that:

- Any new program initiative must be accompanied by a clear and measurable set of goals/standards that will be used to monitor its effectiveness and allow it to make adjustments as necessary.
- Any new initiative must be developed in close consultation with faculty members to ensure their support and participation.
Appendix 2: Review current programs and assess broad educational objectives

Introduction
This group was charged with the task of reviewing current programs at Binghamton to assess if they meet our broad educational objectives. A list of current programs was generated and each program was sent a survey to complete. The survey questions were as follows:

1. What are the most important stated objectives of your program that are related to undergraduate success?
2. What student outcomes do you attempt to achieve with your program?
3. What measurable results do you achieve with your program?
4. In what ways do you partner with specific academic disciples for student success?
5. In this difficult financial climate, what types of support, other than financial, do you believe would help undergraduate students to be more successful?

A review of program responses indicated that most programs had excellent objectives for undergraduate success and were achieving many of the student outcomes they outlined. Group 2 reviewers used the following list as a guide to represent our broad educational objectives:

Students will:
- Gain a depth of knowledge in their discipline
- Achieve a breadth of experience as embodied in the General Education curriculum
- Function in a global environment
- Become engaged leaders in their communities
- Prepare for lifelong learning

In addition, to these educational objectives, the University has the following broad educational objectives:
- Increase graduation rates
- Increase retention rates

After a review of the programs and related material, Group 2 has identified four areas of concentration. We believe that there needs to be further review of the following areas:
- Advising
- Small Group Experiences, especially with a faculty member
- Flexible learning formats
- Student Services, especially as regard to the fact that students are increasingly seeking these services.

In each of these four areas there are opportunities and challenges. Group 2 offers observations and suggested paths forward.

Advising

Observations
Binghamton University has struggled with Student Advising for many years. During the 1960s and 1970s Binghamton, like many universities, moved from an expectation of advising by faculty, for both
undergraduate programs in general and for disciplines in specific, toward an expectation that professional advisors will offer much of the advising including general education, degree requirements, and in many cases, career advisement. This has led to confusion for many staff, faculty and students. While the responsibility for advisement has, in large part, moved to professional advisors who report to advising offices in each of the schools, the number of professional advisors has not kept pace with the increase in student enrollment. At the present time staffing in advising offices is problematic at best and critical at worst. This paucity of staffing, in combination with a lack of agreement about what comprises advising, has led to complaints from students of poor performance for “advising” at Binghamton University. A look at the actual staffing in professional advising offices on campus tells a disturbing story. As of the fall 2009 semester, for instance, Harpur advising has seven general advisors, including the director. Based on the latest statistics from the Office of Institutional Research and Assessment for fall 2008, the small staff in Harpur Advising serves 8,422 undergraduate students. The ratio of students to advisors, therefore is 1,203:1, well above the mean national average of 284.9 students per professional advisor at research-based public institutions. The other schools on campus, with one exception, also fall far below the national standard:

- Harpur College 1,203:1
- Decker School of Nursing 219:1
- College of Community and Public Affairs 474:1
- School of Management 1,536:1
- Watson School of Engineering 850:1
- National average 285:1

Clearly there are good reasons for the poor marks which Binghamton University continues to receive for “advising” from students and alumni. It is not likely, especially during the current period of fiscal exigency, that new staff will be hired to act as professional advisors for an increasingly demanding student body. Other approaches to meeting student needs in the area of advising are indicated. Significant efforts must be made by this task force, and by the university, to correct these problems and to solve these ongoing criticisms.

The Future of Advising at Binghamton

With the need to direct as many current and new investments as possible toward faculty, it is not likely that, in the foreseeable future, any significant financial resources will be directed toward reducing our demonstrable deficits in professional advisors. New approaches, from the introduction of new technological tools (like DARS), to better managing student expectations, to increasing the involvement of faculty in advising students, must play a part in meeting student needs. Group 2 recognizes advising as an area toward which we must direct significant thought, energy and available resources. Innovative thinking and bold actions are called for to address this important problem.

Flexible Learning Environments

Observations

Binghamton University has traditionally pursued a tradition of letting faculty explore diverse approaches to learning. Technology has become a more significant portion of these approaches. At the same time, faculty have continued to pursue excellence in learning by more conventional approaches the classroom instruction. At the same time, the campus has promoted community approaches to learning that include
on-campus learning communities, service learning locally and regionally, and international opportunities.

Moving forward, there is some concern that we cannot sustain the diversity of learning environments that have developed. In particular, the challenges associated with new technologies, hybrid classroom environments, distance education, and classroom construction receiving the resources and support services necessary to make the effective for student learning.

**Future Strategies**

Clearly the flexibility which has created many new learning opportunities for BU students has been challenged by the growth of innovative technologies and approaches in a fiscally challenged time. Moving forward, it will be important to ensure that resources and support be targeted at the most effective approaches to learning. Whether the technology in question is more blackboards or the next generation learning management system, the campus needs a more unified approach to supporting the learning enterprise. The diverse groups that currently support learning have not been coordinated. There would be value in a single point source for faculty to go to in support of their learning environment.

An emphasis on learning communities, broadly defined, could be an exciting future for the campus. It would build on the tradition of residential colleges and faculty masters that are a unique strength of our campus compared to peers. In the process it would be good to take advantage of the faculty fellows program in support of this environment.

**Student Services, especially as regard to the fact that students are increasingly seeking these services.**

The University provides numerous services to students to assist them in successful completion of their undergraduate education. There are also many program that enhance their experiences at the University. Please see appendix A for a list of these services. Based on the reports from the programs, we find that the numbers of students seeking services has greatly increased over the last several years. Examples of these programs include the following:

**Services for Students with Disabilities:** The report indicates that there is a growing number of students with diverse, complex and multiple disability-related needs registering with SSD (e.g. assisted 306 students with 390 disabilities during the Fall 2009 semester.) The number of academic access service or accommodation requests processed as well as the number of undergraduate students utilizing academic support per semester has consistently increased over the past 5 years (need actual numbers here).

**Tutorial Services:** The number of students seeking tutoring services has increased from 424 in Fall 2001 to 1244 in Fall 09.

**Counseling Center and Health Services:** The number of students seeking these services has also shown dramatic increases over the past 5 years (need actual numbers here).

**International Student and Scholar Services:** In the last five years, the number of students served has increased from 1,523 to 2,132, which is a 40 percent increase.

The University also continues to offer programs to serve disadvantaged students such as EOP; TRIO; Bridges to Baccalauriate, English as a Second Language, Binghamton Success Program, McNair Scholars...
Program. Additional support for student success for all students is offered through the Discovery Program.

Although these programs continue to serve additional students, resources have not increased and we continue to have students asking for more help. The Career Development Center serves students by helping them to develop the appropriate skills needed to enter the workforce but students continually ask for additional support in the form of wanting the CDC to find them jobs.

Small Group Experiences, especially with a faculty member

Observations
Observations made from feedback provided from both the forums and program responses emphasize the need for students to better connect with faculty. The need can be broken down into three broad categories; faculty presence, smaller classes, service learning and experiential education opportunities.

- More important than money is presence. Faculty members who are present to the students, who clearly care about their success, who are ready to interact with them and to show interest in them both inside and outside the classroom, have a real impact on students' satisfaction as well as their growth. More involvement of Faculty would improve what we already have and do.
  - Stronger and more enthusiastic support of academic departments for students would greatly improve the educational experience. Faculty connections to first-semester students in particular, have the potential to make a real difference in terms of retention and student satisfaction. Faculty and TAs must be willing to connect to students on both an academic and personal level.
  - More undergraduate students want to participate in faculty Research.
  - Despite emphasis on “Digital” in the current environment: don’t lose the personal connection. It is very important for faculty to have a lot of personal and face-to-face contact with students
  - Need more faculty mentors, more personal contact with students
  - Great to have interaction with faculty – the interaction allows more relationships, stronger learning
  - Good to have smaller residential communities, not big towers

- Students Frustrated with Large Lecture Courses
  - Class size is hugely important: big lectures make it hard to get to know students/faculty. Small class size allows more personal relationships: looked for this when choosing a university
  - Huge intro classes are a detriment: need to have smaller classes so that there is more interaction and have more chance to engage the ideas
  - Interactive classes are good: work with not-for-profit groups, use online modules. Interaction is better for learning: discussion, and engagement with the community
  - Big classes: students don’t learn properly in these because you don’t feel as engaged. Have smaller classes so that there can be more interaction, discussion. Lectures and two tests don’t offer as much learning opportunity.

- Service Learning and experiential education has helped to get students into the community, however, it can sometimes take about 80 hrs per week to provide supervision in the field and coordinate student and school schedules
• freshman/sophomore classes don't do experience/service component so well: get it going right from the start, because it builds identification with the campus/community. Start this in the freshman/sophomore year
• Students are different now than they used to be: we don't like lectures as much, we like hands-on stuff in class. Other schools require experiential learning: either independent studies, or research-based, or something similar. A number of schools require internships, service learning: NYU, Skidmore, etc.

Supporting Data
a) A study of Watson students in the Mountainview Learning Community showed an important, statistically significant higher rate of retention. The retention rate of all Watson students from first year to second was 82.8%, whereas retention of Watson students in the Learning Community was 95%.
b) The impact of our collegiate structure can be seen especially in the data gathered about Learning Communities. NSSE data as analyzed by Sean McKitrick (reported December 2008) shows that in a comparison of Learning-Community (LC) and non-LC students, there are a number of measurable results:
  • LC students score higher on Student-Faculty Interaction scale
  • LC students score higher on Enriching Education Experience scale
  • T-tests show Learning Community Students:
    o tutor more
    o work more with other students in class
    o believe more than non-LC students that the institution contributed to their learning related to writing
    o score higher on
      • feeling they can learn on their own
      • understanding self
      • Active and Collaborative Learning
      • Enriching Educational Experience
      • Student-Faculty Interaction
      • Supportive Campus Environment
      • developing spirituality
      • community service projects
      • engaging in co-curricular activities
      • discussing their work with faculty
  • In a logistical regression analysis seniors with LC experience score higher than students without LC experience in
    o Active and Collaborative Learning
    o Enriching Educational Experience

Suggestions for Paths Forward:
Suggestions to move forward can be categorized into 5 broad categories; Increased involvement and incentives by/for faculty, enhancing Learning Communities and Residential Colleges, smaller classes, enhance the alumni connection, enhance various educational support programs.

• Increased involvement and incentives by/for faculty members
  o More incentive to faculty to get involved is a necessity.
  o Faculty as mentors:
- U. of Washington Seattle has an online database where faculty post research opportunities for students
- Assign Freshman to faculty for advising/mentoring - can be part of new faculty mentoring/training and made part of a faculty member’s job.
- Opportunity to have dinner with faculty, dean, etc.
- Have faculty breakfasts, where students can meet with faculty/deans, etc.
- Some professors spend more time circulating on campus, they know everyone’s name even in very large classes.
- Faculty could have office hours that are not in their offices
- Have a faculty/student lounge where both groups mix – a coffee place or a location where less formal interaction could take place

- Learning Communities and the Residential College Structure:
  - The main type of support needed at this point is the willingness of academic departments and programs to supply appropriate academic courses for the Learning Communities, and for the instructors of those courses to be willing to “cross the road” and get involved with office hours and programs within the residential community.
- Small Classes especially for the 1st Semester
  - small seminar course: engage them intellectually at the outset of college experience
  - Freshman seminar UNC – Greensboro, University of Georgia
- Alumni: keep asking alumni for ideas and suggestions for ways to improve. Alumni have a lot of expertise and experience that can be used, and many of them would like to contribute
  - Have more targeted alumni connections: target them for internships, job placements, this is done well at SU.
- Enhance various educational support programs. Those mentioned in feedback are:
  - Mentoring/Advising: Leverage Upperclassmen/lower classmen: the upper-level students have a lot of good experience and insight that the newer students could benefit from. This could be done through the schools/colleges.
  - Discovery Center especially for tutoring in the biology and chemistry prerequisites
  - Bridges program provided summer research internship for transfer from community college
Appendix 3: The Changing Needs in Multimedia Technologies for Undergraduate Learning

Members of this group were charged with the following task:
To identify the changing needs of students and how/whether the university’s educational infrastructure can be modified in accordance with those needs (technology, programs, and initiatives).

This task was accomplished using information garnered from the following sources:
- A review of the most up to-date literature, existing reports and publications from public and private institutions such as EDUCAUSE, the Kaiser Foundation, and the US Department of Education.
- Interviewing campus officials, faculty and staff members that work regularly with multimedia technologies and resources.
- A review of the responses generated from the online survey of students and faculty that was administered earlier this semester.
- A review of the e-learning tools, resources, and websites of programs offered by other schools.

Our findings are summarized below in four parts using the major information categories outlined above.

PART I: REVIEW OF EXISTING REPORTS

All of the documents reviewed for this part of our task were up to date, relying on data generated during the last few years. We also found a significant overlap in these reports with most of the studies corroborating the emergent trends in the proliferation and use of multimedia technologies in education.

**Summary of Report 1: EDUCAUSE: The Future of Higher Education (January 2010).**

**1.1.1 Background:** This report examined the emergent and future role of Digital Information Technologies in higher education. It addressed three issues: i) Changes that are taking place within institutions; ii) the Drivers of these changes; and iii) Enablers of the changes. It also examined the measures/steps that various institutions are taking to adjust or take advantage of these technological innovations. Following below are the salient findings generated in the report.

**1.1.2 Changes:** There is widespread agreement that the future of higher education is changing in the midst of declining resources. Another change that has been noted is the growing number of educational suppliers all of whom are competing for students, and are using innovative strategies to attract them to their institutions. Educational suppliers now include both traditional and nontraditional institutions, and degrees and various certifications can now be attained from different institutions around the world.

The key drivers of this change include the growing number and composition of the students, and the workforce. For both of these groups, their computational needs are also changing.

The enablers of the change are Information Technologies (IT). These now serve as the primary platform for higher educational needs supporting all aspects of education including teaching, learning, administration, research, finances, security, and sustainability.
IT is reportedly a game changer as institutions expand beyond their physical walls to offer open, transparent and online education. In the report, many advantages of IT use in higher education are noted including:

- The emergence of global, ageless and paperless environments
- Students have limitless access to information, faculty, tutors and each other
- Collective intelligence as these technologies provide the platform for collaboration. The networks provide the basis for participation and collaboration regardless of time, place, age or position of individuals.
- Knowledge creation, for example the use of wikis with cumulative contributions from individuals
- Formal and informal information products (journal articles, blogs etc). Also because these materials are digital, they are reusable and recyclable.
- Increase in interdisciplinary fields such as nanotechnologies, biochemical engineering and bioethics.

1.1.3: Institutional Adaptation: As these technological changes occur, how are universities adapting? The emergent models outlined in the report include:

- Cloud computing (on-demand access to required computational/storage resources).
- Outsourcing of some of the tasks (example Bmail).
- Open education: the open release of learning resources.
- Identity management.
- Analytics: collecting relevant data and using them to predict the likely success of students.
- Integrating the collaborative tools into teaching, learning and research.

Summary of Report 2: Horizon Report 2010

1.2.1 Background: The Horizon Report 2010 is the result of a collaboration effort between the New Media Consortium and the EDUCAUSE Learning Initiative which was established in 2002.

Each edition of the report, which has been produced annually since 2002, presents six emerging technologies that are likely to find their way onto campuses over the next one to five years.

The report is organized into three adoption periods: one year or less, two to three years, and four to five years.

The Advisory Board researches, identifies and ranks key trends that impact teaching and learning according to the impact they are likely to have in the next five years.

1.2.2 Key Trends for the Period 2010 – 2015

“The abundance of resources and relationships made easily accessible via the Internet is increasingly challenging us to revisit our roles as educators in sense-making, coaching, and credentialing.” Important to assess the credibility of the vast amounts of information available.

Mentor and prepare students for the real world.

- Emerging certification programs are challenging the mission of the university.

“People expect to be able to work, learn, and study whenever and wherever they want to.”
• Students want easy access to information on the network.
• They want it any time and from any place.

“The technologies we use are increasingly cloud-based, and our notions of IT support are decentralized.”
• What matters is not where our work is stored, but that it is accessible from where we are on the device we choose to use.
• Software is browser-based and device independent.
• Lower costs are associated with cloud-based solutions.

“The work of students is increasingly seen as collaborative by nature, and there is more cross-campus collaboration between departments.”
• There is a greater need for collaboration between students and professors.

1.2.3 Technologies to Watch

Within the next 12 months

• Mobile computing
  o Mobile market today has over 4 billion subscribers.
  o Over a billion phones are produced each year with the fastest growing segment belonging to smart phones.
  o Essentially anything that can be done on the desktop can now be done on a mobile device.
  o Mobile devices are becoming the platform of choice.
  o Netbooks and other specialized devices are platforms for those who need more flexibility and want something smaller than a laptop.
  o More specialized devices like the Kindle make it easier to carry a lot of reading material.
  o Examples: see the Horizon Report for links to examples of mobile computing.

• Open content
  o Information is everywhere and the challenge is to make effective use of it.
  o Use of the Internet to as the platform to disseminate knowledge and wisdom and to design learning experiences that maximize the use of it.
  o Projects have evolved to create shareable resources.
  o Schools are making their course materials open to the public.
  o Publishers are providing access to textbooks designed for open use. Electronic copies are free; students only pay for printed copies.
  o Discussions are focused on intellectual property and copyright issues.
  o Examples of sources of open content can be found in Creative Commons (http://creativecommons.org) and Teachers Without Borders (http://teacherswithoutborders.org).

In two to three years
• Electronic books
  o Advantages are compelling over the printed book
    • Convenience
    • Cost effective
Portable
- Many models available – Kindle, Sony Reader, Barnes and Noble Nook; plus apps for iPhone and Android
- Customizable settings for font, type size, paper and ink color
- Virtually all new books are available in electronic form; cost is usually lower than buying a paperback edition
- Relevance for teaching, learning, or creative inquiry
  - Campuses have been slower to adopt electronic books
    - Primary obstacle was availability – text books published far less frequently.
    - Ability to render high quality illustrations was limited initially
    - One had to purchase the printed version to gain access to the electronic version
  - Fewer obstacles now
    - Many academic titles are available.
    - All the major textbook publishers have electronic versions in their education catalog
    - Newest readers can display graphics of all kinds; bookmark and annotate pages; offer keyword searches, dictionary lookup, and wireless internet access.
    - Major publishers have uncoupled print and electronic sales of academic texts.
- Many colleges running pilot programs
- Full scale movement to electronic books is two to three years away
- Example of projects:
  - Fairleigh Dickinson University Library offers a selection of electronic readers that students can check out which includes reference books, popular titles, literature, and more.
  - University of Texas at Austin – First-year French students use an online interactive text book with text and video clips to explore the culture of France [http://www.laits.utesxas.edu/fi](http://www.laits.utesxas.edu/fi)
  - Humanities – The Humanities Ebook offered to institutions on a subscription basis.
  - Physics – MIT and Ball State produced an electronic book to visually demonstrate the principles of electricity and magnetism.
- Examples of electronic books for educational purposes
  - [http://libraries.psu.edu/psul/lls/sony_reader.html](http://libraries.psu.edu/psul/lls/sony_reader.html)
  - [http://www.deepdyve.com](http://www.deepdyve.com)
  - [http://sophiecommons.org](http://sophiecommons.org)
- More info:
  - Sony readers in the classroom – white paper from Penn State Libraries [http://www.laits.utesxas.edu/fi](http://www.laits.utesxas.edu/fi)
- Simple augmented reality
  - Augmented reality experiences have recently become easy and portable.
  - Augmented reality tools have been mainly designed for marketing, social purposes, amusement or location-based information.
  - The technologies that make augmented reality possible are powerful and compact for personal computers and mobile devices.
  - Using cameras and screens embedded in the smart phone or mobile device provide the means to combine real world data with virtual data.
  - Some applications, called markerless, use positional data GPS and compass or image recognition, where input to the camera is compared against a library of images to find a match.
  - Layar (http://www.layar.com) is a leader in augmented reality.
  - Samples:
    - Astronomy - Google’s SkyMap is an augmented reality application that overlays information about the stars and constellations as the user views the sky through a mobile device.
    - Architecture – Arsights is a website and tool allows users to visualize 3D models created in Google’s SketchUp.
    - Student Guides – Gratz University of Technology, Austria, has developed campus and museum tours using augmented reality. Looking through a camera on a mobile phone while walking the campus, students see tagged classrooms inside the buildings.
    - More links to further information available.

In four to five years
- Gesture-based computing
  - Using physical gestures to control devices
  - Examples: iPhone and iPod Touch, Nintendo Wii
  - Gesture-based input: pressure, motion, number of fingers touching the device; manipulation of the device itself – shaking, rotating, tilting or moving the device.
  - Gesture based interfaces are changing the way we interact with computers.
  - Applications
    - Medicine (allows doctors to manipulate data from MRI, CT, x-ray and other scan images
    - Sign language – Georgia Tech researchers help deaf children learn sign language
    - Surgical training – improved dexterity from interacting with Wii. Researchers are developing Wii-based medical training materials.
    - More links to further information available.
- Visual data analysis
  - Scientists have developed a wide variety of new tools and techniques to analyze large volumes of data
  - These sophisticated tools are mostly found in research settings.

**1.3.1 Background:** This report was based on data gathered from a nationally representative survey of 2000 adolescents aged 8-18 years. The purpose of the survey, administered between Oct 2008 and May 2009, was to generate information on multimedia use among these students and the likely impacts on student performance and personal contentment. The researchers relied on a seven-day media diary completed by the respondents.

**1.3.2 Key Findings:** Data generated from the study confirmed a significant increase in total exposure and daily use of media. On average, survey participants were exposed to about 10.45 hours of media with a daily use of roughly 7.5 hours, of which 4.30 hours were devoted to TV content, and the rest on music and audio, computers, video games, print and movies. About 29% of this time was spent on multitasking.

The researchers also found that with the exception of reading, the use of every type of media has increased during the last decade. These changes have been fueled by the dramatic increases in mobile and online content during the same time period.

Demographic differences were also observed in media use based on the age, gender, racial and ethnic attributes of the respondents. The researchers observed that boys consumed more media than girls primarily because of the time spent on video games. Among the different age groups, children aged 11-14 years were the largest consumers of media. When controlling for age and single parent households, the study found notable differences by race and ethnicity. In all media categories but more so for TV exposure, black and Hispanic children had significant media use with roughly 13 hours of daily use when compared to 8.5 hours for their white counterparts.

**1.3.3 Impacts:** The heavy users of multimedia were likely to have more friends than their counterparts. However, these students were also more likely to have poor grades, get in trouble in school, were more likely to be bored, be unhappy, and less likely to get along with their parents.


**1.4.1 Background:** This report was based on a systematic review of the literature on online learning and the meta-analysis of studies conducted between 1996 and July 2008. The researchers examined papers that addressed the efficacy of online education in contrast to face-to-face education, as well as the effectiveness of hybrid courses. The analysis was based on the effect size and statistical significance associated with the comparison of these different instructional approaches.

**1.4.1 Findings:** The scholars observed a significant growth in online learning, documenting a 65% increase within K-12 public schools from the 2003/04 to 2004/07 academic years. Despite the rise in these activities, they found that very few rigorous studies have been completed to date to assess the impacts of online learning on the performance of K-12 students. The bulk of the work so far has been based on older learners in higher institutions of learning.
The meta-analyses found that overall, for the same course, online students performed better on average than those receiving face to face instruction (±0.24 effect size). They attributed this to possible differences in treatment conditions (for example number of hours devoted to task etc).

Blended courses were found to be more beneficial than either the independent online or face to face courses (±0.35 effect size). They noted that this too could be due to the treatment conditions such as curriculum materials used, pedagogy, and learning time.

They also reported that:

- If students spend more time on task (in an online setting) they are more likely to perform better than face to face instructions (±0.46 effect size).
- Variations in the implementation of online learning did not have a significant impact on learning outcomes.
- The effectiveness of online learning varies across different content and learner populations. The most effective was for undergraduate education (±0.35 effect size), and then for graduate and professional education (±0.17 effect size). The least effective use of online education was for K-12 education.

When evaluating the treatment type, the researchers found that the consistency in treatment was less likely to yield a significant effect size (i.e. differences across the groups). For example, a curriculum that is consistent for both online and face to face instruction (with similar activities, syllabi and resources) was less likely to produce a meaningful and significant difference between the groups.

Finally, the authors found that videos and online quizzes do not necessarily improve learning. Rather, the approaches that are most effective are those based on exercises that allow students to reflect on what they have learned, promote interaction, and allow for self-monitoring and understanding.

**Summary of Report 5: “Predicts 2010: Opportunities for Education Technology Despite Fiscal Constraints”**

1.5.1 **Background:** This research comes from Gartner Inc., a leader in information technology research, with whom the ITS department has a subscription.

1.5.2 **Key findings for Higher Ed:**

- Higher Ed can increase retention by supplementing e-learning with social software.

1.5.3 **Recommendations for Higher Ed:**

- Higher Ed should initiate virtual desktop initiatives and should incorporate social software in the e-learning portfolio

1.5.4 **Summary:**

- Days when institutions dictate the form factor and platform of student and staff communication and computing devices are fading fast.
- The strategy is to provide the community with a standard of access to information and services without dictating the hardware choices.
• Institutions will recognize the popularity of social software and the potential to supplement e-learning.
• The focus of higher education institutions will gradually shift from supplying equipment for students to use (equipment in computer pods) to providing access to applications and data.
• Application virtualization will be used to delineate core applications from specialized apps required by individuals and departments.
• Social software in combination with e-learning platforms will increase the sense of belonging to the student community and the institution, which will lead to higher retention.
• Social software in combination with e-learning platforms promotes student collaboration in finding external sources and improves understanding, leading to higher retention.
• Look for e-learning platforms that integrate well with social software sites.
• Consider integrating open courseware, for example iTunes U and YouTube in the social learning platform.

PART II: INTERVIEWS WITH CAMPUS OFFICIALS

2.1.1 The following are excerpts from the meeting that took place with Jim Wolf, Director of Academic Computing Services. We asked him to evaluate the current technology trends at BU, the future needs, and to provide a list of schools that the university can emulate based on their achievements in the design, use and integration of information technologies in undergraduate learning:
  • Most students have one PC; 20% have more than one. Students have lots of devices.
  • Need lecture halls to meet needs.
  • PDA’s...need to capitalize on strengths...develop apps.
  • Double major barrier between Computer Science and another major...develop a 3/2 program?
  • 73% of sections are using Blackboard. Jim Wolf feels Blackboard should be owned by Academics, not the Computer Center. ACET does not report to Academics. There is a lack of training on Blackboard. Need innovative ways to train faculty on new technologies.
  • Pods and space needs. Also, need laptop lounges.
  • Need ability to print to campus printers from new devices (PDAs, etc.)
  • Ideal schools that do things well...UMBC, Clemson, LSU, RPI and Dartmouth.
  • Future use of tech...more collaboration between other universities
  • Webinars
  • Internet lounges

2.2.1. We also met with Marcia Focht, Curator of the Visual Resources Collection, a collection of digital images and tools that supports classroom image needs across campus. The feedback received from her are as follows:
  Artstor : tool for images (data bank of images)

  BU pays top dollars for the Artstor software that is cutting edge technology for sharing images, and using them for class presentations. However, it is hardly used by faculty.
  • Technology available to support undergraduate education should be advertised more.
  • Convincing faculty and graduate students to attend training sessions has been very difficult
  • Need to find ways to develop training that is customized to each instructor’s stumbling point.
• In general, when it comes to learning spaces, we are urged to create collaborative work spaces for faculty, students, and staff. They should be comfortable, creative, interactive, flexible, and mobile. No more lines of computers facing a wall — faculty and students need to work together and look at each other! We need to think more broadly and “emphasize interactivity over mere content delivery.”

• Training faculty does seem to be a problem on campus. Faculty/staff/TAs do not want to wait for a class (even if they wanted to learn in a classroom setting). They want to be able to find out answers right away in the specific area where their experience breaks down.

PART III: REVIEW OF SURVEY RESPONSES

Upon review of the student and faculty responses gathered over the last several weeks, the subcommittee found the student responses to be the most valuable in terms of ideas and suggestions for improving BU’s educational infrastructure. Following below are the suggestions received from BU students:

3.1.1. Borrow a Laptop: Students suggested that the implementation of such a program in the PODs would be useful. There is a laptop lending program in the Information Commons in the Bartle Library (15 laptops, 10 netbooks, owned by the Libraries), Science Library (5 laptops owned by the Libraries), and the University Downtown Center Library (21 laptops, plus a cart of 21 laptops that an instructor can borrow for a class, owned by ITS). Perhaps alternative ways of advertising are needed.

3.1.2. Students believe that more-hands on training /internships would be helpful in preparing students for careers, and positions in the job market.
  • We can cast this in terms of the need for experiential learning; perhaps offering more internship/externship opportunities.

3.1.3. Mobile applications: One student suggested we explore the innovative use of these technologies as is done in UT Austin.


The university has developed a website for mobile users and has a set of standards and guidelines for them to follow. The subcommittee is unsure whether a set of standards are currently in place at BU to address these issues. If not, this is recommended given the proliferation of these devices.

3.1.4. Mobile Applications: This came up again in the review of survey responses with one student suggesting that the hosting of mobile apps would be useful in enhancing the reputation of the University. Perhaps, we should have a whole section in our report that is devoted to mobile applications as this subgroup’s meeting with Jim Wolf also concluded that it is a useful idea to encouraging students to develop apps (capstone projects).

3.1.5. Online/Hybrid Courses: Many students appear to be in favor of these course offerings. The University needs to explore these further beyond just course offerings during the summer/winter sessions.
PART IV: REVIEW OF E LEARNING TOOLS

4.1 Learning Management Systems (LMS)

The upcoming generation, and even the current generation, of students live in a world where technology is ubiquitous. Various tools enable courses to be managed online where students can use their computers to access course material, participate in forums, submit assignments, take examinations and so on. At Binghamton University, we use Blackboard to provide these services. Within the last few years various institutions have taken efforts to evaluate other learning management systems as possible replacements for Blackboard for various reasons:

- Reducing the number of different service portals provided
- Integration with existing services (such as Banner)
- Financial savings
- Control/Flexibility of services
- Support for various teaching approaches
- Multi-campus support
- Assessment tools

Various alternatives exist such as:

- Sakai
- Moodle
- eCollege
- Desire2Learn

Alternative LMS models are also important to consider as they shift the paradigm from a course-centric environment to a communal environment which may be more suitable for students who come from a world of ubiquitous social network and interpersonal communication.

- Goingon.com (Online community building)
- Georgetown Digital Commons (blogs, wikis, eportfolios, podcasts)
- WordPress MU (blogs)
- Google Applications (collaboration tools)
- Elgg (social media)

4.2 Other eLearning related topics:

1. Distribution of Course Materials:
   - Wikis, Blogs
   - Streaming Media
   - iTunesU

2. Assignment Creation:
   - Multimedia Support

3. Assignment Management:
   - Webfiles
   - Shared repositories for each department
   - ePortfolios
• Distributed grading tools

4. Student Feedback
  • Tools to annotate assignments

5. Online Quizzes/Examinations
  • WebAssign
  • Accreditation/Accountability

6. Grading
  • Support for flexible grading tools

7. Communication
  • Wimba audio
  • Instant Messaging, Video Chats
  • Web Conferencing

8. Presentations
  • Podcasting
  • Virtual environments
  • Improved faculty fluency with these tools

9. Showcasing Student Work
  • Youtube
  • Rights management

5. Digitally literate Storytellers

Trend in 2008:
**Users as creators:**
Grassroots Video
Collaboration Webs
Mobile Broadband
Data Mashups
Collective Intelligence
Social Operating Systems

Trends in 2009: (More ways to do it – to do it faster and to do it with and for others. More dimensions of visual expression, virtual, geo-located, personalized. Power users with access to tools, storage and platforms in the Cloud.)
  • Mobiles
  • Cloud Computing
  • Geo-Everything
  • The Personal Web
  • Semantic Aware Applications
  • Smart Objects
Creation of content is the new higher order skill in this adaptation of Bloom's taxonomy. (courtesy APA, 2001).

Not so new, but tools, curriculum and skills to support it are new. Digital literacy has positive impact on other literacies as well. Supports the student centered learning and active learning approaches that are vital in current thinking about effective pedagogies.

Active learning – Creation...Use of Visuals in teaching, learning and research.

Research reported in educational literature suggests that using visuals in teaching results in a greater degree of learning. The basic premise of this body of research is the concept of visual literacy, defined as the ability to interpret images as well as to generate images for communicating ideas and concepts. Visual literacy: The ability to decode, interpret, create, question, challenge and evaluate texts that communicate with visual images as well as, or rather than, words. Visually literate people can read the intended meaning in a visual text such as an advertisement or a film shot, interpret the purpose and intended meaning, and evaluate the form, structure and features of the text. They can also use images in a creative and appropriate way to express meaning.
Distribution:
Many more presentation platforms: VUE, Pachyderm, etc. Beyond Power Point – Non-linear and media rich.
Sophie: an e-Alternative eBook from IF Book – currently housed at USC.
Proliferation of tools: 50+ video creation tools used to tell the same story.

Virtual Worlds as visual and immersive – 3D environments

Visual Thinking Strategies:
http://www.vtshome.org/

Visual Thinking Strategies is the result of more than fifteen years of collaboration between cognitive psychologist Abigail Housen, veteran museum educator Philip Yenawine, and their colleagues. As Director of Education at The Museum of Modern Art from 1983-1993, Yenawine was primarily concerned with making museum education programs more effective. His research introduced him to the work of Abigail Housen in 1988.

Listen to the dialogue and the students are thinking critically – hypothesizing, presenting evidence and debating validity of their arguments.

Horizon Report 2009: NMC Critical Challenges

- Key new skills, including information literacy, visual literacy, and technological literacy.
- Students are different, but a lot of educational material is not.
- Shifts in the ways scholarship and research are conducted.
- Measure and prove through formal assessment that our students are learning.
- Convey value and relevance of digital literacy such that discipline traditions are challenged, but not compromised.
- Find the entry point for diverse faculty.
- Make technology accessible and time commitment manageable.

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Appendix 4: National trends and how Binghamton stacks up

Subgroup charge: Identify major national trends in higher education and where we fit in relation to those trends, whether we meet, exceed, or fall short of them.

Process and Procedures:
In efforts to investigate this question, we considered the charge as two sided. The first side consists of investigating the major national trends in higher education, while the second side involves close examination of BU by school, department, and administrative programs. The focus of our work has been primarily with respect to the first side of the charge—looking outward at what trends are present in higher education. We broadened the question to include not just “trends” (because defining what constitutes a “trend” is difficult), but also some other interesting programs and approaches that other institutions are implementing to either academics and/or student affairs related aspects.

Underlying assumptions and operating definitions:
- “Trends:” for the purposes of this exploration, we assumed this term to include best practices, emerging practices, and unique and interesting programs at high education institutions as brought to our attention by either students, the press, literature, or word of mouth. It is difficult to gage what activities are national trends; we considered it to be “an activity performed by many colleges and universities.”
- Domain of our charge—since the Task Force was charged with addressing the “undergraduate experience,” we considered trends and practices that relate to any aspect of an undergraduate’s experience, including academics, parents, health and wellness, living, sports, etc.
- There is an inherent dependency in the second part of our charge, requiring the committee input from group 2 to determine whether we meet, exceed, or fall short of what we identified as trends in higher education, and thus it was beyond the scope of this phase of the committee’s work.

Our Process:
Our data for the externally focused aspect of our charge were gathered through the following vehicles:
- Consideration of a wide range of published data (national reports, trade publications, popular press)
- Student surveys (BU students; questions of “What are other schools doing that we should consider? Are there great new programs in place somewhere?)
- Internet searches
- College and university websites
- Discussions with faculty members
- Notes from curriculum committee meetings

What We Found:
Following is a list of activities that schools have done with some success. Most of the activities are done by a few schools, unless noted that it is a national trend.
- Technology
  - Technologies are increasingly cloud-based, or internet based computing on demand.
  - Electronic textbooks at Villanova and Cushing Academy, and Kindle DX pilot project of six colleges and universities (Peters 2009 and Princeton University 2010).
• Curriculum & Living
  o Three-year Bachelor’s degree (Alexander 2009). Hartwick, located halfway between Binghamton and Albany, offer a three-year program designed for high-ability, highly motivated students who wish to save money or to move along at a rapid pace. The students take 40 credits per semester instead of 30, they get first choice at course registration, students may take a four-week three-credit course offered during January break on or off-campus including international sites (they pay extra), and there is no change in the number of courses professors teach or in their pay. Numerous other schools offering three-year degrees or other ways of condensing degrees (offering short terms in May and June for required courses, transferring AP credits from highschool) are mentioned in the article. This seems to be a national trend.
  o Four-year residential education at Colgate (Chopp 2009). First year contains a pre orientation over the summer, an orientation with advising, evening events such as special lectures and programs, and a life-skills program. Sophomore year contains evening lectures and seminars with major public figures, workshops that focus on different life skills, faculty research dinners, service and community-building opportunities, Dialog Circles on diversity and pluralism, and political action days. Junior and Senior years are experienced through the Broad Street Community Program where students live in campus owned houses and apartments with groups of students of their choosing through a theme or department or Greek-letter organization. They are encouraged to build communities that support their lives that meet the needs of the larger community.
  o Parental classes at University of Redlands, and Minnesota. Becoming a national trend. Binghamton University piloted a similar project with great success (but is still well behind the trend, according to Kristin XXX)
  o Modern Languages/three critical international languages of study: Mandarin Chinese, Arabic, Farsi taught in Connecticut K-12 schools (Drazen 2009) This seems to be a national trend.
  o Freshmen – automated freshman profile at Brigham Young creates a personalized student profile based on high school academic records and student interests to recommend a first-year course of study. Faculty freshman advisors are trained in use of the profile (Parle 2009) - incorporating an emotional skills class helped students to understand, regulate and harness emotions and increased retention rates (Parle 2009) - reading course.
  o Courses in other formats: experiential learning (national trend), online collaboration such as Wimba, experiential learning space with video capabilities like USC Marshall (USC Marshall), co-op programs, global integration via internet in classrooms like U. of Arizona (Schaffhauser 2010), distance learning, hybrid courses
  o Collaborative learning space in the library such as Missouri University of Science and Technology (Hammons & Oswald 2009) This is a national trend in library land.
  o Integrated majors (national trend)
  o Special seminars with rotating professors
  o E-portfolios for students.
  o Learning Communities (combining living and learning together)
Social
  • Better food and a greater variety of ethnic foods was mentioned multiple times on the student survey.
  • We have noticed that many schools participate in bonding experiences or bonding rituals, and students request these experiences as evidenced by the survey results. Such experiences mentioned on the survey include Humans vs. Zombies and Senior 100. This is a national trend.
  • Work-life balance programs such as Passport to Life After Smith (Smith College 2010)
Green
  • Composting was mentioned a few times on the student survey. Binghamton University is not a land grant institution, and typically these types of schools have composting programs such as Washington State (Guttentag 2008), and University of Vermont. University of Texas is not a land grant institution and has a composting program.
Other
  • Financial aid for international students was mentioned on the student survey; other schools offer it.
  • Mentoring for transfer students such as University of Michigan’s Transfer Connections (University of Michigan)

Preliminary thoughts on the second side of the charge (e.g. Does Binghamton meet, exceed or fall short of the types of trends mentioned above): (***note: these thoughts reflect impressions of the sub-committee generated through discussions and meetings thus far---and are not comprehensive pending the results of the other subcommittees )

It was found that Binghamton University has many programs and initiatives it is well-known for and, according to the survey, BU students like and in talking with their peers other schools are not doing as well.

  • Leadership coursework for undergraduates
  • Residential colleges or living/learning communities (Smith 2004)
  • Faculty masters
  • Languages Across the Curriculum
  • Globalization – BU has a 10% international student population, and has steadily increased in rankings since at least the year 2003/2004 (Institute of International Education). BU has been awarded for excellence in internationalization seven times.

It has been our impression that Binghamton University has some initiatives that are comparable to other schools.

  • Use of clickers in the classroom
  • Raves
  • International programs

In terms of falling short, preliminary thoughts on where we fall short include:

  • Use of technology in the classroom
  • Mentoring of transfer students
  • Advising
  • Financial aid for international students
  • Cross-department registrations
• Food
• Support/counseling
• Three Year programs
• Global integration into classrooms
• Bonding programs for students
• Work-life balance programs
• Collaborative learning spaces
• Composting
• Distance learning (alternative learning formats)
• Parental education
• Co-op programs

Recommendations for next steps:
Focusing on what is coming in the future and what we would like to be, rather than on catching up to what is currently out there at other schools. For example, the Horizon Report is an annual publication that identifies emerging technologies that are likely to have a large impact on teaching, learning, research, or creative expression within learning-focused organizations.

According to the 2009 Horizon Report the following six technologies or practices are likely to become mainstream: 1) increasing globalization will affect the way we work, collaborate and communicate, 2) experience with, and affinity for, games as learning tools is increasingly universal among those entering higher education, 3) Mobile phones are seeing unprecedented innovation and use in higher education, 4) collective intelligence is redefining how we think about learning, 5) visualization tools are making learning more meaningful, and 6) technologies are increasingly cloud-based, or internet based computing on demand.

In addition, research suggests that our traditional students of 2015 + will expect to be
• Co-creators of knowledge
• Learners, not students
• Asking generative questions for assignments
• Designing their learning experience
• Creating
• Experiencing the education
• Passport holders, not transcript getters (why get a “stamp” from Binghamton?)
• Members of a human ecology
• Part of social networks
• “We expect to be able to share information with each other”
• “Teach me to think, to create, to analyze. Engage me.”

Next steps should include the careful inventory of the current programs, structures, systems, staff, resources, and mental models on campus to consider how we can leverage our strengths to best meet these challenges of the future.
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- Microsoft process resources
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Appendix 5: Wild ideas

These are ideas that emerged during our research. While they may not pertain directly to other sections of this report, we wanted to capture them for possible development on campus.

- Course for parents
- Location of Counseling Center
- Putting health info online or doing more things like the Fever Phone
- Problems with intra-university transfers: students who are marooned with low GPAs in a particular school
- e-portfolios
- composting
- bonding (humans vs. zombies and senior 100)
- e-text books