Strategy Work Group Final Report:Innovative Curriculum and Pedagogy

I. Strategy Group Charge: Develop innovative curricula and academic programs that support and enhance the success of our undergraduate and graduate students and prepare them for meaningful careers, lifelong learning, and engaged citizenship; and thereby maintain and enhance our position as a national leader in undergraduate and graduate education. Supporting Goals: 1) In view of the range of current curricular and pedagogical practices, to develop strategies that are in keeping with UMBC mission and values that will enable the University to enhance student learning in the future. 2) To develop a fuller understanding of what opportunities and challenges demographic trends might hold for the future of UMBC's student base, and develop strategies to position the University's academic programs (including all degree and innovative non-degree credentialing options) to respond to this change effectively. 3) To develop the appropriate measures of student success and assessment strategies to support continuous improvement and development in innovative programs, partnerships, curricula, classroom practices and all course modes.

II. Research Questions:
- How does the current profile of our faculty, students, and mix of programs compare with our aspirational peers, and how does this profile align with the University's mission? What approaches used by peers might UMBC adopt to strike an appropriate balance between in- and out-of-state students, the distribution of students among programs, and demographic characteristics such as gender and socio-economic status to better align our student profile with the University's mission in the future?
- What are the lessons learned from studies of retention and graduation rates at UMBC and elsewhere, and how can this information guide us to increase student success by developing innovative programs, curricula, classroom practices, and instructional modes at the undergraduate and graduate levels?
- What measures of success for students have we used in addition to retention and graduation rates? What should we use as the critical measures of academic success? How can we use assessment of these critical measures to support continuous improvement of student learning outcomes at UMBC?
- What are the current best practices in innovative curriculum and pedagogy at our peer institutions and nationally? How have UMBC programs leveraged resources, partnerships, technology, and innovations to enhance student learning? What additions would be needed to significantly improve student learning and how should they be prioritized? What specific opportunities and challenges related to classrooms, infrastructure, technology support, and faculty development exist to support curricular and pedagogical innovations and partnerships across the curriculum?
- Drawing on national best practices, how can UMBC balance supporting existing academic programs and the development of new programs? What metrics can we use to track whether we have achieved the appropriate balance as well as the best mix of academic fields and degree levels/options?
- Drawing on national best practices, what is the appropriate balance between supporting the instructional duties of the faculty in: 1) areas of existing strength, 2) areas that need strengthening, and 3) areas of academic innovation? How can new support and the reallocation/redesign of existing support be used to enhance classroom infrastructure, technology, and faculty development in all three areas? What best practices in faculty reward and recognition, including P&T and prestigious awards, can UMBC utilize to support high quality teaching and encourage curricular and pedagogical innovation?

III. Recommendations

1. **Strategic Goal**: Provide **state-of-the-art learning environments** for the twenty-first century undergraduate and graduate students that incorporate the best of traditional pedagogies and new evidence-based practices.

   A. **Strategic Objective**: Develop a **robust internal information system** that tracks the number, quality, and use of formal and informal teaching spaces and course offerings to support the continuous expansion and improvement of active learning and innovation in the classroom.
      1. Improve the space utilization reporting to provide a consistently accurate definition and census of classrooms and their equipment.
      2. Develop metrics to assess fit of courses to spaces and needs for additional spaces.
      3. Develop a more robust system of notation for describing the format/pedagogical approach of courses that would be transparent to the students when they register for the class.

   B. **Strategic Objective:** Re-organize classroom planning to take full account of the perspective of classroom faculty and students on space quality and usefulness.
      1. Establish the Classroom Committee within the Plan of Organization with increased faculty membership that is broadly representative by discipline and rank.
      2. Establish a routine means of collecting faculty evaluation of classroom quality and fit between spaces and pedagogical goals as part of classroom planning and renovations.
      3. Add evaluation questions about the impact of classroom environments on student learning.
      4. Re-evaluate the current course scheduling model (day/time patterns) for its effectiveness in meeting campus needs for active learning teaching.

   C. **Strategic Objective**: Leverage formal and informal learning spaces to enhance student success in formal courses.
      1. Increase the number and variety of flexible spaces that can be used by students for informal learning, such as the Retriever Learning Center.
      2. Conduct a survey to identify "dead spaces" on campus that can be converted to flexible, informal learning environments.
      3. Establish a regular funding stream and schedule of renovation/improvement of classroom space, furnishings, and technology.
      4. Initiate a fund-raising campaign, perhaps through a public-private partnership, to build and outfit a state-of-the-art active learning classroom building.

   Measures of Success:
   - Classroom Use reports that are fully documented and credible to all stakeholders.
   - Achievement of the national benchmark of 75% classroom usage.
   - Achievement of an 85% fit between classroom and informal spaces and teaching format needs and an 85% approval rating for classroom quality by teaching faculty and students.
   - Establishment of a measurement of informal space usage and satisfaction ratings.
   - Establishment of public-private partnerships that support 20% per year renovation/update of classrooms and informal learning spaces and a new active learning classroom building.
   - Increased student retention and graduation rates

2. **Strategic Goal**: To become a national model of a university that provides **exemplary support for educators** in delivering state-of-the-art undergraduate and graduate curricula.

    A. **Strategic Objective**: Enhance the capacity of the Faculty Development Center to provide support for research into and training in best pedagogical practices and transform it into the Center for Teaching Excellence (CTE).
        1. Expand the FDC's mission to provide training and support for disciplinary and interdisciplinary in-class activities, course redesign, and research on teaching, learning, and assessment; and develop a Faculty Fellows program for innovative teaching.
        2. Establish the CTE as a campus fundraising priority.
        3. Build capacity in the Office of Sponsored Programs and the CTE to support external grant activity for curricular and pedagogical research and implementation initiatives.
        4. Formalize the relationship between the CTE and OIT to support instructional technology.
        5. Provide expanded formal training for adjunct faculty, graduate and undergraduate teaching assistants, including establishing and supporting interdisciplinary teaching circles.
        6. Fund expanded opportunities for training through summer workshops and seminars that enable faculty, especially new hires, and graduate students to develop expertise in national models for innovative disciplinary and interdisciplinary pedagogies.
        7. Develop an analytics initiative, including a better course evaluation system, that expands the range of information gathered about student learning, pedagogical innovation, and teaching quality. Develop a campus-wide policy for use of these data in promotion and tenure reviews.

    B. **Strategic Objective**: Establish campus-wide policy and standards for technology use in instruction, including but not limited to on-line and hybrid course formats.
        1. Under the auspices of the new center and shared governance groups, conduct a campus-wide conversation on innovative technologies for teaching.
        2. Engage shared governance groups, especially the Special Session Committee, Undergraduate and Graduate Councils and Faculty Affairs Committee in consultation with the Provost's Office in drafting, debating, and enacting policies on technology in the classroom that respects departmental cultures.
        3. Establish a funding stream to support the experimentation and development of best practices for technology in the classroom.

    Measures of Success:
    - Establish The Center for Teaching Excellence with expanded mission, budget, and profile.
    - Enhance UMBC's national standing as an excellent undergraduate institution.
    - Increased number of workshops and participation of faculty, undergraduate and graduate teaching assistants in the Center's programs.
    - Increased proportion of full-time faculty using the Center's services to support development of highly effective, research based, teaching practices and assessment.
    - Development of effective measures of teaching quality for promotion and tenure.
    - Establishment of hybrid and online course policy.

3. **Strategic Goal**: Enhance the campus capacity to provide a state-of-the-art undergraduate and graduate education by ensuring an **optimal full-time faculty-student ratio within each academic degree program.**

   A. **Strategic Objective**: Expand our capacity to provide high quality instruction by increasing the proportion of full-time faculty on campus and in first and second year learning experiences.
      1. Recruit, retain, and promote a talented and diverse faculty of teacher scholars based on a campus-wide faculty hiring plan that balances disciplinary and interdisciplinary programmatic needs with university-wide initiatives and that strikes a balance between supporting existing programs and new programs.
      2. Develop and fund a robust system of full-time visiting faculty to bring top scholars to UMBC on a temporary basis, to replace faculty during sabbaticals and fellowship leaves, and to support full-time faculty participation in undergraduate honors experiences.
      3. Establish campus resources and processes for the recruitment, retention and promotion of adjunct faculty, and conversion to full-time lecturer positions where warranted.

   B. **Strategic Objective:** Expand our capacity to provide high quality instruction by increasing the opportunities for advancement, the prestige, and the salaries for full-time lecturers.
      1. Create at least as many ranks for Lecturers as exist for tenured faculty that include greater opportunities for professional development and for participation in shared governance.
      2. Re-appraise the salary structure for Lecturers to take account of rank and length of service.

   C. **Strategic Objective**: Increase campus wide capacity for graduate education through increased GA stipends, informal learning spaces, and pedagogical training.

   D. **Strategic Objective**: Re-appraise and update policy and practice to take account of active learning and related innovative classroom practice.
      1. Develop a course approval, evaluation, and assessment system that takes account of the risks to course evaluations involved in introducing innovative teaching practices.
      2. Develop campus-wide standards for reduced teaching loads and FTE expectations for faculty involved in the development and delivery of innovative pedagogical approaches that recognize greater faculty time and effort involved.
      3. Develop campus wide mechanisms for part-time funding requests to support the growth of a robust and diverse curriculum when full-time faculty appointments are not feasible.

   Measures of Success:
      ● Steady growth in the size and diversity of the full-time faculty and increased rank options and prestige of full-time non-tenure teaching faculty,
      ● Decreased proportion of part-time faculty in first and second year courses to no more than 30%, and a campus-wide standard for part-time salaries and GA stipend levels.
      ● Establishment of a campus-wide standard for part-time salaries and salary increases, and a process for ensuring appropriate funding levels to support part-time instructional needs.
      ● Establishment of a campus-wide standard for raising GA stipend levels and a process for ensuring appropriate funding levels to support GA positions.
      ● USM reappraisal of faculty workload expectation that take account of the greater investment of time and talent in innovative teaching.

4. **Strategic Goal**: Build a **campus culture of assessment** that enables continuous improvement in   student learning outcomes while respecting academic freedom.

   A. **Strategy Objective**: Develop a robust internal information system that allows us to track student success throughout their career at UMBC and beyond. The system should be based on a broad definition of success arrived at through campus-wide discussions that takes account of classroom performance, student engagement on campus, and overall well-being. It should also tie success measures to Student Learning Outcomes (SLOs), and class format/pedagogy in order to support Academic Program Review and Bi-Annual Assessment processes. It should also allow us to tie SLOs to the quality of the physical environments of student learning and feed into campus wide academic advising processes.
      1. In addition to the strategies above, develop an analytics initiative for academic program review that includes information about innovation and its impact on student success.
      2. To support fulfillment of UMBC's ethic of care with regard to students, consider development of a UMBC app that builds in regular pop-up queries that invite students to tell us how they are doing, in class, in life, etc.
      3. Establish attributes/skill sets that students should have as defined by potential employers/graduate schools, and national disciplinary organizations; and build assessment tools into the GEP and Program curricula that evaluate these skills as students progress through their academic career.
      4. Develop surveys and metrics to ascertain student perceptions of their interactions with faculty and staff; involvement in civic engagement, student organizations, and extracurricular activities; and assistantships in the case of graduate students.
      5. Establish mechanisms for information sharing about student experiences post-graduation, including professional development skills.

   B. **Strategy Objective:** Use these data to establish campus-wide standards for interventions to support student success throughout their careers at UMBC.
      1. Analyze outcomes for different student groups such as traditional students, adult learners, part-time students, transfer students, and online students, as well as different demographic groups.
      2. Develop departmental evaluation(s) (perhaps after completion of "core' courses) to measure how well students are able to integrate the knowledge gained in lower level across disciplines in classes as a measure of student preparation for upper level courses. Plan for interventions for students not achieving such "milestones" should also be put into place by departments.

   Measures of Success:
      ● Continued recognition by Middle States of UMBC's use of assessment as a tool of accountability and continuous improvement.
      ● Establishment of campus wide standards for interventions to support student success
      ● Implementation of interventions at the university and department levels to support student success that effectively utilize the increase information gathered.
      ● Increased student retention and graduation rates.

IV. Narrative: UMBC has received national recognition for providing undergraduates with high quality, innovative, instruction, and we have a growing reputation for graduate education in select fields. The high quality and innovative pedagogy and curriculum are among our greatest asset. It is fundamental to success of our students, and the fulfillment of our mission as a public research university. Advancing excellence is a continuing process, however, and there is room for improvement in the campus capacity to deliver a state-of-the-art education. Each of the recommendations detailed above is designed to support continuous improvement in instruction and thereby increase student retention, graduation, and future success.

Strategic Goal 1: State-of-the-Art Learning Environments

In order to provide **state-of-the-art learning environments** for the twenty-first century undergraduate and graduate students, the university needs to improve both the physical infrastructure of instruction and the information captured about those spaces and their use. Improved physical infrastructure will greatly facilitate more effective traditional pedagogies and continuous evidence-based improvement and innovation in the classroom. Repeatedly throughout the campus engagement events, committee members heard that limitations in the number and quality of teaching spaces posed the greatest disincentive to faculty for engaging in curricular and pedagogical innovation. First and foremost, the campus needs to develop a robust internal information system that tracks the number, quality, and use of formal and informal teaching spaces and course offerings. Currently multiple, discontinuous information systems track the number and use of formal teaching spaces and responsibility for this information rests with multiple offices with often conflicting perspectives on and reporting responsibilities for space utilization. There is also little information captured about the kind of pedagogies and practices that are used in spaces or of the faculty and student needs in learning environments. We need a space reporting system that is credible to all constituencies; meets state reporting requirements; and provides the campus with detailed information about the fit of spaces to and pedagogical needs and the impact of learning environments and meeting patterns on student success. (The traditional 50 lecture format is largely ineffective for active learning approaches, which require for set up at the beginning and wrap up at the end of each session.)Moreover, to-date little information is gathered about the number, quality, and use of informal teaching spaces, which "offer intriguing opportunities for pioneering and cultivating new teaching and learning practices" (LSC Guide). The Retriever Center is a good example. But, as the campus embraces active learning more fully, the need will grow for informal spaces where students to work in groups on class projects. We need to incorporate informal learning environments into our space planning and information systems.

National best practices for learning spaces use various methods such as a) surveys; b) interviews; c) physical traces (what is left behind in the space – how are the chairs organized, what trash is left etc.); and/or d) observation about how people are using spaces. However, at present, the users of teaching spaces on campus, faculty and students, have little input into the design, furnishings, or modifications of teaching spaces. Therefore, we recommend the adoption new methods of capturing information from faculty and students about their experiences, needs, and expectations for learning spaces. In addition, we recommend the addition of questions about the impact of classroom environments on student learning be added to the course evaluation system. Finally, we recommend that channels of communication between the various space users and managers be strengthened by making the Classroom Committee a formal part of the Plan of Organization with increased faculty representation across ranks (including lecturers). That reconfigured committee can lead campus-wide discussions on the relation of learning environments to and current and future trends in pedagogical innovations. It can also focus efforts to bring best practices for formal and

informal learning environments to UMBC, support more regular renovation of existing spaces, and prepare the fund-raising case for a state-of-the-art active learning classroom building.

Strategic Goal 2: Exemplary Support for Educators – Center for Teaching Excellence

In order to become a national model of a university that provides **exemplary support for educators** in delivering state-of-the-art undergraduate and graduate curricula, the university should enhance the capacity of the Faculty Development Center and transform it into the Center for Teaching Excellence (CTE) that can: support faculty and departments to develop, implement, and disseminate innovative teaching; suggest policy changes to better support innovation; collect and disseminate data on innovations; and serve as the campus hub for research into and training in teaching, learning, and assessment. The Faculty Development Center has performed admirably with limited resources in highlighting and encouraging pedagogical innovation and curricular development. FDC sponsored small grants have been successful motivators for pedagogical development and curricular innovation that allows faculty to spend time redesigning or developing courses by paying for additional materials or transportation, supporting student assistants, supporting faculty to develop new learning assessment tools, engaged applied learning techniques. However, if the University is going to become a national leader in undergraduate and graduate education, the Center needs to expand and shift its focus from 'developing faculty' to encouraging a culture of teaching and learning excellence. While innovation is occurring all over campus, there is no central place that catalogs what is going on or disseminates new ideas and effective practices. Faculty annual reports do not collect information about classroom innovation data nor are IRADS or the Registrar's office able to access any data about innovations on campus. In addition, current locations of innovation are not necessarily connected with each other. In particular, although the Faculty Development Center and Department of Information Technology cooperate and support each other's work, there is no formal or structural relationship between these two units essential to teaching innovation. Therefore, it is a critical need for a central organization to gather and disseminate information about curricular and pedagogical innovations. In addition, a formal relationship between the Center and DoIT will assure that faculty and students are central to instructional technology discussions. Both recommendations are consistent with national best practices for university Centers of Teaching. (See Appendices)

Efforts to incorporate innovative pedagogies and new technologies into the classroom have been very idiosyncratic, based on the initiative and interests of individual faculty, staff, and departments. To date, the campus does not have a shared understanding of what constitutes innovative teaching and curricula, or how to integrate these with established teaching techniques. There is also no campus-wide policy for hybrid and online courses. Nor are there campus-wide standards for innovative, active-learning, online, or hybrid formats in the campus course and program review processes. There is also no agreed upon sense of how we value or evaluate teaching across the campus. Thus we have no common agreement on how to evaluate innovations within program reviews, faculty workload, or P&T. The new CTE can be a leader in developing such agreements through facilitating ongoing campus-wide discussion of evidence-based innovation, the effective integration of technology, the appropriate balance of established and new practices, and the standards for course approval, program reviews, and faculty workload reporting. The CTE can also be invaluable in providing research on teaching, learning, and assessment as well as practical training to novice and senior educators in course design, pedagogy, and assessment.

To accomplish these goals the CTE requires a more robust infrastructure with additional support staff and funding to support: 1) competitively appointed faculty fellows charged with furthering pedagogical innovation, modeling new practices and mentoring subsequent cohorts of faculty innovators; 2) campus

innovation programs (such as the Hrabowski Innovation Fund); 3) public events and speakers for scholarly talks on teaching and learning; 4) faculty learning communities and other pedagogically focused gatherings that facilitate faculty learning ever-evolving new practices from each; and 5) leadership in considerations of how to value and evaluate teaching, especially innovative teaching.

Strategic Goal 3: Optimal Full-Time Faculty-Student Ratio

In order to enhance the campus capacity to provide a state-of-the-art undergraduate and graduate education the university must achieve an **optimal full-time faculty-student ratio within each academic degree program.** As noted above, UMBC has earned a strong reputation for high quality, innovative instruction. That quality is largely dependent on the excellent and dedicated instructional faculty. In addition, national research has shown that student engagement with full-time faculty has a substantial positive impact on student retention and success, particularly in first and second year learning experiences. Therefore, in order to maintain our reputation for outstanding undergraduate education and to enhance our reputation for graduate education, the campus must give focused attention to attracting, retaining, and promoting excellent and diverse full-time faculty. At the least, growth of the full-time faculty should keep pace with the growth of student enrollments. However, the overall size of the UMBC faculty is smaller and, with few exceptions, our faculty student ratios are higher than our peer institutions. Thus the need to increase number of full-time faculty at all ranks is even greater. This goal is made more challenging by the large proportion of faculty approaching retirement in the next decade coupled with tightening budgets. Therefore, a campus-wide faculty hiring plan should be developed. The plan should strike a balance between: 1) supporting disciplinary and interdisciplinary programmatic needs and university-wide initiatives, 2) supporting existing programs and new programs; 3) strengthening both the teaching and research enterprise across faculty ranks. Additionally, to support the research mission without compromising instructional quality, a robust program of full-time visiting faculty should be developed to bring top scholars to campus on a temporary basis. Such a program could ease the impact of sabbaticals, fellowships, and other research leaves on the timely delivery of instruction, and it could encourage greater involvement of short-staffed departments in campus-wide student success, first-year, and honors initiatives. Such a program would have the added benefit of familiarizing more of our peers with the innovation and excellence at UMBC, and thereby help to enhance our reputation.

As we grow the faculty, the campus should also work to improve the position and prestige of non-tenure track, contingent faculty, and instructional graduate assistants. With regard to non-tenure track faculty, they are among our most dedicated and talented teachers at UMBC. As such they should have commensurate opportunities for reward and recognition. Thus we recommend additional opportunities for promotion of Lecturers through creation of another senior rank comparable to the rank of Professor. Such a rank should carry greater opportunities for professional development, supported by paid leaves/course releases, inclusion in campus faculty awards programs, and involvement in shared governance. In addition, the salary structure of lecturers should be re-appraised to take fuller account of rank and length of service. With regard to contingent faculty, UMBC has made progress in recognizing the contributions of contingent faculty and increasing the proportion of full-time faculty through its program of converting contingent positions to full-time positions. This program should continue and be enhanced. In particular, at the front end, there needs to be greater financial support for the recruitment and retention of excellent adjuncts, which is currently assumed entirely by departments. Development of campus-wide standards for contingent faculty salaries, benefits, evaluation and promotion is an essential component of increased support in this area. Similarly, to increase the campus reputation for graduate education, we need to

provide financial support and training for instructional graduate assistants, while, at the same time, attending to their needs for innovative instruction in their disciplines.

Finally, in order to encourage the adoption of more innovative and active learning strategies across the curriculum, campus policies need to be updated to take account of them. Our course review and approval processes are admirably grounded in shared governance. However, in addition to course meeting patterns mentioned above, the course approval and evaluation system needs to be updated to take account of the new teaching strategies, formats, and platforms. Innovative and active learning practices involve greater sustained attention from faculty and carry risks (course evaluations often initially dip when innovative teaching practices are introduced). In conversations with the Committee, faculty frequently referenced the time constraints and performance risks as barriers to the adoption of innovative techniques. Therefore, in recognition of greater faculty time and effort involved in active and innovative pedagogical approaches, campus-wide standards should be developed for reduced teaching loads and FTE expectations for faculty involved in their development and delivery. Similarly, faculty performance reviews must also take account of how changes in pedagogy influence course evaluations, perhaps with a notation within student evaluation reports.

Strategic Goal 4: Campus Culture of Assessment

In order to build a **campus culture of assessment** that enables continuous improvement in student learning outcomes while respecting academic freedom, the university needs to develop a robust internal information system that allows us to track student success throughout their career at UMBC. Assessment has become an increasingly important component of advancing excellence. Accreditation boards have focused greater attention on assessment of student learning as a component of their reviews. Well-designed, evidence-based assessment can be an invaluable tool for the campus to support continuous improvement, especially in student retention and graduation rates. UMBC has made some early strides incorporating assessments in the General Education Program. As well, the campus has engaged in grant-supported research to test the effectiveness of a variety of informal learning interventions on student success, such as the iCubed project. We have also investigated effective means to support articulation of skills with community colleges to support transfer students in STEM fields. The lessons learned from these early efforts should be disseminated across campus.

To support growth of a culture of assessment, the campus must develop an analytics initiative that substantially increases the information gathered about student success throughout their career. This should include information about classroom innovation, course formats, learning environments, etc. In addition, the end of semester course evaluation system, surveys and metrics should be developed to ascertain student perceptions of their interactions with faculty and staff; involvement in civic engagement, student organizations, and extracurricular activities; and the quality of assistantships in the case of graduate students. Results should be analyzed for different demographic groups as well as different constituencies of students such as traditional age, returning adult, part-time, transfer and online students. Such detail will enable the campus to move far beyond a one-size-fits-all approach to student support and intervention. It will enable us to test the effectiveness of the plethora of new strategies to improve student success currently circulating in the literature and to implement strategies effective for particular groups. The analytics initiative should take a broad view and survey student engagement in informal learning, student life, civic engagement, and general well-being. One such initiative is underway at the University of Kentucky, which is developing a campus app as a portal of campus connection for current students and alumni. Within

that app students can conduct all manner of business and community activities. The app also will generate friendly pop-up queries that ask fun questions about students' day/classes/stress levels. The purpose is to build a sense of community belonging and to gauge individual and community well-being. UMBC should consider adopting or developing a similar campus app. If such an app helps us establish a lifelong relationship with alums, it could substantially improve our ability to assess the long term impact of the UMBC experience.

The limited current level of faculty expertise in assessment represents a significant challenge to the development of culture of assessment. In recognition of this limitation, we have included assessment in the recommended mission of the CTE. The Center should provide training for faculty as well as logistical and staff support for carrying out assessment activities. It should also be tasked with facilitating the development of attributes/skill sets that students should have as defined by potential employers/graduate schools, and national disciplinary organizations. It can also help faculty and departments build assessment tools that help them evaluate students' progress in acquiring those skills as students progress through their academic career and inform university level program review and approval processes, such as the APR. However, while this information will be invaluable, faculty must continue to be the arbiters of instructional excellence. Thus, whatever assessment practices are adopted, they should include due respect for UMBC's strong culture of shared governance and academic freedom.

V. Summary of Stakeholder Engagement

During the summer and fall, the Sub-Committees met with a variety of campus offices charged with student recruitment and success, faculty development, and data warehousing to gather detailed information about current practices. These included Admissions, Facilities Management, the Registrar, The Faculty Development Center, and IRADS. Recognizing that our group is fundamentally dependent on internal data-capture processes, we have invited the IRADS Director and his designees to participate in our meetings on a regular basis. This has enabled us to get immediate answers about what we do know and can know, as well as to brainstorm solutions to data gaps we have identified. In addition, the Co-Chairs led breakout sessions with self-selected campus members during the University Retreat and with Department Chairs, Steering Committee members, and Senior Advisors during two retreats in the fall. In each case, the Co-Chairs were able to use the time to address big picture questions that have informed the scope and approach of the work group's activities. During the early spring semester, the Sub-Committees continued to meet with campus experts in Admissions, Facilities Management, Faculty Development, Instructional Technology and IRADS to refine information and seek advice as recommendations were drafted. At the same time, the Co-Chairs met with groups of Chairs in each of the three Colleges to review the findings and emerging themes identified in the Mid-Year Report. In February, the Co-Chairs participated in the campus-wide interactive data gallery and compiled feedback from participants. In March, the Co-Chairs met with the Steering Committee members for their feedback. The responses to the themes in the Mid-Year Report in these meetings highlighted both areas of congruence between the Committee's findings and recommendations and the central concerns of the campus community. They also helped us to identify gaps, which the final were addressed in the final stages of the Committee's work.

VI. Innovative Curriculum and Pedagogy Strategy Work Group Members

Co-chairs: Jeffrey Leips, Professor, Biological Sciences
Carole McCann, Professor and Chair, Gender and Women's Studies

Members: Bev Bickel, Clinical Associate Professor, Language, Literacy and Culture
Sherri Braxton-Lieber, Director, Instructional Technology
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Sarah Luttrell, Graduate Student, Biological Sciences
Marissa Piegols '16, Undergraduate Student, Media and Communications
Penny Rheingans, Professor, Computer Science and Electrical Engineering
Donald Snyder, Senior Lecturer, Media and Communication Studies
Simon Stacey, Director, Honors College

VII. Appendices

A. Bibliography of Committee Produced Documents:

- Centers of Teaching and Learning at Other Institutions
- Current locations of innovation at UMBC
- Faculty Learning Communities at UMBC
- Innovative Learning Spaces at Peer, Aspirational Peer, and Other Institutions
- List of Breaking Ground Faculty Development Grants
- Space Webinar November 2014, Notes
- STEM Innovations at UMBC
- Technology and Innovation Survey of Fellow "Up and Coming Universities"

B. Annotated Bibliography of External Sources

"Academic Compass: Learning Environments Survey Learning Spaces Summary Report," October 2014. Prepared the by Simon Welsh, Senior Learning Analytics Officer, Learning Technologies, Division of Student Learning, Charles Sturt University. Retrieved from:
http://www.csu.edu.au/__data/assets/pdf_file/0005/1156199/PhysicalSpacesReport.pdf
This 12 page report, illustrated with several graphs, contains a summary of key findings in relation to physical learning spaces only, including respondent profiles and academics' views on **Physical Learning Environments**. The **Executive Summary** is as follows. " 178 CSU staff completed the survey, with around 80% being in direct teaching roles. Responses were received from across the institution, but the Faculty of Arts is significantly under-represented in these findings. Physical learning and teaching spaces at CSU are generally seen as "a mixed bag", with possibly most spaces being seen as effective within that. However, rather than looking for wholesale changes and re-design of physical learning and teaching spaces across our campuses, what academic staff are generally seeking in the first instance are improvements in the very basic

aspects of these spaces: climate control, cleanliness, room flexibility and AV/IT systems that work. **Recommendation:** staff were asked to list what they saw as the best and worst spaces on the campuses where they teach. It is recommended by DFM that, for all spaces identified, a process be undertaken to formally define where each space in question is physically located along with the timetable code. For the future design of physical learning and teaching spaces, flexibility is the key. We need to provide academic staff with physical spaces that can support a variety of pedagogies – the survey suggests CSU academics want to embrace, and are already embracing, a range of pedagogies that place differing demands on what it means to provide "effective" spaces."

"Characteristics of Excellence in Higher Education Requirements of Affiliation and Standards for Accreditation" Middle States current statement of accreditation requirements in which assessment figures prominently.

"Design of the Learning Space: Learning and Design principles" by Chris Johnson and Cyprien Lomas. *EDUCAUSE Review,* vol. 40, no. 4 (July/August 2005): 16–28. *Published online on Saturday, January 1, 2005.* Retrieved from http://www.educause.edu/ero/article/design-learning-space-learning-and-design-principles This article is features a step-by-step procedure to design learning spaces for the "Net Generation" The article specifies that, ""Net Gen" students have preferred modes of interaction, communication, and socialization, and these differences are putting pressure on higher education to change. Current and new students may be less willing to spend a large part of their education in large lecture halls. Instead, they may prefer to augment, or even replace, their lectures with formal and informal small-group discussions with peers. Rather than write a term paper, some may want to create a short digital story to demonstrate mastery and competence. This new generation of digital natives will change the nature of higher education. As Marc Prensky has stated: "Our students have changed radically. Today's students are no longer the people our educational system was designed to teach."9 The planning team needs to ask: "What technology skills and preferences do students currently have?" "What skills will they have in the future?" "What skills will they need?" "How will we meet these needs?"

"Designing Learning Spaces - Student Survey." Retrieved from:
http://www.surveymonkey.com/s.asp?u=697812777315
This Online Survey of Students takes about 20 minutes to complete. "The survey is part of an effort to employ highly effective learning behaviors in the design of learning spaces for students. The survey inquires about the behaviors students favor for learning. It asks about 12 specific learning behaviors, most of which are elements in three benchmarks for effective educational practice identified by the National Survey of Student Engagement:
• active and collaborative learning
• student-faculty interaction
• enriching learning experiences.
Survey questions ask about the importance to the respondent of each of the learning behaviors, about the adequacy of campus space on your campus for accommodating each behavior that is important to the student, and the specific places where each behavior happens."

Envisioning the Future of Education [PDF Document]. Retrieved from
http://www.envisioning.io/education/
"This visualization attempts to organize a series of emerging technologies that are likely to influence education in the upcoming decades. Despite its inherently speculative nature, the driving trends behind the

technologies can already be observed, meaning it's a matter of time before these scenarios start panning out in learning environments around the world."

"Envisioning the Future of Education Technology." Founded in 2011 by Michell Zappa *Envisioning* is a radically new type of organization designed for an accelerating future. Incorporated as a foundation and fundamentally ownerless, we are big believers in decentralized, global and interoperable teams. Retrieved from:
http://www.envisioning.io/education
For the poster image go to:
http://static1.squarespace.com/static/53bbcfe8e4b0db0fef85fcc6/t/53bd8dece4b0a80116431a5d/1404931564406/envisioning_the_future_of_education.png
This is a poster image, a free visualization with emerging scenarios for the future of education. The image diagrams future types of instruction and need for corresponding types of spaces. The blurb on the poster states, "This visualization attempts to organize a series of emerging technologies that are likely to influence education in the upcoming decades. Despite its inherently speculative nature the driving trends behind technology can already be observed. Meaning, it is a matter of time before these scenarios start panning out in learning environments around the world."

"Learning Spaces" by Larry MacPhee. Educase Quarterly Vol. 32, No. 1. 2009. Now available on the web. Last revised 09.17.2013. Retrieved from: http://jan.ucc.nau.edu/lrm22/learning_spaces/
The author is Associate Director of e-Learning at Northern Arizona University. MacPhee observes that, "Learning Spaces are locations, physical or virtual, where learning happens. This report focuses on physical learning space design. How are learning spaces designed and how are they used by our instructors and students?" The report includes a comprehensive review of learning spaces on a campus. The table of contents includes approximately 50 links that discuss a range of formal spaces, informal spaces.

Learning Spaces Collaboratory (2013). *The LSC Guide: Planning for Assessing 21st Century Spaces for 21st Century Learners.* Retrieved from http://www.pkallsc.org/basic-page/lsc-guide-planning-assessing-21st-century-spaces-21st-century-learners
"This is a guide for planning for assessing spaces for learning, developed under the auspices of the Learning Spaces Collaboratory with support from the National Science Foundation (NSF). It is designed to spark broader and more informed dialogue—on individual campuses and within national communities of stakeholders—about the relationship between the quality of learning and the quality of spaces for learning in the undergraduate setting. It is designed to encourage deeper attention to questions planners should ask in developing new and reshaped spaces that better inform the process
of assessing how such spaces impact learning."

Learning Spaces Toolkit: A Resource for Designing and Sustaining Technology Rich Informal Learning Spaces. http://learningspacetoolkit.org
"Planning learning spaces becomes more complex every day. Whereas once this process amounted to providing mainly places for quiet, individual concentration, today it means creating more places that accommodate a wide range of activities, technologies, and participants – both in-person and connected virtually. In these spaces, people need to be able to create, retrieve, combine, display, share and information, then do it all over again, all in a space that they can easily reconfigure and is well supported by staff that meet and anticipate their needs.
North Carolina State University (NCSU) Libraries and its Distance Education and Learning Technology Applications (DELTA) are partnering with strategic consultants bright spot strategy and AECOM to design,

share, and promote an updated model for institutions to plan and support technology-rich informal learning spaces. This Learning Space Toolkit includes a roadmap to guide the process along with tools and techniques for assessing needs, understanding technology, describing spaces, planning and delivering support services, and assembling space, technology, and services to meet needs, even as they change.
The Toolkit is freely available as a resource on the web and is developed using a collaborative process that shares thinking early and often from the broader community. The resources developed support the full lifecycle of a project, from defining the goals and needs early on to constructing the space to supporting and assessing it. By using the Toolkit, institutions will be better equipped to orchestrate the planning process so that learners are better supported and space, technology, and services are effective."

"Rethinking the Classroom: Spaces Designed for Active and Engaged Learning and Teaching." Solution Essay 2008. The article has no attributed author but is published by the *Herman Miller Company*, a global concern, headquartered in Zeeland, Michigan, specializing in the design and furniture for a variety of work spaces including universities. Retrieved from:
http://www.hermanmiller.com/research/solution-essays/rethinking-the-classroom.html
The article claims that, "Educators, researchers, and students are discovering the benefits and advantages of cooperative, active, and engaged learning. Classroom spaces that support such a shift in teaching and learning have lagged behind. A significant opportunity exists for maximizing learning opportunities and creating meaningful experiences by rethinking the classroom experience." Though the article is brief there are several links to "case-studies," "research summaries" and "solution essays" that introduce a broad range of design innovations for learning spaces.

"The NMC Horizon Report > 2015 Higher Education Edition" This is a collaborative effort between the NMC and the EDUCAUSE Learning Initiative (ELI). This 12th edition describes annual findings from the NMC Horizon Project, an ongoing research project designed to identify and describe emerging technologies likely to have an impact on learning, teaching, and creative inquiry in education. Six key trends, six significant challenges, and six important developments in educational technology are identified across three adoption horizons over the next one to five years, giving campus leaders and practitioners a valuable guide for strategic technology planning. The report aims to provide these leaders with more in-depth insight into how the trends and challenges are accelerating and impeding the adoption of educational technology, along with their implications for policy, leadership and practice. View the work that produced the report at www.horizon.wiki.nmc.org.