

# PRESIDENT'S REPORT TO THE BOARD

May 2012





J.K. Rowling faced 12 rejection letters before the wizardry of Harry Potter made it to the light of day. Michael Jordan missed 9,000 shots in his basketball career, nearly 30 of which would have won the game. Abraham Lincoln lost at least six elections before becoming our country's president. The common denominator? These world-changers took risks, despite reoccurring disappointment.

I believe that to truly innovate, you must challenge yourself, break out of your comfort zone, and maybe even suffer a few setbacks along the way. To support this journey, our College began awarding Innovation Fund grants one year ago. In the year since, our faculty and staff have embraced innovation and continue to push boundaries.

I know you have heard all about our new developmental math initiative, and how we already are seeking significant achievements in that area. But, math is only one department piloting new ways to reach our students.

The English discipline is in the midst of a yearlong accelerated college English pilot, launched this past semester. English faculty members from across the College are designing collegewide curricula for 14 designated freshman English sections. In this course redesign, students who test just below college level in English and who test college ready in reading can prepare a writing sample to qualify for one of these redesigned sections, which will include both developmental and college-level students. All of the students will receive weekly direct, in-class tutoring support. The goal of the course redesign is to accelerate the progress of developmental students through the English composition sequence, increasing their retention, success, and completion.

But our redesign of courses extends much further. Our biology departments on all three campuses have formed a task force to ensure that our course content and pedagogy are up to the moment and align with the recommendations of the National Academies of Science and the National Science Foundation. In today's world, biology has become highly interdisciplinary, encompassing mathematics, physics, chemistry, and engineering. As such, our faculty are looking at how we can best prepare students for the emerging life sciences industry.

These are but two examples where our faculty and staff are taking the lead to create innovative and national models of academic excellence. For this month's report, I asked campuses to reflect on some of their successes, and challenges, in their effort to be innovative, as well as what ideas we can expect to see down the road.

### Board Discussion Questions:

1. In what new ways would you like to see our College embrace innovation?
2. What are some of the ways that you, personally, have refused to let a setback halt your efforts to change course and innovate?

## Innovative Curriculum

- Chemistry faculty used a Lumina Grant to redesign the introductory chemistry classrooms to enable teaching with the Student-Centered Active Learning Environment with Upside-down Pedagogies (SCALE-UP) approach. This innovative initiative emphasizes highly interactive, collaborative, guided-inquiry instruction. The departments throughout the College plan to expand this approach to organic chemistry courses.
- This past fall, the College implemented the Montgomery College Accelerated Program (MCAP) in Business, and the students have performed very well in their first semester. They appreciate the cohort model and the opportunity to work continuously with the same group of students. Professor Jackie Middleton, chair of the Germantown Business Department and the instructor of the cornerstone Introduction to Business course, said the following: “I have heard students say that the MCAP program is changing their lives.”
- Workforce Development & Continuing Education (WD&CE) is developing online courses to reach seniors who, due to physical or time restraints, cannot otherwise take Lifelong Learning Institute courses. WD&CE is exploring a session for prospective students on “How to Take an Online Class” to allay possible fears of those unfamiliar with the process.
- WD&CE developed a content-embedded course at a high reading and writing level to meet an additional need for pre-academic ESL students. WD&CE now offers a course titled Reading and Writing 4 for Health Care, as well as the regular Reading and Writing 4 course and English for Health Care, which is a more general course.

## Innovative Support

- The Calculus Project provides supplemental instruction for students taking Precalculus (MA 180) and Calculus (MA 181). Students in these classes attend instructional sessions outside their regular classroom time to do problem-solving activities and to get additional assistance on class work or homework problems. Students taught the sessions in the fall, and professors teach the spring sessions. Beatrice Lauman, supervisor of the Math, Accounting, Physics, and Engineering Learning Center used foundation funds to pilot this early intervention project, designed to provide preemptive support.
- The College’s biology departments developed new undergraduate research experiences with College faculty, for which students can earn course credit for the work. In years past, such experiences were only available through collaborations with faculty at four-year universities.
- Faculty in the Department of Health Enhancement, Exercise Science, and Physical Education received a grant from the Holy Cross Hospital Fund of the Montgomery College Foundation to increase awareness and knowledge about careers in aging studies,



which is a field of growing importance. This Careers in Gerontology and Geriatrics project will recruit students from across all three campuses to create a public service announcement campaign with student actors.

- Dr. Kris Lui used an Innovation Fund grant to convert an entire section of physics to the studio format, allowing students to work together in groups of three to take data, analyze results, and build physical laws and intuition. She measured gains in conceptual understanding using a standardized exam developed by the global physics education research community. Dr. Lui reports: “Not only are students able to solve similar types of problems as were tested before the studio format was implemented, their conceptual understanding has increased. Further, students express a great enjoyment about coming to class, and often are surprised how quickly the time passes...” Dr. Lui notes that the students in this trial seem to have retained material.
- On the Germantown Campus, linking a study skills class with a biology class is having a measurable impact on students’ success. This pairing resulted from a partnership between a faculty member and a counselor. The College is experimenting with other counseling interventions, such as Early Alert, in an effort to catch students before an academic slip descends into an academic slide.
- New facilities and renovated spaces have sparked creative ideas for the use of space. For instance, veterans now have a place to gather on our Germantown and Takoma Park/Silver Spring campuses. In Germantown, art students transformed an old darkroom into a place for independent projects. Also, when the new child care center opens, students will inherit much-needed space to gather, and art will gain a naturally lit studio space. The Takoma Park/Silver Spring Campus is trying to repurpose vacated space to increase the biology labs offered each semester.
- Faculty collegewide are experimenting with shared space. For instance, English classes that need access to computers some of the time alternate between shared traditional and computer classrooms. A computer classroom is shared creatively and collaboratively by the staff in the library and writing center, as well as faculty and students in select academic courses.

## Innovative Collaboration and Partnerships

- Dr. Christina Devlin used an Innovation Fund grant to expand the mission of Writing in the Disciplines to include reading, studying, and thinking skills to support student retention. The program created participant-driven faculty study groups, often called “teaching circles” comprised of seven participants representing each campus and several disciplines. As the program develops, participants in the first teaching circle will lead circles of their own centered around other methods to infuse writing, reading, and critical thinking into courses. All participants have changed some aspect of a course to develop student understanding of reading and study skills, and they rewrote assignments and redesigned classroom activities to facilitate active learning.



- The Rockville Department of Music, the College's Arts Institute, and Workforce Development & Continuing Education developed an innovative partnership with Montgomery County Public Schools (MCPS) to provide credit-bearing performance opportunities for MCPS music faculty to participate in Montgomery College ensembles.
- Workforce Development & Continuing Education partnered with a local biotechnology company to create a clinical trial project management course, an adaptation of standard project management to meet the needs of the biotech industry. A similar partnership with a number of public and private organizations resulted in the Chief Science Officer course.

## Innovative Technology

- The health sciences (HS) programs use technology in new and innovative ways to improve learning. Originally piloted by the nursing program through a grant, iPads are now used by three additional clinical HS programs: diagnostic medical sonography, surgical technology, and radiologic technology. They use the iPads to access the online textbook resource material, download the ebook versions of textbooks, and operate a program that allows faculty to create concept maps and e-mail them to the students.
- Another innovative use of technology in health sciences is the use of simulation patients to provide all 380 nursing students with the opportunity to practice responding to critical health situations without risking real patient safety. The simulations are videotaped so that students and faculty can review student responses. All clinical nursing courses incorporate simulations, and more faculty are incorporating them into didactic class work.
- The College uses Elluminate to support synchronous online instruction for our students.
- Our campuses provide students with access to a virtual computer lab to ensure that students have access to required software.
- Last fall, two Germantown and two Rockville sections of statistics participated in a study to compare student learning in a traditional format with student learning in a blended course that combined interactive online instruction with weekly face-to-face class meetings.
- Mathematics Professor Bill Witte provides videos for his developmental math course on YouTube, with closed captioning. Students enrolled in the course receive their instruction by watching videos, accessing PowerPoint presentations, or by reading the electronic textbook. Students will be given the option of up to 15 alternative presentations of material that they are mastering.
- Workforce Development & Continuing Education is piloting a workplace preparation software package that provides self-paced instruction on workplace skill basics as a supplemental resource for contextualized ESL courses.



- The College is decreasing costs, boosting functionality, and improving efficiency by moving away from standalone physical servers to virtualized servers at the edge of the network. The bonus of virtualization is added capacity, which helps lower the cost of hardware. One example is Cashiering PC for credit card processing. The actual desktop image is located in the virtual cluster, while the operations team accesses it through a low-cost thin client.
- The College is developing and delivering courses in the mobile web applications field, including the development of an online version—a web applications course delivered as a web application.

## Student Stories

- Student Danielle Kurtz is part of a pilot led by five science, engineering, and mathematics faculty members, who are using café-style classrooms to more actively engage students in those disciplines. She writes:

*“New ideas can teach students new ways to learn, and help motivate us to become more involved. This is really important because many students find that they have trouble learning in a traditional classroom setting. The café-style classroom causes both teachers and students to open up... It creates a more relaxed environment than a traditional classroom, where students can become more comfortable and familiar with each other as well as with their professor. Group work has become more efficient (and fun!), and I've noticed that more people participate in discussions and ask relevant (and not simply clarification) questions than in my other classes. I think that because the set-up is so different from what students are used to, they enter the class with a different mindset... and approach the lesson in a more open-minded manner.”*

- This semester, a returning student, who already had a master’s degree, is taking Dr. Lui’s new pilot studio physics course to satisfy graduate school requirements. She admits that physics is hard, but she continuously expresses how much she enjoys the class and working with other students. She feels as though she is learning much more than in a traditional class.

