

**Client:** Washington State University, School of Economics Sciences

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**Challenge:**

The continuing evolution of higher education brings with it unprecedented challenges to educators and institutions. This case study discusses a prime example of this, the implementation of essay grading in the Washington State University (WSU) School of Economics Sciences.

WSU implemented a set of CORE requirements for key introductory level courses across the university system at campuses in Pullman, the Tri-Cities, Spokane, and Vancouver (WA) and an enrollment of 24,810. CORE courses are required to demonstrate student achievement in key areas, including critical thinking, data analysis, and writing proficiency. The principles of microeconomics and principles of macroeconomics courses were designated CORE courses by the institution in the fall semester of 2012. The challenge was to incorporate a writing component to

economics courses that had otherwise focused on theoretical understanding and quantitative and qualitative data analysis.

In shouldering this new task, the WSU School of Economic Sciences faced a dilemma that has begun to confront many higher education departments not traditionally thought of as centers for the development of writing skills. The CORE course designation added significant responsibilities for instructors, most notably the requirement to review and evaluate writing assignments by students at regular intervals throughout the course. While this might have had a nominal impact on a class of 20 or 30 students with instructors experienced in providing writing assessment, the typical principles of economics section comprised between 200 and 400 students. Meeting the CORE requirements would result in the reading and grading of thousands of papers over the breadth of the semester. Large enrollment sections had a teaching assistant assigned to the course, but none of the teaching assistants had experience evaluating written assignments on the merits of the written expression in

addition to the economic literacy.

As a consequence, WSU needed a way to continuously and dependably manage, grade, and document large numbers of student papers.

**Solution:**

Through Worth Publishers, WSU learned of the NetTutor® solution that answered the subject matter concerns of instructors and the decisive issue of assisting students in written expression of their views. The key to this was the innovative, centralized professional tutoring of the NetTutor Online Tutoring Service platform. The campus observed that online automation of collecting student assignments and

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interfacing with the school Student Information System

to deliver grades could be addressed in a secure fashion over the Web. The WSU writing center looked at machine automated grading systems that searched student submissions for key words to create a grade without human intervention. The WSU English Department and the School of Economics Sciences appraisals judged these methods to be profoundly unsatisfactory. In one outstanding example, it was found that a computerized system would award a higher grade to the submission that repeated the same five sentences over and over again than to another submission that presented the original five sentences without pointless repetition.

By contrast, NetTutor offered the personal expertise of professional English tutors who, armed with a basic rubric and sample responses provided by the faculty, could efficiently discriminate the level of writing skill and economic competency, allowing them to score students' papers effectively. Where the same job would be quite demanding for on-campus tutors or graduate students (indeed, a scale beyond that which WSU could accommodate), the centralized organization and

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round-the-clock availability of NetTutor made the higher quality, human evaluation affordable and relatively simple to implement.

Among the decisive considerations for WSU were the following:

- As proprietary software with a long and proven track history, the NetTutor interface provided for security and a rapid turn-around of writing review and evaluations
- Student names and school identification could be matched "behind the scenes" to self-selected NetTutor identifiers to ensure student privacy
- Humans equipped with the same rubrics used by instructors were

decisively more accurate in their area of expertise, namely writing assessment, than machine-automated routines

- Should WSU students wish to pursue it, NetTutor also represents a source for one-on-one writing assistance or tutoring on issues in economics from professional tutors based in the US
- Link-Systems development, practicing a queued agile development procedure, enables quick and reliable changes to the NetTutor interface and procedures for the timely return of recommended grades, papers, and information.

As a whole, the relatively labor-intensive methodology

of human interaction, review, and evaluation by NetTutor, backed by agile software development procedures, turns out to be the more efficient, less costly, and far more reliable alternative.

**Results:**

Working with Worth Publishers and NetTutor®, the WSU Econ Department implemented the first version of the paper evaluation procedure in the fall of 2012, in which 1,600 students participated. By fall 2013, a system customized and streamlined to meet both technical and academic requirements of WSU was rolled out for all Principles of Economics courses. Student usage doubled to well over 3,200 students.

Today, economics students understand that, within their University web portal, there is a site to submit the required economics papers. Once a paper is submitted, they know that they will receive a review explaining strengths and areas for improvement. Their grades will be received by their professors for confirmation and for upload to the student information system. WSU and NetTutor have set up a 48-hour turn-around for the entire process.

How does NetTutor do this? First, the actual rubrics used by the instructors are shared with the tutors. Second, the tutors have in hand sample answers to the writing questions for comparison. For professional tutors, this makes it possible to focus on

the writing issues—grammar, sentence structure, and expression clarity, for instance—but in the context of how students need to express their understanding of issues in economics.

As with any implementation providing access to all students, challenges arise. When, for instance, glitches in the student registration procedure were found, Worth and NetTutor worked quickly (and, from the WSU point of view, transparently) to implement interface modifications. The result is a system that is easier for students to use, produces few if any errors, and more adequately answers the demands of making writing a central requirement in economics.

