

THE PEW LEARNING AND TECHNOLOGY PROGRAM

# Innovations in Online Learning

*Moving Beyond  
No Significant Difference*

BY CAROL A. TWIGG

Center  
*for* Academic  
Transformation

AT RENSSELAER POLYTECHNIC INSTITUTE

Innovations in Online Learning: Moving Beyond No Significant Difference  
by Carol A. Twigg  
© The Pew Learning and Technology Program 2001

Sponsored by a grant from the Pew Charitable Trusts.

Center for Academic Transformation  
Rensselaer Polytechnic Institute  
Vice Provost's Office  
4th Floor, Walker Lab  
110 8th Street, Troy, NY 12180  
518-276-6519 (voice)  
518-695-5633 (fax)  
<http://www.center.rpi.edu>

---

|   |    |
|---|----|
| Preface .....   | 3  |
| I. Individualization: The Key to Innovation .....   | 5  |
| II. Improving the Quality of Student Learning .....   | 9  |
| III. Increasing Access to Higher Education .....  | 16 |
| IV. Reducing the Costs of Teaching and Learning .....   | 23 |
| V. Sustaining Innovation .....  | 30 |
| Case Studies  |    |
| University of Illinois at Urbana-Champaign, Master of Science Degree: LEEP3.....                                    | 6  |
| University of Central Florida, Reactive Behavior Patterns: Implications for Web-<br>based Teaching & Learning ..... | 8  |
| Rio Salado College, A Systems Approach to Online Learning.....  | 10 |
| Cardean University, Problem-centered Pedagogy .....   | 12 |
| Ohio State University, A Buffet of Learning Opportunities .....   | 14 |
| University of Phoenix, A Focus on the Customer.....   | 17 |
| Rio Salado College, Online Human Anatomy .....  | 18 |
| Excelsior College, What You Know Is More Important than Where or How You<br>Learned It .....                        | 20 |
| Drexel University, Modularizing Computer Programming .....  | 22 |
| The British Open University Approach to Online Learning .....   | 24 |
| University of Illinois at Urbana-Champaign, The Spanish Project .....   | 25 |
| Virginia Polytechnic Institute and State University, The Math Emporium:<br>Student-paced Mathematics 24x7 .....     | 27 |
| Michigan State University, CAPA: Computer-assisted Personalized Assignment<br>System .....                          | 29 |
| Notes .....   | 31 |
| Symposium Participants .....  | 32 |











































































Center  
*for* Academic  
Transformation

RENSSELAER POLYTECHNIC INSTITUTE • VICE PROVOST'S OFFICE  
4TH FLOOR, WALKER LAB, 110 8TH STREET, TROY, NEW YORK 12180-3590  
PH 518-276-6519 • FX 518-695-5633 • WWW.CENTER.RPI.EDU