

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

- ◆ Active Learning
- ◆ Collaborative Learning
- ◆ Cooperative Education
- ◆ Critical Thinking
- ◆ Cultural Pluralism
- ◆ Examination Reform
- ◆ Faculty Peer Review
- ◆ First Year Seminar
- ◆ General Education
- ◆ International Education
- ◆ K-16
- ◆ Learning Communities
- ◆ New Wave Calculus
- ◆ Science Reforms
- ◆ Service Learning
- ◆ Student Peer Teaching
- ◆ Standards
- ◆ Technology
- ◆ Undergraduate Research
- ◆ Writing Across the Curriculum

Table: Reforms and Innovations

Innovation/Reform	Definition	Target	Role of Faculty Member	Institutional Type	Conceptual Shift
Active Learning	Faculty utilize techniques such as "the one minute paper," asking students to develop questions related to the lecture material being reviewed.	Students & Faculty	Pedagogical Reformer	Multiple	Moves away from memorization of facts to using and applying knowledge.
Collaborative Learning	Student discussion and active work with course material is emphasized.	Students & Faculty	Shift from "sage on stage" to "guide on side."	Multiple	New assumptions about learning include: learning is an active, constructive process, learning depends on context, learners are diverse, learning is inherently social.
Cooperative Education	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.	Students, Faculty, & Pedagogy	Shift from lecturer to facilitator	Multiple	

Table: Reforms and Innovations (continued...)

Innovation/Reform	Definition	Target	Role of Faculty Member	Institutional Type	Conceptual Shift
Cultural Pluralism	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.	Students, Faculty, & Institution	Shifting syllabi, inclusion of multiple perspectives	Multiple	
Faculty Peer Review	Student evaluations and program review are conducted at the departmental and institutional level.	Faculty Rewards	Mentor and/or mentee	Research Universities	
First Year/ Senior Year Seminar	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.	Curriculum	Communicate expectations of institution	Research University; Comprehensive	
General Education	Central to general education reform are the concepts content, coherence, and comprehensiveness.	Institution	No definitive change in role	Multiple	The idea of content relates to what students should know and be able to do after graduation.

Table: Reforms and Innovations (continued...)

Innovation/Reform	Definition	Target	Role of Faculty Member	Institutional Type	Conceptual Shift
K-16 Collaboratives	Links with K-12 systems and education.	Students & Curriculum	No definitive change in role	Research Universities	
Learning Communities	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.	Students & Faculty	Faculty take on a range of new roles	Multiple	
New Wave Calculus	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.	Students, Faculty, Curriculum, & Structures	Facilitator of group projects and active learning	Research Universities	
Science Reforms	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.	Students, Faculty, & Curriculum	Shifting of the curriculum toward problem-oriented assignments and group work	Multiple	

Table: Reforms and Innovations (continued...)

Innovation/Reform	Definition	Target	Role of Faculty Member	Institutional Type	Conceptual Shift
Service Learning	Service-learning utilizes experience and practice to teach students in areas that may be difficult to teach through abstract reasoning such as empathy.		Integrating outside experience into the classroom	Multiple	
Student Peer Teaching	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.	Students & Curriculum	Teaching role is extended to students	Multiple	
Technology/Distance Learning		Curriculum & Structures	Community builder	All	
Undergraduate Research	Undergraduates (recently shifting toward first and second year students) are involved in faculty research in a similar fashion to graduate research assistants.	Students & Faculty	Supervisor of undergraduate researchers	Comprehensive	
Writing Across the Curriculum	Institutes writing in virtually all university courses in order to improve students' writing and critical thinking skills	Curriculum	Creating writing-based class work	Multiple	

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

Targeted Areas...

- ◆ 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	Toleration	Acceptance	Support	Embrace

Related models: Gilbert, 1995; Hall et al 1984, Hamelink, 1984; Havelock, 1971; Rogers, 1983.

Models for Adoption of Innovation (continued)

INSTITUTIONAL LEVEL (Harvey & Miller, 1970)

Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Issue Perception	Formation of Goals	Search	Choice of Solution	Redefinition

Related models: Fung, 1992; Hage & Aiken, 1992; Levine, 1980; Mann & Neff, 1961; Milo, 1971; Rogers, 1981.

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 Bench-marking

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



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