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ABSTRACT

Educational Research Information Center (ERIC) Trends are analyses of higher education literature contained in the ERIC database describing major concerns in institutional practice. Literature on teaching and learning has grown within the higher education literature base over the last decade. However, the themes are basically still the same as they were in the mid 1990s. The emphasis on interdisciplinarity and quality has decreased over the last few years, while discussions of active learning, assessment, and diversity have advanced. However, there was no theme more prevalent in the literature than technology; it comprised approximately 40% of the literature in this area. Research on active learning advocates the benefits and illustrates the positive outcomes it produces. Since diversity is one of the other major trends in issues in teaching and learning, collaborative learning is demonstrated to have great promise among educators. Research shows that being in an environment with students from diverse backgrounds increases cognitive development and critical thinking. The literature on assessment of learning focuses on how to conduct assessment at the classroom, department, institution, and state level. Alternatives to traditional grading, including student involvement in the grading process, are also being considered among researchers. The results of outcomes research on distance education and technology usage in the classroom have illustrated the value of using both technology and traditional in-person methods to have a balanced and successful experience. Service learning, learning communities, and an emphasis on the human aspect of teaching reflect a concern with the bureaucratic form of teaching that has emerged within most universities due to the tremendous growth of higher education. Active learning, service learning, learning communities, and technology are seen as the main solutions to this problem. (Contains 31 references.) (EMS)

ERIC TRENDS 1999-2000:

TEACHING AND LEARNING

by Adrianna J. Kezar

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What are ERIC Trends?

Educational Research Information Center (ERIC) Trends are analyses of higher education literature contained in the ERIC Database. These analyses describe major concerns in institutional practice, helping researchers identify new areas for research, areas where further understanding is needed, and any gaps in the literature. For practitioners, ERIC Trends place individual institutional shifts in practice into a larger context. They provide individual institutions with examples of other institutions that are trying to make the same changes and help institutions identify other areas they should consider for change.

Slightly more than half of the literature summarized in ERIC Trends is drawn from higher education journals. The remainder of the literature summarized includes conference papers and documents published by educational associations, institutional research offices, research centers, consortia, and state and federal associations and boards. The literature is produced by both the research and practice communities. It is a combination of current theory and research, such as conference papers and Internet documents, and more dated literature, such as books and journal articles, which take several years to evolve from acceptance to publication. A limitation of this analysis is that it relies on the literature ERIC is able to obtain from authors and organizations; some groups may be unwilling to share information and, therefore, are not represented in the analysis. The range of documents analyzed in the ERIC Trends is fairly comprehensive, however.

To retrieve the literature for analysis, all of the higher education literature in the ERIC database was searched by the ERIC descriptors that reflect the most important topics in higher education: college faculty; college students (including foreign students); finance; college instruction (including academic advising); curriculum; program evaluation; policy and governance; legal issues; professional development; college administration (including educational facilities); higher education and the public good; and professional and graduate education. A quantitative analysis compared the current number of documents within a particular category to earlier years (back to 1986). A qualitative analysis of content was conducted on ERIC abstracts to identify recurring themes.

Higher Education Trends (1999-2000): Teaching and Learning

by Adrianna J. Kezar

The literature on teaching and learning focuses on many of the same themes as in the mid 1990s, such as:

1. Active learning
2. Assessment or student outcomes
3. Diversity
4. Integrating technology.

The emphasis on interdisciplinarity and "quality" has decreased over the last few years (see Trends 1997-1999). The discussions of active learning, assessment, and diversity have advanced and these will be highlighted in the discussions below. There are marked changes in the technology literature as well; each year brings a new set of literature overflowing with ideas for capturing the promise of technology. There was no theme more prevalent in the literature on teaching and learning than technology; it comprised approximately 40% of the literature in this area.

Literature on teaching and learning has grown within the higher education literature base over the last decade. More researchers, practitioners, and editors for journals, magazines, and books are emphasizing the core mission of the institution. Higher education literature used to bedominated by administrative and policy literature; this has given way to a greater emphasis on teaching and learning. This trend might also reflect the desire toward conceptualizing teaching as scholarship. Previously, teaching was a craft, something faculty did not share with other colleagues and something that received less attention within research. This trend is also described in the ERIC Trends on Faculty.

Active Learning

Similar to previous years, research on active learning advocates the benefits and illustrates the positive outcomes of one-minute papers, debates, dialogues, and other methods of engaging students in the learning process. Collaborative and cooperative learning were discussed most as techniques for engaging students in teamwork and knowledge construction. One impressive study of collaborative learning found it predicted gains in cognitive level, affective level, and openness to diversity across all student populations. Results suggest that collaborative learning practices can create the process and setting whereby learning is maximized, and preconceptions about diverse population are confronted through positive, productive interactions among students of different backgrounds (Cabrera, A. F., Nora, A., Bernal, E. M., Terenzini, P. T., & Pascarella, E. T.) Since diversity is one of the other major trends in issues in teaching and learning, collaborative

learning is demonstrated to have great promise for addressing this concern among educators. The literature on collaborative and cooperative learning mostly focuses on implementation within different disciplines and best practices for faculty to follow.

Service learning and learning communities were discussed as other methods for engaging students actively in the process of learning, yet these were so prevalent in the literature that they will be discussed separately.

Assessment/Grading

A significant amount of literature on teaching and learning examined assessment practices and new grading techniques (Walker, C., Angelo, T., Palomba, C. A., & Banta, T. W.). The emphasis on assessment of learning remains strong with many manuals on how to conduct assessment at the classroom, department, institution, and state level having been developed (Brookhart). There was much more literature on grading than in previous years. In particular, many courses and schools/departments are experimenting with the use of portfolios and authentic assessment. Alternatives to traditional grading, including student involvement in the grading process, are being considered among scholars and researchers (Dalziel, J.). One helpful article describes seven defining characteristics of "authentic" assessment and how they have been operationalized in an interactive multimedia learning environment. This study showed students responded favorably to the elements of authentic assessment (Herrington, J., Herrington, A.). Assessment literature exists for multiple members of higher education institutions (staff, faculty, and administrators) for virtually every practice from assessing distance education to remedial education to collaborative learning to learning communities. Practitioners need to use this depth of information to help improve the learning environment on campuses. Information about grading practices continues to grow, but the promise of portfolios and other authentic forms of assessment is clear. Issues of implementation of authentic assessment including cost factors need further examination.

Diversity

Important work on diversity and learning has established a link between having a diverse student body and increased learning for students (Hurtado, et al). This research illustrates how being in an environment with students from diverse backgrounds increases cognitive development, critical thinking, and other measures of learning. In addition to the positive benefits of diversity to learning, the harmful impact of prejudice and discrimination continues to be examined. For example, a study examined the impact of prejudice and discrimination at 18 institutions on the adjustment of 1,454 students to college. Results indicate perceived discriminatory behavior negatively affected minority students' academic/intellectual development, social experiences, and institutional commitment. Although differential effects were noted for minorities and non-minorities, exposure to discriminatory behavior impacted the cognitive/affective development of all students (Cabrera, A. F., Nora, A., Terenzini, P. T., Pascarella, E., & Hagedorn, L. S.). This evidence makes a compelling case for the need to work on the often hostile climate on college campuses, since it affects learning among all students. Lastly, a plethora of studies were conducted on the difficult adjustment for some racial and ethnic groups to college life, which included aspects such as the ability to bond with or have relationships with faculty members and perceived climate of the classroom. These studies have important implications for faculty development.

A large literature base has been amassed about the ways faculty can create a positive classroom environment. The literature on learning and diversity and been sufficiently synthesized (Hurtado, et al); now this knowledge needs to be put into practice by deans, department chairs, and individual faculty.

Technology/Distance Learning

In the mid 1990s, research on technology focused on extent of usage and model programs, but there was minimal literature on implementation or the outcomes from this new learning environment/technique. This situation has changed markedly with literature filling these gaps in the last couple of years. Technology has also begun to focus on the Internet and Web as tools for facilitating the integration of technology into the classroom. New journals on the Internet and higher education illustrate the growing interest of the Internet on various functions, including teaching and learning, in higher education. Almost all commentators agree that it is unlikely that distance learning at the college level will totally supplant campus-based learning, but that distance learning will become more common, diverse, and effective (Davey, K. B.).

One example of the ways the literature is addressing issues of implementation is an article describing the redesign and evaluation of a full-year, introductory undergraduate course in world religions that was transformed from a traditional lecture-based model to a Web-based format. The technology format allowed for more interaction in a large class that lacked much personal interaction. Two pedagogical approaches, caring regard and constructivist learning, were combined with computer-mediated conferencing and self-paced Web use. (Campbell, K., & Ben-Zvi, E.). In addition to courses being reconstructed, whole departments or undergraduate programs are being transformed. For example, an emerging model for Internet-intensive undergraduate instruction at Miami University (Ohio) is described in an intriguing article. Students learn by creating online materials themselves; faculty facilitate active learning; and students' intellectual exchanges are enriched. Four applications of this new model are examined in the article: a large-group environmental geology course; an economics course; a social psychology course; and a journalism course (Phillips, M. R., Horton, V., Wolfe, C. R., Crider, L., Mayer, L., McBride, M., Sherman, R., & Vogel, R.). An important implementation discovery is the realization of the need to support faculty with technology experts, rather than expecting them to become "techies." For example, the University of South Florida's Virtual Instructional Team for the Advancement of Learning combines the expertise of existing campus resources with the necessary services and support for faculty interested in technology-enhanced instruction. It is a consortium of divergent academic units working together to foster integration of technology in instruction (Barron, A. E., & Lyskawa, C.).

Several articles and books raise concerns about information literacy as a new aspect of the curriculum that needs to be developed within programs in response to the Internet and technology. The change in the nature of information, in ways to access it, and in methods of critique, represents a new area for curriculum development and teaching. One article described a cooperative effort between a graduate degree program and the reference department of a university library to strengthen graduate students' information literacy by teaching them to make effective use of both print and electronic research sources (Murry, J. W., Jr., McKee, E. C., &

Hammons, J. O.).

Research on outcomes of distance education and technology usage is becoming available in more comprehensive forms. One report presents findings of a review of the current research on the effectiveness of distance education in higher education. Yet the major findings indicate that there is a paucity of truly original research dedicated to explaining or predicting phenomena related to distance learning. This report emphasizes the need for more research in this area. It also noted that although most studies indicate that distance learning courses compare favorably with classroom-based instruction, the overall quality of the research is questionable and thereby renders the findings inconclusive. Key shortcomings of the research identified include: (1) much of the research does not control for extraneous variables and therefore cannot show cause and effect; (2) most of the studies do not use randomly selected subjects; (3) the validity and reliability of the instruments used to measure student outcomes and attitudes are questionable; and (4) many studies do not adequately control for the feelings and attitudes of students and faculty. These are critical insights for directing future research. Among specific research gaps identified are outcomes of complete programs rather than individual courses and reasons for high drop-out rates in distance courses (Phipps, R., & Merisotis, J.).

The results of the outcomes research on distance education courses and technology usage in the classroom have illustrated the value of using both technology and traditional in-person methods to have a balanced and successful experience. An example of these emerging conclusions of the need for balance is a study of an on-line college course and student perceptions of the virtual classroom experience. Students appreciated course flexibility and convenience and found it conducive to thoughtful analysis of class questions and commentary. However, they felt isolated from peers and instructor, and lack of face-to-face interaction hindered communication (Gibbs, W. J.).

Many new trends emerged in the literature over the last few years of the 1990s, including an emphasis on (1) service learning; (2) learning communities; (3) remedial education; and (4) lifelong learning and growth of Masters Programs. Service learning, learning communities, and an emphasis on the "human aspect of teaching" reflect a concern with the bureaucratic form of teaching, e.g., large, impersonal classes, that has emerged within most universities over the last four decades due to the tremendous growth of higher education. The 1980s and early 1990s represented a time of critiquing higher education for faltering in this area; active learning, service learning, learning communities, and technology have been the main solutions to this problem. Lifelong learning also suggests that teaching and learning should focus more on learning how to learn, rather than just the memorization of content. Content knowledge tends to be emphasized in distance education and many technology based learning programs. Furthermore, technology represents another trend which might de-emphasize the human, community based nature
of teaching and learning. It may be that the proliferation of literature on the human and community dimensions of learning are a reaction to the expansion of literature on technology, distance education and credentialing. Perhaps scholars are balancing technical and market demands with research on how to create a successful learning environment.

Service Learning

Service learning literature has begun to focus on changing reward systems in order to encourage faculty participation. It has moved from a peripheral dialogue to being at the center of conversation in academic affairs (Eyler, J., & Giles, D. E., Jr.). Yet conversation is not always translating into transformed practice; a study of community service attentiveness in 42 urban colleges and universities found that the majority consider community service a high priority, but wide gaps exist between rhetoric and practice. Perceptions of internal institutional involvement and advocacy in community service differ significantly between service-attentive and inattentive institutions. Institutional leaders' interest and involvement are important in creating service-attentive institutions (Sagaria, M. A. D., & Burrows, J. M.).

There has been a recognition that faculty development in the pedagogy of service learning is essential to the knowledgeable and sustained implementation of combined community service and academic study. A semester-long faculty development seminar at Eastern Michigan University using small group interaction is described in an instructive article (Rice, D., & Stacey, K.). The program achieved both cognitive and affective gains and a network of committed service learning faculty. Therefore, the major trends within service learning are the need for faculty development and ownership and the support of institutional leaders for full implementation. Assessment of service learning is also prevalent in the literature (Driscoll, A., Gelmon, S. B., Holland, Barbara A., Kerrigan, S., Spring, A., Grosvold, K., Longley, M.J., Eyler, J., & Giles, D. E., Jr.). The growing literature base on service learning needs synthesis for busy administrators so that they can apply all this informative research.

Learning Communities

Over the last three years, one of the most prevalent new forms of pedagogy in higher education next to service learning has been learning communities. Learning communities address organizational problems that have emerged in bureaucratic institutions such as large class size, disciplinary specialization, and lack of personal interaction. They follow the theory of teaching and learning suggested by John Dewey as an answer to the problems of bureaucratic schools almost 60 years ago. In addition, this approach provides an economically viable way to develop small, intimate environments for interdisciplinary learning. Books now provide guidance on developing learning communities at a wide variety of institutions, including research universities, commuter campuses, residential campuses, and four- and two-year institutions (Shapiro, N.S., & Levine, J. H.).

There are five major higher education learning community models currently in existence: (1) Linked courses, which link cohorts of students taking two courses in commonûwith one course typically content-based and the other application-based. Faculty in each course may teach independently or together; (2) Learning clusters where instead of linking two courses together, a student cohort is linked in three or four courses, which often serve as the students' entire course load; (3) Freshmen interest groups (FIGs), which are linked around academic majors and include a peer-advising component that allows students to discuss course work and other college adjustment problems. Faculty play a lesser role in FIGs; (4) Federated learning communities, the

most complex of the models, in which a cohort of students takes three theme-based courses in addition to a three-credit seminar taught by a Master Learner--a professor from a different discipline who takes the courses and fulfills all class requirements along with the students; and, (5) Coordinated studies, in which faculty and students participate in full-time active learning based on an interdisciplinary theme (Kellogg, K.). Research about the differential outcomes of these various models is needed. More research on the outcomes of learning communities, in general, is needed; although the *Washington Center Newsletter* provides some information.

Remedial Education and Preparedness Debates

Studies of the performance of students admitted provisionally or of programs for remedial and developmental students have become more common in the last few years (Hoyt, J. E.). Although a great majority of the literature relates to remediation policy, some also relates to approaches to teaching remedial education as well as the relationship between remedial education and the overall teaching and learning process.

One report, for example, that examined remedial education nationally had the following findings. First, although remedial courses are offered at most postsecondary institutions and about 30 percent of first-year students take some remedial course work, there is very little reliable and comprehensive research regarding the efficacy of such course work for student achievement and persistence. Second, the methods by which remedial course work is delivered are myriad; and, third, "successful" remedial programs exhibit certain characteristics, including a tie to content course work and instruction, as well as an emphasis on problem-solving and critical thinking (Phipps, R., & Merisotis, J.). Also, studies have found that the amount of remedial education required impacts graduation rate and success. Institutions need to develop a comprehensive remedial education plan that measures outcomes, uses the research on good practices for remedial education, and targets the distinct needs of their diverse student body since remediation varies based on the audience. Remedial/developmental education needs the attention of researchers and practitioners so that policy decisions are informed.

Lifelong Learning & Growth in Masters

Over the last few years, there has been a strong emphasis on lifelong learning in the literature (see also ERIC Trends on International Higher Education). Business leaders and other external constituents have been asking universities to instill students with the ability to learn "how to learn." In addition, the growth of online learning and proprietary schools to provide credentials have led higher education institutions to consider the need for a curriculum focused more on concepts and skills for re-tooling throughout their life.

One study compared college seniors' self-evaluation of skills considered important for lifelong learning from the mid-1980s to the mid-1990s and examined environments that are most profitable for developing these skills among approximately 30,000 students. Findings led to three conclusions: (1) the capacity for lifelong learning of seniors in the 1990s approximated that of their 1980s counterparts; (2) students at selective liberal arts colleges exhibited the greatest capacity for lifelong learning during both time periods, especially when compared with students at general liberal arts colleges and comprehensive colleges and universities; and (3) students

majoring in basic academic disciplines fared better than others (especially business and computer science majors) in developing lifelong learning skills and competencies (Hayek, J. C., & Kuh, G. D.). These findings emphasis the importance of a liberal arts education, rather than, as some people have predicted, a more content-based curriculum via technology, as the model for the education we need in the future.

In conjunction with the emphasis on lifelong learning, Master's programs have been growing as people realize that they need to retool to change careers or to continue to move up in their professions. Also, many Master's programs are making changes similar to undergraduate programs, such as becoming more active and service based. Few Masters programs are large enough to necessitate the development of learning communities, but many are becoming interdisciplinary, departing from conventional departmental divisions. These new Masters programs, with more problem based and active orientations are attractive to professional, career-minded students.

Conclusion: The Need for more Synthesis and International Perspective

Although research in the teaching and learning area is concentrated on a few techniques and trends, minimal synthesize of this growing knowledge base is occurring, especially in an area with a tremendous amount of research that has been replicated time and time again, such as assessment, grading, active learning, technology, or service learning. One notable exception was a paper that reviewed the research on critical thinking among college students. A total of 62 studies were identified and reviewed. Some interesting findings were developed that have more weight than individual studies. In comparison to courses taught in a more traditional manner, greater gains in critical thinking scores were found for courses with an instructional paradigm emphasizing problem solving or critical thinking, class participation, and inquiry and higher-order thinking (Tsui, L.).

One area that was surprisingly missing was information on internationalization of the teaching and learning process. Only a few resources could be found, such as one book that attempts to challenge assumptions about international education and urge much more comprehensive curricular changes involving integration of international and global education into all disciplines, examining internationalization for the 21st century, multi disciplinary perspectives on curricular change, and evaluation outcomes of internationalization (Mestenhauser, J. A., & Ellingboe, B. J.). Literature on internationalization of teaching and learning is clearly needed and represents a gap in our thinking and research.

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