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## *Outcome: 315 Doctorates!*

*The College of Wooster is my original best-kept secret in higher education; for thirty years I've been telling clients that. As I have gotten to know what it accomplishes, I can testify that there is no better college in the country. Its record is unmatched in turning out scientists, scholars, and other kinds of achievers and contributors to society by multiplying the talents of B and C as well as A students (Pope 305).*

Where is the evidence for such an extraordinary and unambiguous assertion? It is in each and every student and alumnus/a of the College. It is the personal transformative experience that occurs while each is a student at The College of Wooster and how each uses that experience to transform society as alumni who become "scientists, scholars, and other kinds of achievers and contributors to society."

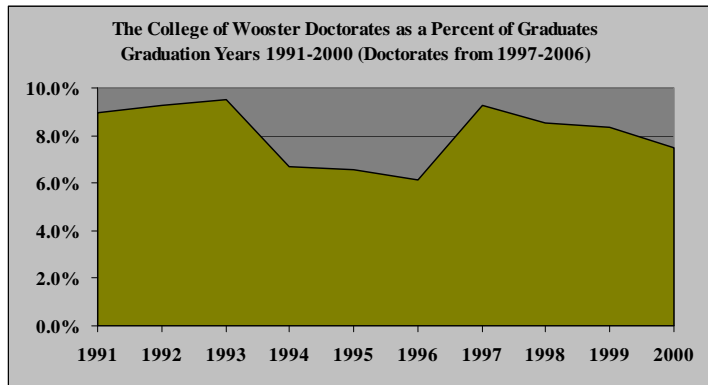
One alumni measure of accomplishment is the recently released data collected by the National Science Foundation, National Institutes of Health, U.S. Department of Education, U.S. Department of Agriculture, National Endowment for the Humanities, and the National Aeronautics and Space Administration. In their Survey of Earned Doctorates (SED), an annual census of new doctorates from U.S. universities, The College of Wooster is the baccalaureate-origin institution for 315 recipients of doctorates from 1997-2006. These alumni represent more than 8 percent of Wooster's graduates during the decade of the 1990s (see Figure 1, page 2). The College ranked 31 out of 440 baccalaureate colleges as the baccalaureate-origin institution for the number of earned doctorates, and 346 out of all colleges and universities.

In 2006 alone, Wooster was the baccalaureate-origin college for 28 doctorates, half of whom earned their degrees in the physical and life sciences, and the other half in the social sciences, humanities, and education. The majority of Wooster's 2006 doctorates were female (57%) (See Figure 2, page 2).

*Continued on page 2*

The College of Wooster's Doctorates - continued from page 1

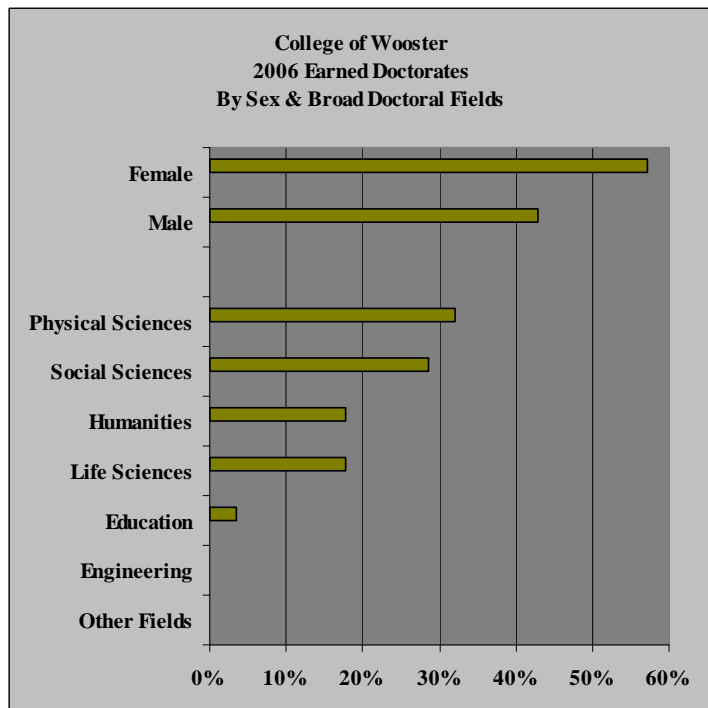
Figure 1



Note: The percent is calculated as (the number of doctorates in a single year) / (the three-year average number of graduates 5, 6, and 7 years prior to the year the doctorate was earned). For example, the number of doctorates in 2000 divided by the average number of graduates from 1993, 1994, and 1995 and converted to a percentage.

Source: NSF, NIH, USDE, USDA, NEH, and NASA, *Survey of Earned Doctorates*, 2008 and The College of Wooster.

Figure 2



Source: NSF, NIH, USDE, USDA, NEH, and NASA, *Survey of Earned Doctorates*, 2008.

The ten baccalaureate colleges with similar numbers of earned doctorates (from 290 to 340) as The College of Wooster over the 10-year period are:

Table 1

College	Number of Earned Doctorates, 1997-2006
Gustavus Adolphus College, MN	297
Spelman College, GA	300
Colorado College, CO	303
<b>The College of Wooster, OH</b>	<b>315</b>
Occidental College, CA	320
College of the Holy Cross, MA	320
Bates College, ME	322
Bowdoin College, ME	335
Harvey Mudd College, CA	337
Franklin and Marshall College, PA	339

Source: NSF, NIH, USDE, USDA, NEH, and NASA, *Survey of Earned Doctorates*, 2008.

Reference

Pope, Loren. *Colleges That Change Lives*. New York: Penguin, 2006.

## Faculty Highlights

This issue of *Assessment Matters* features a variety of assessment-related work by faculty members in the social sciences, humanities, and natural and life sciences. Amyaz Moledina, Assistant Professor in Economics and Business, has revised the curriculum of the Social Entrepreneurship Program and assessed its learning goals. As a result of a comprehensive course-embedded assessment, Brian Cope, Assistant Professor of Spanish, revamped his First Year Seminar course. Simon Gray is co-directing a project to develop a grant proposal that would assess senior capstone research experiences across four colleges as part of a Teagle Foundation planning grant. Jon Breitenbucher and Simon Gray have formed a Learning Community to assess the use of the Symposium in the classroom as part of an Innovation Grant from the Ohio Learning Network. A summary of second-year findings is provided from the Five Colleges of Ohio project to

assess creative and critical thinking, which is directed by Nancy Grace.

### Amyaz Moledina: Social Entrepreneurship Program



Begun in 2005 with a grant from the Burton D. Morgan Foundation, The College of Wooster's Program in Social

Entrepreneurship (SE) seeks to help non-profit organizations in the local community develop profitable ventures in support of their social missions. Each spring, students may obtain internship credit while facilitating the development of marketing or business plans for these ventures and requesting funding from the College's Center for Entrepreneurship venture capital fund. As of spring 2008, the SE Program is administered out of the Center for Creativity and Innovation at The College of Wooster. At the same time, Amyaz Moledina, Assistant Professor of Economics, began directing the program.

This past spring, five nonprofit organizations (Nuhop Center, Write Downtown, Viola Startzman Free Clinic, The Wilderness Center, and Youth for Christ), 17 students from 11 departments, and two faculty advisors participated, as well as three new faculty/staff members who took part in the inaugural SE Faculty/Staff Training Program (SETAP).



Participants in the Spring 2008 Social Entrepreneurship Program

In the program's annual report, Dr. Moledina provided a systematic assessment and program evaluation. This issue of *Assessment Matters* will focus on assessment of the Social Entrepreneurship Program's two major goals:

1. to expose students, faculty, and nonprofits to social entrepreneurship and entrepreneurial thinking, and
2. to expose students and faculty to business plan essentials.

In response to the previous year's assessment, the curriculum had been revised to emphasize business plan basics and to integrate the seminar and the internship around sections of the business plan. In a survey on their experiences, faculty trainees and students agreed, on average, that they have the skills and experience to write a business or marketing plan and to engage in entrepreneurship as a direct result of the program. Additionally, business plan fundamentals was the highest rated of nine teaching topics in preparing them for their work with the organizations and in introducing social entrepreneurship. They also completed a pre- and post-test of program content (see Table 2).

Table 2

The College of Wooster Social Entrepreneurship Program Pre- and Post-Test Results, <i>Spring 2008</i>			
	Students	Faculty	Total
n =	17	3	20
<b>Pre-Test</b>			
Average Score	51.9%	57.4%	52.8%
Standard Deviation	4.7	0.8	4.3
<b>Post-Test</b>			
Average Score	63.6%	71.3%	64.7%
Standard Deviation	1.3	1.0	1.4
<b>Average Change</b>			
Total	11.7%	13.9%	11.9%
Pre-scores < 50% (n=8)	17.4%		
Pre-scores > 60% (n=5)	0.6%		

Source: Pre- and post-tests, Social Entrepreneurship Program, 2008. Data computed by Amyaz Moledina and Theresa Ford.

The pre- and post-test results show a statistically significant increase in understanding business plan essentials by all participants.

Students who had the least knowledge of business plan essentials before the program began (pre-test scores of less than 50%), had the most learning gains, as evidenced by the post-test, with average post-test score gains of 17 percentage points (see Table 2). Students who had scored highest on the pre-test had minimal change in scores on average from the pre- to post-tests, with an average gain of less than one percentage point. This accounts for the tightening in the standard deviation for the students' test scores from 4.7 on the pre-test to 1.3 on the post-test.

Although there were statistically significant learning gains, Dr. Moledina considered the final average score of 65% lower than he wished, and attributed it to the complexity of the questions on the pre- and post-tests. As a result, he is considering strategies to improve retention of the seminar's content as well as to redesign the pre- and post-test.

### Brian Cope: First Year Seminar



Brian Cope

Required of all first-year students, the First Year Seminar in Critical Inquiry (FYS) focuses on the processes of critical inquiry in a writing-intensive, small seminar. Each seminar invites students to engage in a set of issues, questions, or ideas that can be illuminated by the disciplinary and interdisciplinary perspectives

of the liberal arts. Students are expected to develop the abilities, especially the writing skills that are essential to critical thinking. These abilities include interpreting complex texts, constructing an argument, supporting the argument with evidence, and defending the argument orally. Critical thinking also requires the ability to appreciate and critique multiple perspectives, including one's own. Seminars are designed to enhance the intellectual skills essential for liberal learning and for

successful participation in the College's academic program.

*Election 2008: Understanding the Major Issues* is the title of Brian J. Cope's FYS course for Fall 2008. Dr. Cope, Assistant Professor of Spanish, revised several aspects of his FYS course after a comprehensive assessment of his FYS course from the previous fall. Major modifications included restructuring the course, especially the second half of it; revising assignments; and giving students more agency. For example, upon receiving the first graded assignment, each student visits with Dr. Cope individually and establishes his or her personal learning goals for the course.

During his first year of teaching FYS, the Spanish Department underwent a 10-year curricular review. That review along with the Spanish Department's assessment of student learning influenced the way in which he reflected upon the courses he was teaching. He also began to read more about first-year students and their innate ability to argue.<sup>1</sup> This appealed to him because he was searching for a way to have students feel that they were on equal ground in his FYS course. His motivation for teaching FYS a second year in a row was his desire to cast a wider net and to enhance learning for all his FYS students. Not only was the course restructured with this in mind, but the topic was chosen for this reason as well.

The Fall 2008 FYS course has become a blend of writing assignments and oral presentations that all require critical thinking. After the initial writing assignment, students will have three additional short writing assignments through the end of October, and reading assignments until Election Day. As of Election Day, the reading will be channeled into a research project. The course focus will shift to the major research paper, a presentation, editing assignments, and an annotated bibliography. The final two weeks of the course will focus on debates – asking students to defend

<sup>1</sup> For example, see Graff, Gerald. "Our Undemocratic Curriculum." Profession. New York: Modern Language Association, 2007.

both sides of an issue, and assigning one side to debate orally.

Dr. Cope has developed three rubrics to assess his students' work in FYS: 1.) writing, 2.) oral presentation, and 3.) debate. The rubrics are given to his students so that they have a sense of how to prepare their assignments, papers, and presentations. He will continue to assess this fall's FYS in terms of student learning goals as well as the broader goals he has established for the course.

### Simon Gray: Capstone Project



Simon Gray

Simon Gray, Associate Professor of Computer Science of The College of Wooster, and Timothy Schermer, Director of Institutional Research at Augustana College, are co-directing a Teagle Foundation multi-institutional planning grant to design a research proposal to study the impact of senior capstone research experiences. Wooster has partnered with Allegheny, Augustana, and

Washington Colleges.

Faculty, staff, and administrators from the four institutions convened for a three-day workshop in June 2008 to discuss their respective senior capstone's characteristics, resources, and components, to identify research goals, and to focus research questions. David Lopatto, Professor of Psychology at Grinnell College, and Charles Blaich, Director of Inquiries of the Wabash National Study of Liberal Arts Education at Wabash College, joined the group as consultants to the project.

The interrelationship of two key insights that emerged from group discussions influenced the direction of the proposal. The first insight was that each institution regarded its capstone as a transformative experience whose full impact will not be realized until years after graduation. The second insight was that the four institutions provide different models for a capstone course. Additionally, there were a host of experiential aspects of the capstones that were important to explore

as key components of the learning for both students and faculty.

These insights suggested an approach that explored how the different constructions of a single concept can all lead to rich learning experiences for both students and faculty. The group was helped enormously by previous studies done by the project's two consultants. David Lopatto's work on undergraduate research (UR) has shown that students participating in UR opportunities develop highly valued skills and experience a changed sense of self and place within their disciplinary community. Charlie Blaich's description of the early data from the Wabash Study provides evidence that there are greater learning differences within institutions than between institutions.

The research questions thus became how could we learn what works best in the capstones, within the colleges and across them, and how could this knowledge be used to improve them and to create models of best practice that others might adapt or adopt at a time when undergraduate research has become the most dynamic pedagogy in US higher education. The study methodology moved toward a "thicker" and more holistic case-study approach that looked at opportunity costs, infrastructure, process, and learning outcomes.

In August and September, faculty and staff at the four campuses will be reviewing and providing feedback on a draft of the proposal. A final draft will be submitted to the Teagle Foundation in October for funding consideration.

### Jon Breitenbucher & Simon Gray: Innovation Grant



Jon Breitenbucher

The College of Wooster has a newly formed Learning Community (LC), "Assessing the Effective Use of Technology in a Liberal Arts Curriculum," funded by the Ohio Learning Network. The goal of Wooster's LC is to develop a deeper understanding of the issues that inform the use of technology in

teaching and learning. The focus of Wooster's LC will be on the use of a Sympodium in John Lindner's astronomy courses and Michelle Solensky's introductory biology courses.

LC membership includes a diverse group of faculty and staff from the Biology, Physics, and Mathematics and Computer Science Departments, and Information Technology, Instructional Technology, the Libraries, the Writing Center, and Educational Assessment, as well as members from the Five Colleges of Ohio. President Cornwell joined the LC at its first meeting in September 2008 to share some of his thoughts on the role of technology in higher education.

The three broad goals of the Learning Community are to:

1. enhance student learning,
2. understand the impact of the Sympodium on the instructor, and
3. identify the Information and Instructional Technology support needs.

A number of project-related events will be scheduled throughout the year, including two workshops, one of which will be sponsored by the Five Colleges of Ohio. Contact Jon Breitenbucher, Principal Investigator of the project, or Simon Gray, project Convener, for further information.

### Nancy Grace: Five Colleges of Ohio Project



In the annual report to the Teagle Foundation, Nancy Grace, Professor of English at The College of Wooster, and Sarah Murnen, Professor of Psychology at Kenyon College, summarized the second-year findings of the Five Colleges of Ohio project to assess creative and critical thinking. Responses to student

responses on their perceptions of creativity and critical thinking were compared across the four colleges of Denison University, Kenyon College, Ohio Wesleyan University and The College of Wooster.

Differences in responses reflect some of the distinctive characteristics of the institutions such as the emphasis on senior Independent Study at Wooster and the opportunities for special interest housing at Ohio Wesleyan University, which are perceived to facilitate critical and creative thinking by faculty and students. Other differences between Wooster seniors and seniors at the three other colleges related to their ratings of characteristics contributing to a creative environment on campus. Wooster students were more likely to report freedom and assignments that encourage independent problem solving and risk taking, and less likely to report conflict in contributing to a creative environment.

Selected key findings noted in the second annual report include:

- It is possible to construct a valid generic critical and creative thinking rubric that can be used reliably to measure change in critical and creative thinking skills in both longitudinal and cross-sectional testing across the curriculum.
- The event perceived by both first-year students and seniors to involve the most critical thinking was "writing papers for classes." The event that was perceived to involve the most creative thinking was "engaging in a hobby."
- Faculty most often consider their own research to be the site of their most creative experiences.
- In the student responses to open-ended questions it was found that classes are highly associated with critical thinking while creative thinking was seen in a variety of activities, but not especially in class.
- Student issues were frequently noted by students and faculty as barriers to critical thinking, while pedagogy was frequently noted by students as an impediment to creative thinking.
- Diversity is believed to facilitate both critical and creative thinking.

The project is in its final year of a three-year grant. You can read more about the project at the following website: <http://www.wooster.edu/teagle>.

## Assessment Briefs

### AAC&U's VALUE Project

Building on the AAC&U's LEAP initiative, a program that identified essential learning outcomes for all students, the VALUE (Valid Assessment of Learning in Undergraduate Education) Project will assess student achievement of these outcomes. Metarubrics will be developed to assess the following learning outcomes:

1. Inquiry and analysis
2. Critical thinking
3. Creative thinking
4. Written communication
5. Oral communication
6. Quantitative literacy
7. Information literacy
8. Teamwork
9. Problem solving
10. Civic knowledge and engagement—local and global
11. Intercultural knowledge and competence
12. Ethical reasoning and action
13. Foundations and skills for lifelong learning
14. Integrative learning

The metarubrics will be piloted and validated by a dozen leadership campuses, which were selected in recognition of their work on e-portfolios and assessment, and partner colleges and universities. Achievement of specific outcomes will be assessed on student work from e-portfolios at the leadership campuses, which will provide feedback on the use of the rubrics. Partner campuses will participate in rubric development, application, and revision. Teams of faculty and assessment professionals will design and develop a series of rubrics, each focusing on one of the essential outcomes.

The College of Wooster will be contributing to rubric development of the creative thinking outcome, as well as applying the rubric for foundations and skills for lifelong learning to students' work.

### CHEA 2009 Award

Applications are currently available for the CHEA (Council for Higher Education Accreditation) 2009 Award for Institutional Progress in Student Learning Outcomes. The award recognizes outstanding institutional progress in developing and applying evidence of student learning outcomes as part of the ongoing evaluation and improvement of college programs of study. Up to four awards will be made. Applications are judged on the following four criteria:

- Articulating and providing evidence of outcomes
- Providing evidence of success with regard to outcomes
- Informing the public about outcomes
- Using outcomes for institutional improvement

The Award Committee also looks for evidence of outcomes embedded in an institutional culture, good use of current technology in the methods and tools to track outcomes, extensive use of faculty and strong faculty support, institutional leadership that is dedicated to the importance of outcomes, and approaches to outcomes that can be replicated at other institutions. Applications are due by October 30, 2008. For more information and an application link to: <http://www.chea.org/award/index.asp> .

### Mindset List for the Class of 2012!

Beloit College in Wisconsin has released the eleventh annual Mindset List for the Class of 2012. The 60 items capture the cultural touchstones that have shaped the lives of today's first-year students, most of them born in 1990. The list is the creation of Keefer Professor of Humanities Tom McBride and Public Affairs Director Ron Nief at Beloit. For the Class of 2012, Clarence Thomas has always sat on the Supreme Court, Lenin's name has never been on a major city in Russia, and caller ID has always been available. The link to the list is: <http://www.beloit.edu/mindset/2012.php> .

## Assessment Committee

The Assessment Committee is chaired by Anne Gates, Assistant Dean of Students and Director of International Student Affairs. The Committee will meet during Fall semester on the following Mondays at 3:30 p.m. in the Vice President for Business and Finance Conference Room in Galpin: August 25; September 8, 22, and 29; October 20 and 27; and November 10 and 24. Meeting minutes and reports are posted on the assessment website: [www.wooster.edu/assessment](http://www.wooster.edu/assessment).

### New Committee Members



Laura Hazlett '11

Committee members welcome Laura Hazlett, who will be one of two student members on the Committee this year. Ms. Hazlett is a sophomore from Pittsburgh, PA, who is considering a major in Art History.



Pamela Pierce, Mathematics

The Committee also welcomes Pamela Pierce, Professor of Mathematical Sciences, who had served on the Committee several years ago, and new *ex officio* member, Ellen Falduto, Associate Vice President for Research,

Assessment, and Planning (*not pictured*).

### Committee Plans – Fall 2008

The Assessment Committee is working on finalizing a plan to restructure the committee as a faculty-appointed committee by the Committee on Committees. The Committee has also been charged with providing feedback to offices and departments outside of academic departments and programs on any aspect of assessment plans related to student learning goals. The Committee has met with President Cornwell to discuss plans to begin an assessment of Independent Study with the first step being to create an inventory of all related assessment efforts on campus.

## Assessment Calendar

### Meetings, Events, & Deadlines

<b>Aug 25</b>	College of Wooster Assessment Committee
<b>Sep 8, 22 &amp; 29</b>	Meetings – Fall 2008 semester
<b>Oct 20 &amp; 27</b>	3:30 – 4:30
<b>Nov 10 &amp; 24</b>	VPBF Conference Room, Galpin
<b>Sep-Oct</b>	College of Wooster's participation in AAC&U VALUE Project

### Department and Program Assessment

<b>Sep 10</b>	New Chairs & Chairs of New Programs Assessment Luncheon
<b>Oct 6</b>	College of Wooster Annual Assessment Reports due
<b>Oct 23</b>	Chairs Annual Meeting on Assessment

### Conferences

<b>Sep 19</b>	The College of Wooster Learning Community Ohio Learning Network Workshop Kent State University, Kent, OH
<b>Oct 22-24</b>	NCA Higher Learning Commission Making a Difference in Student Learning: Assessment as a Core Strategy Lisle, IL
<b>Oct 26-28</b>	The 2008 Assessment Institute Indianapolis, IN

Assessment Committee Members, Fall 2008  
Anne Gates, Chair, Assistant Dean of Students,  
Director of International Student Affairs

Iain Crawford, VPAA	Ellen Falduto, AVPRAP
Theresa Ford, Assessment	Laura Hazlett, '11
Elys Kettling Law, Library	Richard Lehtinen, Biology
William Macauley, English	Katharine McCarthy, '09
John Neuhoff, Psychology	Pamela Pierce, Mathematics

*Assessment Matters* is written by Theresa Ford, who encourages you to provide feedback on the newsletter, to share your ideas for the newsletter, and to submit materials to include in the newsletter.