Reform and Innovation in Higher Education

A Literature Review

Prepared by the National Center for Postsecondary Improvement: Project 5.3
Distinguishing Features of this Literature Review

- This review takes a broad view of teaching and learning improvements by identifying the nature of links (if any) with assessment.
- It focuses on practices that evolve from grassroots movements, state reform efforts, and individual initiatives within/across disciplines.
- It also identifies patterns and themes across a wide range of teaching, learning, and assessment practices.
Purpose of the Literature Review

- To determine the process by which innovations emerge
- To identify reform and innovation pioneers
- To examine how institutions identify problems related to teaching and learning (and then make fundamental changes as a result)
- To explore how assessment, student diversity, and the use of new technologies are incorporated into reform and innovation movements
Importance of the Literature Review

- Many innovative practices have no scholarly literature base because information about reform and innovation activity is difficult to find.
- Little has been done to capture national conversations about practices used to improve teaching and learning.
- There is little documentation of activities that have taken place since the call for undergraduate teaching reform in the mid-1980s.
Key Resources

- Journals focusing on teaching, learning, and assessment practices (e.g. College Teaching)
- ERIC searches using keywords linked to reform and innovation
- Conference programs, newsletters, and association publications (e.g. Washington Center Newsletter, AAHE Bulletin, Change, Liberal Education).
Background of Current Reform and Innovation Efforts

In response to a national call for reform in undergraduate education during the mid-1980s, many colleges and universities began to change institutional practices related to teaching, structured learning, curricular and co-curricular initiatives, and multi-level assessment.
Discussions among stakeholders led to the creation of …

- Definitions and distinctions among reforms, innovations, and initiatives/projects
- Templates (or descriptions of practices) and Internet sites with links to ongoing conversations
- Characteristics and models to understand institutional practice
Distinctions between Reforms and Innovations

- Type of Process: Top-down versus bottom-up
- Impetus for Change: Internal versus external to the institution (some involve both)
- Scope of Participation: Local versus national
Definitions

- Reform: Described as a “top-down” approach; either system-wide or anchored within several different institutions; based on external processes

- Innovation: Characterized as a “bottom-up” or “grassroots” approach; based on internal processes
Definitions (continued)

- **“Educational Innovation Movement:”** An overarching term that includes both reform and innovation. Primarily functions as the “grassroots” level; frequently national in scope; based on both internal and external processes.

- **Project/Initiative:** Localized, internal activity; usually lacks capacity to spread across institutions.
Applying the Terminology

*Change* is often used in a very general sense when discussing efforts to improve undergraduate education. When change is used as part of a technical definition, one must continually specify whether the term is being used in the general or technical sense.

Innovative use of assessment can also be regarded as a reform, or movement.
Important Questions to Consider

- How do reforms and innovations spread?
- How are reforms and innovations adopted?
- What commonalities do the various reforms and innovations share?
- What are the unique aspects of each initiative?
# Types of Reforms and Innovations

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### Table: Reforms and Innovations

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<th>Innovation/Reform</th>
<th>Definition</th>
<th>Target</th>
<th>Role of Faculty Member</th>
<th>Institutional Type</th>
<th>Conceptual Shift</th>
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<tbody>
<tr>
<td><strong>Active Learning</strong></td>
<td>Faculty utilize techniques such as &quot;the one minute paper,&quot; asking students to develop questions related to the lecture material being reviewed.</td>
<td>Students &amp; Faculty</td>
<td>Pedagogical Reformer</td>
<td>Multiple</td>
<td>Moves away from memorization of facts to using and applying knowledge.</td>
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<td><strong>Collaborative Learning</strong></td>
<td>Student discussion and active work with course material is emphasized.</td>
<td>Students &amp; Faculty</td>
<td>Shift from “sage on stage” to “guide on side.”</td>
<td>Multiple</td>
<td>New assumptions about learning include: learning is an active, constructive process, learning depends on context, learners are diverse, learning is inherently social.</td>
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<td><strong>Cooperative Education</strong></td>
<td>The development of interpersonal skills is as important as the learning itself; learning to cooperate is key to high quality work, group process skills are developed. Teaches students to work well in group settings. Process directly tied to outcome.</td>
<td>Students, Faculty, &amp; Pedagogy</td>
<td>Shift from lecturer to facilitator</td>
<td>Multiple</td>
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<td>Cultural Pluralism</td>
<td>Reform aimed at helping students to learn and respect other cultures; also aimed at helping institutions create communities where diversity is valued and accepted. This reform is viewed as an essential component of maintaining a democracy, economic empowerment, and justice.</td>
<td>Students, Faculty, &amp; Institution</td>
<td>Shifting syllabi, inclusion of multiple perspectives</td>
<td>Multiple</td>
<td></td>
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<td>Faculty Peer Review</td>
<td>Student evaluations and program review are conducted at the departmental and institutional level.</td>
<td>Faculty Rewards</td>
<td>Mentor and/or mentee</td>
<td>Research Universities</td>
<td></td>
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<tr>
<td>First Year/Senior Year Seminar</td>
<td>Adding a course during the first year and senior year, addressing, at least in part, issues that are not explicitly addressed in the formal curriculum; a major focus of these courses is the transitional challenges students are likely to face.</td>
<td>Curriculum</td>
<td>Communicate expectations of institution</td>
<td>Research Universities; Comprehensive</td>
<td></td>
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<tr>
<td>General Education</td>
<td>Central to general education reform are the concepts content, coherence, and comprehensiveness.</td>
<td>Institution</td>
<td>No definitive change in role</td>
<td>Multiple</td>
<td>The idea of content relates to what students should know and be able to do after graduation.</td>
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<td>K-16 Collaboratives</td>
<td>Links with K-12 systems and education.</td>
<td>Students &amp; Curriculum</td>
<td>No definitive change in role</td>
<td>Research Universities</td>
<td></td>
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<td>Learning Communities</td>
<td>Learning communities evolved out of the concept of living and learning environments. What makes this reform distinct is that it focuses more on curricular and pedagogical changes that enhance linking and coordinating of curriculum and out-of-classroom experiences.</td>
<td>Students &amp; Faculty</td>
<td>Faculty take on a range of new roles</td>
<td>Multiple</td>
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<td>New Wave Calculus</td>
<td>New Wave Calculus involves multi-level efforts including: faculty development, assessment, encouragement of risk taking, cooperative homework groups, development of community in class, standards which emphasize problem solving, geometric visualization, and quantitative reasoning.</td>
<td>Students, Faculty, Curriculum, &amp; Structures</td>
<td>Facilitator of group projects and active learning</td>
<td>Research Universities</td>
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<tr>
<td>Science Reforms</td>
<td>The emphasis on interdisciplinary teaching and curriculum is meant to foster students understanding of connections between various ways of looking at the world through different disciplinary lens. There is an emphasis on examples and process other than simply memorizing facts.</td>
<td>Students, Faculty, &amp; Curriculum</td>
<td>Shifting of the curriculum toward problem-oriented assignments and group work</td>
<td>Multiple</td>
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<td><strong>Service Learning</strong></td>
<td>Service-learning utilizes experience and practice to teach students in areas that may be difficult to teach through abstract reasoning such as empathy.</td>
<td>Students &amp; Curriculum</td>
<td>Integrating outside experience into the classroom</td>
<td>Multiple</td>
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<td><strong>Student Peer Teaching</strong></td>
<td>Peer teaching helps students feel more comfortable taking educational risks as students try out ideas with each other rather than in front of the faculty member initially.</td>
<td>Students &amp; Curriculum</td>
<td>Teaching role is extended to students</td>
<td>Multiple</td>
<td></td>
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<tr>
<td><strong>Technology/Distance Learning</strong></td>
<td></td>
<td>Curriculum &amp; Structures</td>
<td>Community builder</td>
<td>All</td>
<td></td>
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<tr>
<td><strong>Undergraduate Research</strong></td>
<td>Undergraduates (recently shifting toward first and second year students) are involved in faculty research in a similar fashion to graduate research assistants.</td>
<td>Students &amp; Faculty</td>
<td>Supervisor of undergraduate researchers</td>
<td>Comprehensive</td>
<td></td>
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<td><strong>Writing Across the Curriculum</strong></td>
<td>Institutes writing in virtually all university courses in order to improve students’ writing and critical thinking skills</td>
<td>Curriculum</td>
<td>Creating writing-based class work</td>
<td>Multiple</td>
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Leadership Roles/Goals

- **Key Individuals**: Individuals who start movements, or who “spread the word” across campuses
- **Associations**: Organizations that disseminate information about various educational innovation movements
- **Funding agencies**: Governmental sources (NSF for sciences, FIPSE for others) that provide funding, with the goal of stimulating fundamental changes in the way education is delivered and received
- **Campuses**: Institutions that strive to create “smaller” environments, or unique campus cultures/identities
Reform and innovation efforts often target more than one group, or issue:
- Students: Behaviors; levels of engagement
- Faculty: Approaches to teaching and learning

However, long-term change does not happen without fundamental institutional change...
- Curricula: Reinforcing new teaching/learning behaviors
- Structures: Rewards; physical environment
Teaching and Learning Outcomes

- New assumptions about learning (e.g., active and collaborative learning)
- New regard for teaching (e.g. peer teaching)
- New regard for the student (e.g. science reform, calculus reform)
The Role of Faculty

- From “sage on the stage” to “guide on the side” or facilitator (e.g., collaborative learning, cooperative education)
- Mentor (e.g., faculty peer review, undergraduate research)
- Sharing role of teaching/learning (e.g., faculty peer review, student peer teaching)
- No definite change in role (e.g., general education, K-16 collaboratives)
Models for Adoption of Innovation

INDIVIDUAL LEVEL
(Bennis, 1973)

Stage 1    Stage 2    Stage 3    Stage 4    Stage 5    Stage 6
Opposition Resistance Tolerance Acceptance Support Embrace

Models for Adoption of Innovation (continued)

INSTITUTIONAL LEVEL
(Harvey & Miller, 1970)

<table>
<thead>
<tr>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
<th>Stage 4</th>
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<tbody>
<tr>
<td>Issue</td>
<td>Formation of</td>
<td>Search</td>
<td>Choice of</td>
<td>Redefinition</td>
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<tr>
<td>Perception</td>
<td>Goals</td>
<td></td>
<td>Solution</td>
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Examples of Assessment Practices

Student-centered

- Value-added assessment
- Portfolio assessment
- Performance-based assessment
- Multiple evaluators of student performance
- Classroom assessment techniques
- Assessment “101” (training for faculty)
- Department / Program Benchmarking

Faculty/Department-centered
Implications for Institutional Researchers

- Participate early in the planning process to assist in the development of useful assessment models
- Stay abreast of reform activities on campus
- Remember that involvement may require evaluation of standard as well as innovative educational practices
- Involve more individuals in the assessment process as the results of the innovation reach a broader audience
Implications for Educational Researchers

- Work to extend research on reform and innovation - examine how such efforts affect undergraduate teaching, learning, and assessment
- Modify existing theoretical frameworks using current reform and innovation efforts as the bases for empirical inquiry
- Develop new theories and conceptual frameworks to guide future reform and innovation efforts in higher education
National Center for Postsecondary Improvement

http://ncpi.stanford.edu