The QR program at Wellesley

In each issue of the NNNNews, we plan to highlight a QL program or center through an interview with the director. Our first interview is with Corri Taylor at Wellesley College, Wellesley Massachusetts.

Short description of Wellesley's QR Program

Wellesley College established its Quantitative Reasoning Program to ensure that students would be equipped with the quantitative skills needed to explore any academic major, to pursue any career, and to address the wide array of quantitative problems that arise in everyday life. The College's QR requirement has two components: the "basic skills" component and the "overlay" component. The basic skills component is satisfied either by passing the QR Assessment given during orientation or by passing the QR basic skills course. In the basic skills course, students are exposed to familiar content areas (including numeracy, algebra, linear and exponential modeling, graph theory, geometry, basic probability and statistics, and formal logic) but the skills are learned as students work in a variety of authentic contexts, such as medical decision-making and personal finance. Students must satisfy the QR basic skills requirement before they may enroll in quantitative courses, including most science and economics courses. The overlay component is satisfied by passing a QR overlay course – a course that emphasizes statistical analysis and interpretation of data in a specific discipline. Currently, the College offers QR overlay courses in economics, political science, sociology, education, psychology, astronomy, biology, chemistry, geology, mathematics, physics, philosophy, and computer science.

Q&A

How long has the program at Wellesley been running and what were the original reasons for its creation?

Wellesley's formal Quantitative Reasoning Program has been in place since 1997, the first year that Wellesley's entering students were required to complete the two-part quantitative reasoning requirement for graduation. Faculty interest in developing a QR program has a much longer history however, beginning with development of courses that specifically addressed quantitative literacy back in the 1980s. In 1991, faculty from across the disciplines began assessing the quantitative skills of incoming students, reviewed the QR content of the College's course offerings, and found numerous opportunities to enhance students' quantitative reasoning skills. In response to these opportunities for improvement, the College created its quantitative reasoning requirement and established the Quantitative Reasoning Program to support that requirement.

What is the primary function of program for your institution, and how closely do you feel its current function matches the original reasons for establishing it?

Two full-time QR faculty members now administer the QR Assessment, teach the QR basic skills course, and teach some of the QR overlay courses (ones in their areas of

expertise). They also coordinate with other faculty to ensure the continued quality of existing QR overlay courses and help faculty in the development of new QR overlay courses and/or components of quantitative courses. QR faculty members also run special QR-related workshops and seminars for faculty and students. The QR Program succeeds in supporting the QR requirements and in supporting wider efforts to improve numeracy at the College.

How long did it take for the center/program to become an established part of the structure of Wellesley?

As mentioned earlier, efforts leading to the establishment of the QR Program took over a decade of work by faculty from across the disciplines. The program was established in 1997 and a QR steering committee and two visiting instructors lead the efforts. In the spring of 2001, the College created the QR Director position, raising the QR Program's stature to a level on par with that of the Writing Program.

What steps did you take to make that happen?

The QR steering committee appealed to the Dean's Office to devote the needed human and financial resources to ensure the stability of the QR Program. By 2001, the beneficial effects of the program were well-documented and the deans agreed to the steering committee's request. Since then the QR Program was designated as one of the priorities of the College's comprehensive campaign. The College requested $3 million to support the QR Program into perpetuity; over $3.2 million were given by alumnae enthusiastic about the mission of the QR Program. Materials created by Lynn Steen and other QL leaders (such as Mathematics and Democracy: The Case for Quantitative Literacy) were used to help convey to potential donors the importance of quantitative literacy for colleges today.

What's the best way for faculty to interact with the center/program?

The QR faculty members reach out to faculty to help develop new courses and modules that enhance students' quantitative skills and faculty come to the QR Program for support as well. New QR overlay courses such as **Astronomy 109**, Our Place in Space and Time and **Computer Science 199**, Simulation: An Interdisciplinary Tool were created with lots of collaborative efforts between the departments and the QR Program. Other faculty come to the QR Program for help in specific modules, such as a lesson on creating graphs using Excel and writing about quantitative data that's now a standard workshop for a half-unit course on Internet Resources and Research.

For two years now, the QR Program has run a four-part lecture series called "Celebrating QR Connections." The first year celebrated the connection between QR and Art. The second year examined connections between QR and biology. Faculty in those disciplines have helped in selecting the speakers and faculty, staff, and students have enjoyed the lectures.

How does the center interact with other institutions?

Wellesley is a member of the North East Consortium on Quantitative Literacy (NECQL), a group that shares information on the work done at various QR programs and centers. Through connections with that group and others like Project Kaleidoscope and now the NNN, the Wellesley QR Program has developed ideas on how to improve our QR offerings and has offered ideas to other institutions as well, in faculty workshops and symposia. Other institutions from across the US and more recently around the globe have asked for information on the Wellesley QR Program and materials including our assessment booklet, syllabi, and recommended books. We are always happy to share ideas and materials.

Bio for Corri Taylor

Corrine Taylor is Director of the Quantitative Reasoning Program and Assistant Professor of Economics at Wellesley College. She joined the faculty in 1998 after receiving her Ph.D. in economics from the University of Wisconsin-Madison. Professor Taylor is a 1988 graduate of the College of William and Mary in Virginia, where she was elected to Phi Beta Kappa.

At Wellesley, Professor Taylor has taught courses in quantitative reasoning, social science data analysis, statistical analysis of education issues, microeconomics, public economics, and the economics of education. Her research focuses on the economics of education, in particular, elementary and secondary school finance. She has presented her research at conferences of the American Economic Association, the National Tax Association, and the American Education Finance Association (AEFA) and was awarded the AEFA's Jean Flanigan Outstanding Dissertation Award for her work on K-12 school finance.

Since 2002, Professor Taylor has taught critical analysis and basic quantitative analysis as components of the College's summer bridge program "Pathways" which she helped develop. She has been invited to speak on quantitative reasoning (QR) issues at the annual meetings of the Association of American Colleges & Universities and the National Numeracy Network and she has hosted the annual meeting of the North East Consortium on Quantitative Literacy. Additionally, Professor Taylor has led workshops, given invited lectures, and served as a consultant at other colleges and universities that are developing new QR initiatives.