

Is there a Shortage of University and College Instructors Looming for British Columbia?

Overview

The purpose of this question scan was to determine the feasibility of conducting a systematic review of the literature addressing the possibility that a postsecondary instructor shortage is looming in BC. Searches applying a broad range of applicable search terms to four major databases initially yielded 314 articles. Subsequent examination of article abstracts reduced this number to 206. A further search of grey literature available on government and sectoral organisation websites yielded an additional five documents, for a total of 211. Although this final number is large, many articles appear to be short pieces, in publications such as The Times Higher Education Supplement and the Chronicle of Higher Education. Only twenty-one articles, one of which is from BC, are Canadian; 146 are American, the remaining 44 international. Articles from non-Canadian jurisdictions may be relevant because: a) the academic labour supply is mobile so labour shortages in other jurisdictions affect BC; and, b) conditions related to academic labour shortages in other jurisdictions may illuminate BC's case.

Articles appear to encompass four themes: large scale projections of gross academic employment patterns in different jurisdictions; projections and descriptions of forthcoming and existing discipline specific faculty shortages; factors causing shortages; and, measures that may ameliorate shortages. Overall, most articles indicate an increasing worldwide shortage of qualified post-secondary instructors; however, the shortage will be more acute in some fields, for example, special education, nursing, and information technology, than others, such as the humanities. Major causes of shortages in Western countries are faculty retirement as baby boomers reach age 65, and increased student enrollment. Other relevant causes include some disciplines' attractive private sector or applied practice employment options, and unattractive academic working conditions.

Observations

Quantitative: 51 articles - Included under this heading is any scholarly literature that marshals statistical evidence to make its case. These articles include experimental, quasi-experimental, and large scale descriptive studies (e.g. surveys and questionnaires). The quantitative literature appears to indicate a looming instructor shortage in Canada and worldwide. Birchard's (2005) *Canadian Colleges Brace for a Wave of Faculty Retirements* asserts Canada may need 20 000 new professors to replace coming retirees, and a further 20 000 by 2011 to address increased student enrollment. Vu's (2003) *Massive Spike in Enrolment Creates Post-Secondary Staffing Crunch* concurs; a 39% spike in Canadian enrollment will occur by 2011 as boomers' children enter postsecondary. Mwenifumbo and Renner's (2000) *The Next Generation of Faculty* may be a key article. They suggest that the Canadian professoriate hired during the expansion period of 1963-1978 is aging, and that two thirds of recent hires are already middle aged. Similar projections or shortage descriptions emanate from the USA (e.g.¹ Magner, 1999)

¹ 'e.g.' indicates more references than the one cited appear to support the claim.

Australia (e.g. Maslen, 1991) and Great Britain (e.g. Wainright, 2005). Discipline specific shortages include special education (e.g. Pion, Smith & Tyler, 2003) teacher education (Castle & Arends, 2003) nursing (e.g. Brendtro & Hegge, 2000) and accounting (Bedard & Dodds, 1994). Conversely, occasional articles seem to dispute the validity of older and recent faculty shortage projections, for example, Quazi's (1996) *Faculty Renewal in Canada and Ontario: No Forthcoming Shortage! (With Particular Reference to Education Professors)*. Some disciplines may actually have too much supply, as noted in *Black Issues in Education's* (2004, author not given) *Language, Literature Jobs Decline for Third Consecutive Year*.

Qualitative: 56 articles - Included under this heading are descriptive case studies, narratives and interviews generally published in academic journals. Also included here are non-editorial discussions and descriptions of issues. Many articles discuss the lure of non-academic jobs for advanced degree holders. School psychology, teacher education, and computer science all lose potential faculty to more attractive private or applied careers (e.g. respectively, Rosenfield, 2004, *Academia, It's a Wonderful Life, Isn't it?*; Blair 2001, *Colleges Seeking Teacher Educators*; Wilson 1999, *Computer Scientists Flee Academe for Industry's Greener Pastures*). Some articles echo the quantitative descriptions of international faculty shortages in China (e.g. 2004, *High-Salaried and Specially Engaged Professor, How Much Money Are You Worth?* author not given), Germany (e.g. Brookman, 2001), Australia (e.g. Maslan, 2000), and the USA (e.g. Kisker, 2004). Further discipline specific shortages are documented in nursing (e.g. Tanner, 2005), special education (e.g. Hardman & West, 2003), business (*BizEd*, 2002, author not given) and dentistry (Haden, Weaver & Valachovic, 2002).

However, another body of qualitative work disputes the severity of coming shortages. In Canada, Zubinsky (2005) suggests the abolition of mandatory retirement in Ontario will ameliorate faculty shortages there (cf. Schoenfeld, 1993 for USA). Bousquet's (2003) *The Rhetoric of "Job Market" and the Reality of the Academic Labor System* decries the uncritical acceptance that projections of academic labour shortages have met historically. And Brodie (1995) and Malveaux (1995) indicate fiscal challenges and uncertain administrative priorities may eradicate potential vacancies through layoffs, department elimination and part-time staffing. Nonetheless, the effects of delaying or ending mandatory retirement are unclear; some commentators argue retirement decisions are affected more by job satisfaction, economic security and personal and familial health than the simple right to continue working; see for example, Jefferson's (1990) *The Early Retirees of Canadian Universities*.

Editorial -16 articles. These are position or opinion papers arguing for certain principles and practices in understanding and responding to existing or pending instructor shortages. However, they are thematically disparate. Arden (1990) suggests retired professors ought to be lured back to academia. Lewington (1995) suggests Canadian professors ought to be encouraged to retire to accommodate new PhDs with fresh ideas. And two studies from the USA argue that indeed there are more PhD holders than academic jobs available (Will, 1999; Magner, 1996). Furthermore, in Canada, Melchers (2001) argues that projections of shortages reflect interest group influence of the public agenda, and that

most retirements are likely to coincide with the end of the current enrollment spike, in 2011. Chatman and Jung (1992) and Blum (1991) also caution against uncritical belief in national faculty shortages. Nonetheless, two other editorials appear to present measures for addressing faculty shortages in specific fields: Mathews' (2003) *Resourcing Nursing Education Through Collaboration*; and, Fallin and Garrison's (2005) discussion of music education *Answering NASM's Challenge: Are We All Pulling Together?*

Reviews - 6 articles. Included under this heading are articles that review instructor shortage literature. A key source may be Gill *et al.*'s (1992a) *Faculty Supply and Demand--Data Sources and Data Needs* which identifies faculty retirements, increased enrollments, and lack of interest in faculty careers among doctoral students as three drivers of instructor shortages. Montgomery (1989) may illuminate the effects of raising or eliminating mandatory retirement age. Similarly, Leatherman (1991) indicates retirement decisions are influenced by financial incentives, working conditions and family matters more than the abolition of mandatory retirement.

Reports - 54 articles. Reports are both government-produced documents and articles from the Times Higher Education Supplement. The latter type of document describes projected and current faculty shortages internationally; English-speaking jurisdictions facing shortages include Great Britain (e.g. Goddard, 2005), Australia (Maslen, 2001), Ireland (Walshe, 1997) and Wales (Hook, 2002). Discipline-specific shortages are indicated in pharmacy (Leon, 2003), economics (Machin & Oswald, 1999), and information technology (Maslen, 1999). By contrast, humanities vacancies remain scarce (Times Higher Education Supplement, 1998, author not given) and hiring freezes and budget cuts curtail demand (Smallwood, 2002).

Despite its age, a key Canadian source may be the Association of Universities and Colleges of Canada's (1991) *Averting Faculty Shortages; A Discussion Paper on the Canadian Academic Labour Market in the 1990s*; its projections of shortages in the 1990s based on Statistics Canada data may be compared to what actually happened to guide current forecasts. Gill *et al.*'s (1992b) *Bringing into Focus the Factors Affecting Faculty Supply and Demand: A Primer for Higher Education and State Policymakers* appears to illuminate how to use data and models to project enrollments and faculty attrition. This document may be very similar to Gill *et al.* (1992a). Other reports describe looming community college instructor shortages in American states (e.g. Connecticut Community College System, 2002, author not given; Horton & Hintz, 2002; North Carolina State University System, 2002, author not given). Two reports suggest addressing shortages with part time work to encourage retired faculty to return to class (Chronister, Baldwin & Conley, 1997; Keller, 1991).

Unclear - 23 articles. These are articles generated by database searches which contain no abstracts or insufficient information to predict their genre. Nonetheless, titles and limited abstracts indicate their relevance, for example Ehrenberg's (2003) *Projections of Shortages*. Similarly, Rosenblum and Rosenblum (1994) purport to discuss academic labour markets in Ontario and Khan (1992) appears to offer a discussion of retirement in Canadian academia. Discipline-specific shortages may be discussed in special education

(Dil, Geiger & Hoover, 1993) counselor education (Maples, Altekruze & Testa, 1993) and teacher education (Teacher Education and Special Education, 1993, author not given).

Grey Literature: 5 documents – Grey literature may subsume any of the above genres. Documents include web based or pdf reports made available on the internet (not databases) usually by government or sectoral organizations. The five documents here may be the most germane to the issue of shortages in BC or Canada specifically. The University Presidents' Council of British Columbia's (2001) *Creating Opportunity Together* estimates by 2010 in BC it will be necessary to hire: over 3000 new faculty to replace existing faculty; over 4000 to maintain access due to increased enrollment; and over 5000 to lead Canada in university access. Fontaine and Mills (year unavailable) use statistical models to predict the effects on the Canadian professoriate of retirement, attrition and new doctoral graduates from 1998-2018. The Ontario Confederation of University Faculty Association's (OCUFA) (2005) report suggests over 7000 faculty need to be hired now in Ontario to bring that province back to the instructor pupil ratio it enjoyed ten years ago; 11 000 new hires would make it a world leader. OCUFA's earlier (2001) *Less Isn't More* calls for 15 000 new hires.

Summary

In sum, the trends that are thought to influence policy appear to be:

- To some degree, an instructor shortage is looming in all developed countries due to faculty retirements as baby boomers age and increased enrollments. Attrition due do to job dissatisfaction and private sector or applied practice career options is also a factor. The mobility of academic faculty suggests shortages in other jurisdictions will affect BC.
- This shortage will be far more acute in some disciplines, typically those with attractive private sector or applied practice career options, than others. Nursing, special education, information technology, teacher education, natural sciences, pharmacy, dentistry, economics, accountancy and business are identified as susceptible to instructor shortages. Humanities disciplines are possibly less susceptible.
- There may be reason for skepticism about how severe shortages will be.
- Shortage does not equal demand. Fiscal constraints and administrative priorities affect how many new faculty can actually be hired.
- New hires may address the gender and minority imbalance in current faculty staffing. Women and minorities will need to be attracted to non-traditional disciplines to fill spaces.
- Uncapping or abolishing mandatory retirement will ameliorate shortages to some degree, but the right to continue working past 65 seems not to be the decisive factor in actually choosing to do so.
- If shortages do exist, retirees may be enticed back to classrooms by part time work.

Feasibility

Because this question scan indicates only one document addressing BC specifically, and because major trends around instructor shortages are outlined here already, there may be little value in pursuing a systematic literature review for the purpose of illuminating the possibility of a postsecondary instructor shortage in BC.

Appendix A: Included References

References - Canada

Language, Literature Jobs Decline for Third Consecutive Year.(2004). *Black Issues in Higher Education*, 20(25), 8-9.

The Modern Language Association's Job Information List (JIL) for the 2002-2003 academic year highlights the continuing decline in the hiring of tenure-track language and literature professors. The number of jobs that U.S. and Canadian college and university English departments advertised in the JIL fell by 8.3 percent between academic year 2000-2001 and 2002-2003, while the number of foreign language positions advertised fell by 7.8 percent over the same period.

Association of Universities and Colleges of Canada, Ottawa (Ontario). (1991). *Averting Faculty Shortages; A Discussion Paper on the Canadian Academic Labour Market in the 1990s*. Canada; Ontario: Association of Universities and Colleges of Canada. A study was done to lay the foundation for a rigorous analysis and assessment of the functioning of the Canadian academic labor market and to begin to explore systematically the dynamic of faculty renewal and replacement. The study used data from Statistics Canada and investigated the functioning and prospects of the Canadian academic labor market at the aggregate level of total full-time faculty. Analysis was at the "system" rather than discipline level with projections to the year 2000. The findings indicated that for the period 1990 to 2000 annual faculty requirements are projected to increase faster than the number of doctoral graduates. At the aggregate level, critical shortages will develop in selected disciplines particularly in natural sciences and engineering. Furthermore, anticipated faculty shortages in the United States could exacerbate the projected Canadian shortages by drawing Canadians to positions out of the country. The study's projections suggest that Canadian universities must maintain or increase their share of doctoral graduates, expand doctoral programs especially in the natural sciences, and reduce the number of faculty who leave academic faculties for reasons other than retirement. An appendix contains 18 tables and a bibliography lists 18 items.

Bedard, J.& Dodds, C.(1994). The university professoriate in Canada. *Contemporary Accounting Research*, , 75.

A study provides some insights into the full-time accounting faculty in Canada. It also provides a detailed analysis of the accounting faculty, their activities, and the reward system, using a questionnaire from 8 sample universities. The data confirm that there has been a chronic imbalance between the supply and demand for faculty with Ph.D.s. It is shown that in the past, Canadian universities have relied heavily on accounting faculty with American qualifications, although many unfilled positions remain. The proportion of Ph.D.s has increased, but there are still many universities, particularly the smaller ones, that with no doctorally qualified accounting faculty members. The future supply of accounting Ph.D.s from Canadian programs will continue to grow, but will not match the replacement demand needs in a static replacement situation.

- Birchard, K. (2005). Canadian colleges brace for wave of faculty retirements. *The Chronicle of Higher Education*, 51(35), A45.
Canada may be facing a faculty member shortage. It may need at least 20,000 professors to address a wave of faculty member retirements and a further 20,000 by 2011 to keep up with student enrollment, the Association of Universities and Colleges of Canada predicts. Those caught in a somewhat static U.S. job market may welcome the news.
- Dubinsky, Z. (2005). Toronto staff win work right. *The Times Higher Education Supplement*, (1698), 12.
Mandatory retirement for academics is being abolished in Ontario, Canada. From July 1, 2005, University of Toronto academics and librarians may work beyond age 65, while all Ontario's 12,000 faculty members may be able to exercise the same right as early as fall 2006. Academics in the province have fought long and hard to win the right to choose when they stop work.
- Fontaine, C., & Mills, S. (year unavailable) *Results of a statistical study of Canadian university enrollments and graduates and implications for the full time professoriate in Canada*. Ontario Confederation of University Faculty Associations. Retrieved from http://www.ocufa.on.ca/research_studies/ocufaHires.pdf October 15, 2005, Selected results of an extensive statistical analysis examining Canadian universityenrolments and graduates and the implications for the full-time professoriate inCanada are presented.for the period 1998-2018. The study examined the ageprofile of the current full-time professoriate in Canada and modelled the effects ofretirement and attrition on their numbers. Based on an analysis of the demand fora university education from 1976 to 1998, statistical models were developed whichare used to make predictions about the production of Canadian doctoralgraduates from 1998 to 2018. Using these predictions, the resulting possibleimpact on the professoriate is presented for the period from 1998 to 2018. Thefindings are based on results from complex survey samples and fromadministrative databases.
- Jefferson, A. L. (1990). *The Early Retirees of Canadian Universities*. Canada; Ontario: Because an option for early retirement in Canadian Universities has created a need to know more about the vacancies early retirement creates and the potential to fill these vacancies, a survey of 15 representative universities was conducted. The sample included institutions of faculty numbering less than 100 to institutions of faculty numbering more than 1,200. The data revealed that the early retirees are primarily males motivated to retire early for a variety of reasons: availability of plans, diminished job satisfaction, health, climatic condition of the city, burn-out, desire to move to a retirement home, incompatibility, family, advantages of the plan, personal and institution's dissatisfaction, financial considerations, personal reasons, uncomfortable work station, expectation of university regarding scholarly activities, pursuit of other interests while drawing a pension and other career opportunities. Their value to the university was dispersed throughout the faculty members' teaching research and service duties. Projected areas of critical shortage due to early

retirement are accounting, economics, engineering, computer science, commerce, administration, and psychology. Institutions offered a variety of predictions as to their ability to fill vacancies that would be created from 1990 to 1995.

Khan, A. N. (1992). Canadian academics and mandatory retirement age. *Journal of Law & Education*, 21, 241-254.

Lewington, J. (1995). Canada warned about the impact of an aging professoriate. *The Chronicle of Higher Education*, 42, A56.

In a study for Statistics Canada, K. Edward Renner, a research psychologist and higher education consultant, found that professors hired in the 1960s and 1970s account for nearly two-thirds of faculty members. He believes that these professors have little incentive to modernize their curriculum and that universities should focus on early retirement in order to create opportunities for younger professors.

Melchers, R. (2001). "Crisis talk" prompts hope for more funding. *CAUT Bulletin*, 48(4),. Projections of a "crisis" also accelerate somewhat the timing of faculty retirements. Those entering the academic career stream in the 1960s and early 1970s were young, often in their mid-twenties. The average age of retirement for university faculty is very high when compared to other high income earners in the labour market, much closer to age 65 than to "freedom 55." The largest cohort of future retirees (39 per cent of all faculty) are still in their 50s and remain as much as a full decade away from retirement. With very few exceptions, most universities will see their largest number of retirements occur just as the current demographic enrolment surge ends by 2012. Finally, none of the projections supporting the "crisis" hypothesis make allowances for the growing pool of faculty retirees eager to continue working, often less than full-time, full-year. As their ranks grow, so may pressures for new hiring recede. So what is the goal of this "crisis talk"? My guess is that what is being sought is not so much understanding as it is simply the power to influence the public agenda. In "crisis talk" each party attempts to portray its own "must haves" as the only true solution to the impending crisis, disqualifying all opposition as uninformed and constituting an obstacle to the urgent task at hand. In this struggle for influence, it is less the quality of one's facts and argument that wins the battle than it is the influence one is able to gain.

Mwenifumbo, L., & Renner, K. E. (1998). Institutional variations in faculty demographic profiles. *Canadian Journal of Higher Education*, 28(2-3), 21-45.

A study created profiles of full-time faculty teaching at nine Canadian universities in 1992-93 in terms of age, rank, tenure status, mobility, and gender, and assessed implications for institutional flexibility and renewal. Salary projections for 1993-2030 are provided, and costs and savings of early retirement programs are evaluated. Institutional variations and the power of institutional research are discussed.

Mwenifumbo, Lorraine, Renner, & Edward, K. (2000). The next generation of faculty. *Interchange*, 31(1), 61.

The years 1963 through 1978 were a time of expansion in Canadian universities.

Researchers in higher education have predicted that another major transition point will occur in the early years of the 21st century when the large number of the faculty hired during the expansion period are expected to retire. Data from the Statistics Canada academic staff survey for 1993 was used to provide a reference point for a descriptive faculty demographic analysis. This date was far enough past the previous transition point for retrospective observations on whether the trends predicted then had actually materialized, yet close enough to the next transition point to prospectively anticipate the future. The age distribution reflected an ageing professorate. Yet, recent appointments constituted 33[percent] of all faculty positions, suggesting that higher education is on the threshold of a new era. However, the characteristics of these recently appointed faculty show that over two-thirds of them received their PhD before 1986 and are middle aged. Only about one third of the recent appointees have recently earned their PhD, and two-thirds of those are mature scholars who are also middle-aged. A controversial point for discussion raised by these findings is whether the faculty positions that have opened up, and will continue to do so at an increasing rate, should go to those who are middle-aged and received their degrees many years ago, to mature new graduates, or to younger PhD graduates, many of whom are women.

Ontario Confederation of University Faculty Associations. (2005). *Closing the quality gap: the case for hiring 11 000 faculty by 2010*. Retrieved from <http://www.ocufa.on.ca/research/vol6no1.pdf> October 15, 2005

barrel in comparison to Canadian and US competitors. This study examines how far the provinceneeds to travel in order to bring that ratio down to a more competitive level and close the qualitygap in the education its university students receive. It refers exclusively to full- time, tenurestreamfaculty positions. The study examines three options: the status quo “bottom-of-the-barrel”scenario, what it takes to bring the ratio to a “middle-of-the-road” scenario, and what it takes toelevate Ontario to the status of North American leader in quality postsecondary education.A student/faculty ratio of 18:1 would present a middle-of-the-road solution, bringing Ontarioback to the level it was at 10 years ago. To replace retiring professors and recruit new faculty asstudent enrolment grows, Ontario would need to fill 7,194 faculty positions by 2010. To becomea North American leader, Ontario would need to bring the student/faculty ratio down to 15:1,which means filling 10,834 faculty positions by 2010 – an increase equivalent to 84% of thenumber of faculty in Ontario universities today. This finding supports the conclusion made bythe Hon. Bob Rae in his Review of Higher Education, who estimated Ontario will need to hire11,000 faculty by the end of the decade.The study also quantifies the cost of inaction. Even if the Ontario government decides it iscontent to remain at the bottom of the barrel with a 24:1 student/faculty ratio, it will need to hire2,644 faculty by 2010 just to stay at this level. Presented a different way, if Ontario universitiescurrently had a student/faculty ratio of 15:1, they would be richer by 7,925 additional facultytoday. Unchecked, the quality gap continues to grow. The study concludes the Ontariogovernment needs to immediately implement a faculty recruitment and retainment strategy orrisk an even greater quality gap in future years.

- Ontario Confederation of University Faculty Associations. (2001). *Less isn't more. Ontario's faculty shortage crisis* Retrieved from <http://www.ocufa.on.ca/research/less.pdf> October 16, 2005, The number of faculty at Ontario universities is far below what is needed to deal with the burgeoning student demand for higher education. The province is now faced with a faculty shortage crisis. What our universities need, and our students deserve, is adequate government funding to hire the 15,000 faculty required to maintain our world-class system of educational excellence.
- Quazi, S. (1996). Faculty renewal in Canada and Ontario: no forthcoming shortage! (with particular reference to education professors). *Interchange*, 27(2), 173-197. The age profile and other characteristics of the full-time professoriate in Canada and Ontario are discussed, with particular focus on the geographical source, previous activity, and age distribution of new appointments to university teaching posts. Patterns of inter-institutional mobility within the regions of Canada for junior and senior faculty are presented. Analysis includes the sources and implications of attrition and changing age profile trends. Historical data, in most cases from the 1970s onward, are presented and analyzed. The increasing use of part-time faculty is discussed, particularly in the context of diminishing federal and provincial government financial support for universities. Discussion on the future demand and supply of professors in Canada and Ontario is presented, but focuses on Faculties of Education. Some reference is made to the comparable situation in Australia, the United States, and other major industrialized countries. Despite the rapidly aging professoriate, the article concludes that there will not be an overall shortage of university teachers in the coming decade or so.
- Renner, K. E. (1991). A Survey Tool, Retrenchment Blues and a Career Alternatives Program. *Canadian Journal of Higher Education*, 21(3), 115-123. A questionnaire and interviews were used to assess personal and professional characteristics of 97 Canadian college faculty reaching age 65 in 2000-2010. It measured career satisfaction, interest in a career alternatives program, and retirement plans. A significant proportion of respondents found little satisfaction in academe and would consider a change.
- Rosenblum, G. & Rosenblum, R. B. (1994). Academic labour markets: perspectives from Ontario. *The Canadian Journal of Higher Education*, 24(1), 48.
- Spencer, B.G. (2001). *Student enrollment and faculty recruitment in Ontario: The double cohort, the baby boom echo and the aging of university faculty*. Ontario Confederation of University Faculty Associations. Retrieved from http://www.ocufa.on.ca/research_studies/stuenrol.pdf October 15, 2005,
- University Presidents' Council of British Columbia. (2001). *Creating opportunity together*. Retrieved from <http://www.tupc.bc.ca/publications/cot2001.pdf> October 16, 2005.

von Zur-Muehlen Max. (1987). Myths and Realities: The Fallacy of Faculty Shortages in the Next Decade. *Canadian Journal of Higher Education*, 17(1), 13-25.

The popular conviction that Canadian universities will experience a serious faculty shortage in the 1990s is examined through statistics on faculty aging and replacement demand, retirement conditions, faculty renewal incentives, and the supply of doctoral recipients. It is concluded that there will be a surplus well into the 1990s.

Vu, U. (2003). Massive spike in enrolment creates post-secondary staffing crunch.

Canadian HR Reporter, 16(5), 14.

The labour market is placing more and more value on knowledge capital, compelling more people to work on getting a degree. Further, the children of baby boomers (the "echo boom" generation) are finishing high school right about now. All told, full-time enrollment is expected to jump by 39% between the 1998-1999 and the 2010-2011 school years. As a consequence, retiring faculty might be asked to come back and teach some courses, Jacek said. Graduate students would also be called on to deliver first-year courses, but this option only keeps them from completing their doctorals.

References - USA

Business Schools at Risk. (2002). *BizEd*, , 48-54.

Explores pervasive forces, such as faculty shortages, pressures to enhance curricular relevance, and intense, worldwide competition, that are threatening traditional business schools. Describes recommendations reached by the Management Education Task Force formed by the Association to Advance Collegiate Schools of Business, which addressed these issues. A sidebar presents an interview with the task force chair.

Supply and demand in personnel preparation.(1993). *Teacher Education and Special Education*, 16, 203-293.

US perspective: the academic labor market: a look into the 1990s.(1990). *University Affairs*, 31(6), 3.

Engineering faculty for the 1990s and beyond.(1989). *Engineering Education*, 79, 537-579.

Andrews, H. A., & Marzano, W. (1991). Meeting the looming faculty shortage: development from within. *Community, Technical, and Junior College Journal*, 61(3), 26-29.

Identifies causes of the imminent faculty shortage. Discusses the concomitant challenge of achieving faculty demographics that resemble student demographics. Proposes that community colleges address both problems by recruiting talented

minority students into the teaching profession via an incentive program. Underscores the importance of integrating program participants into the faculty.

- Arden, E. (1990). Colleges should look to retired professors to cope with the looming faculty shortage. *The Chronicle of Higher Education*, 36, B1.
- Atwell, R. H. (1996). Doctoral education must match the nation's needs and the realities of the marketplace. *The Chronicle of Higher Education*, 43, B4-5.
Doctoral education is mismatched with the number and kind of jobs available for new faculty members. Most new Ph.D.'s acquire jobs at institutions that are not national research universities and become disgruntled and frustrated with their institutions. Rather than this focus on one model of educational excellence, the U.S. needs multiple models of excellence that reflect different but equally worthy education missions, such as a focus on teaching and service.
- Bahrami, B., & Stockrahm, J. W. (2001). Analysis of faculty retirement intention: Using a proportional odds model. *Journal of Applied Business Research*, 17(3), 55-60.
This paper uses data from a random national sample of faculty, age 50 and older, and explores factors affecting faculty member's retirement decisions for three expected retirement age categories. The variables such as end of mandatory retirement, age, current salary, expected others sources of income, early retirement incentives, and years of education have a significant effect on faculty retirement decisions. An understanding of these factors can help decision making for staffing purposes.
- Baldwin, D., & Bidgood, V. H. (1991). Effects of retirement on supply of accounting educators during the 1990s. *Journal of Education for Business*, 67, 84-89.
- Baum, C. L., & Ford, W. F. (2002). Federal freedom to work law challenges academic planning. *Planning for Higher Education*, 30(2), 28-34.
Identifies some of the likely effects of the Senior Citizens' Freedom To Work Act of 2000 on the retirement decisions of professors approaching their normal retirement age as they learn about the added income opportunities created by the new rules. Discusses the Act's potential impact on faculty turnover rates, academic staffing patterns, and the age distribution of academic faculties.
- Berlin, L. E., & Sechrist, K. R. (2002). The shortage of doctorally prepared nursing faculty: A dire situation. *Nursing Outlook*, 50(2), 50-56.
Analysis of national survey data on nursing faculty identified the following trends: since 1993, the mean age of doctorally prepared faculty has increased; average retirement age is 62.5; 200-300 faculty are eligible for retirement annually from 2003-2012; mean number of years in nursing doctoral programs is 8.3. Earlier entry into doctoral programs and full-time study are recommended.
- Berry, L. H., Hammons, J. O., & Denny, G. S. (2001). Faculty retirement turnover in community colleges: A real or imagined problem? *Community College Journal of Research and Practice*, 25(2), 123-135.

Presents the findings of a national study designed to determine if large-scale turnover is likely to occur among community college faculty members in the near future. Examines factors affecting faculty members' retirement decisions, the impact and prevalence of early and phased retirement programs, and the steps taken by institutions to prepare for what some have predicted will be a significant turnover.

- Blair, J. (2001). Colleges seeking teacher-educators. *Education Week*, 20(27), 1, 12-13. Experts maintain that there is little recognition of the disturbing shortage of teacher-educators in schools of education throughout the U.S. They contend that there are plenty of people who hold doctorates in education, but these individuals are not choosing to go into teaching college. Barnett Berry of the National Commission on Teaching & America's Future says that the shortage of teachers in both colleges and K-12 schools means that administrators at every level of learning will need to take a new approach to how they train, recruit, and retain talented people.
- Blum, D. E. (1991). Many studies of future academic job market are said to be of little use to policy makers. *The Chronicle of Higher Education*, 37, A15.
- Blum, D. E. (1990). More moderate increase in faculty retirements predicted in new study. *The Chronicle of Higher Education*, 36, A1.
- Blum, D. E. (1989). Big faculty shortages seen in humanities and social sciences. *The Chronicle of Higher Education*, 36, A1.
- Bouchard, C. B. (1990). The 'lost generation' of scholars can help colleges avoid the looming faculty shortage. *The Chronicle of Higher Education*, 37, B1-2.
- Bousquet, M. (2003). The rhetoric of "job market" and the reality of the academic labor system. *College English*, 66(2), 207-228. The writer analyzes the 1989 faculty prospects study by William G. Bowen and Julie Ann Sosa. He outlines failings of the study, which predicted a substantial excess demand for arts and sciences faculty members in the period 1997-2002, and investigates the study's startlingly uncritical reception among academics. He examines the study's rhetoric of the "job market" and its mistaken imposition of market ideology on academic labor data and discusses the reality of the academic labor system.
- Brendtro, M., & Hegge, M. (2000). Nursing faculty: One generation away from extinction? *Journal of Professional Nursing*, 16(2), 97-103. A statewide survey of 288 nurses with graduate degrees found that those were nursing faculty (n=79) were older than other nurses in the sample. There were no differences in job satisfaction between faculty and other nurses. Noncompetitive salaries, desire for clinical practice, and rising expectations in higher education were deterrents to becoming nurse educators.

Brodie, J. M. (1995). Whatever happened to the job boom? *Academe*, 81, 12-15.

Despite positive economic indicators, academia is faced with the specter of layoffs, downsizing, and uncertain administrative priorities. Some regard the worsening faculty job market as an inevitable byproduct of unrealistic expectations in the 1970s and 1980s, whereas others blame recession, crumbling physical plants, soaring tuition costs, and bad planning. There is little concrete information on the academic job market, and even the few studies that have been conducted do not quantify the number of positions in question. What is clear is that although every discipline is hoping for a reversal in fortune, they are also expecting the worst. The faculty job market prospects for physics graduates, business graduates, language instructors, and those interested in teaching in the ethnic studies field are discussed.

Brooks, K. L., & Shepherd, J. M. (1989). The issue of aging faculty in higher education. *Journal of Professional Nursing*, 5(2), 77-82.

Evidence supporting the trend of aging college faculty is explored, especially as it affects nursing education, and the implications of and strategies for dealing with potential detrimental outcomes of the trend are discussed.

Cage, M. C. (1995). Science and engineering doctoral students should prepare for an off-campus future, report advises. *The Chronicle of Higher Education*, 41, A47.

Although most new science and engineering doctoral recipients are best suited to be university researchers, a report from the National Academies of Science and Engineering and the Institute of Medicine has revealed that only about one-third of them will end up working in academia. The institute and the academies believe that universities should correct the mismatch between academic training and job availability.

Camp, W. G. (1988). Supply of and demand for teachers of vocational agriculture in the United States--1986. *Journal of Vocational Education Research*, 13, 67-81.

Castle, S., & Arends, R. I. (2003). Faculty supply and demand in education. *Journal of Teacher Education*, 54(2), 112-121.

A study examined faculty supply and demand in education. Data were obtained from 408 American Association of Colleges for Teacher Education institutions for the academic years 1997-1998 and 1998-1999. Results revealed that faculty demand was greater than supply. Results showed that openings increased by 34 percent between 1997-1998 and 1998-1999 but that applicants per opening declined by 19 percent, leading to failed searches for 25 percent of the openings. Results also showed that shortages were more critical in certain program areas, that minority hires may be increasing, and that higher salaries in professional and governmental institutions, research and development, and K-12 schools were drawing applicants away from higher education. Implications of the results and suggestions for further research are presented.

Chatman, S., & Jung, L. (1991). *Concern about Forecasts of National Faculty Shortages and the Importance of Local Studies. AIR 1991 Annual Forum Paper. U.S.; Missouri:*

This paper questions whether there is sufficient evidence, as presented in the popular press, to support special action to increase the supply of college and university faculty. The higher education popular press has published several forecasts of faculty shortages due to the mass retirement of expansion era faculty and the forecasted low numbers of doctoral graduates. These forecasts of national shortages encouraged a local study of faculty attrition in a four-campus university system. The local study considered factors not accounted for in national studies but important locally: whether disciplinary field of study or campus location (urban or rural) has been associated with faculty attrition in the recent past and should therefore be considered when modeling demand for new faculty. Discipline and institution location were found to have no significant effect on the likelihood of faculty to continue employment from year to year when faculty age was controlled. Although the retirement rate was expected to increase, no evidence of massed retirements producing an increased demand for new faculty was found. The lack of forecasted increases in demand for faculty locally lead to a reconsideration of national forecast studies, especially when it was determined that the age distribution of faculty across system campuses was similar to faculty nationwide.

Chatman, S. P., & Jung, L. B. (1992). Concern about forecasts of national faculty shortages and the importance of local studies. *Research in Higher Education, 33*, 31-57.

Chronister, J. L., & Baldwin, R. G. (1996). Retirement plans of instructional faculty and staff. *NEA Higher Education Research Center Update, 2*(1)

This analysis of the retirement plans of college and university faculty and staff used data from the 1993 National Study of Postsecondary Faculty. It first determined the proportion of faculty who are age 55 or older by institutional type, discipline, gender, and minority/nonminority status and then analyzed their retirement plans using the same variables. The study found that 26 percent of the full-time faculty and 21 percent of the part-time faculty were 55 or over and that the fields with the largest proportions of older faculty were engineering, humanities, education, and agriculture/home economics. However, a relatively small proportion of faculty (about 7 percent) indicated they were very likely to retire within 3 years though the vast majority plan to retire before age 70. Female faculty and faculty in public institutions of higher education generally planned to retire somewhat earlier than male faculty and faculty in private institutions. Overall job satisfaction did not appear to be related to retirement plans though faculty planning to retire within 3 years were more likely to express job dissatisfaction. The data suggest that a large segment of faculty may be receptive to early retirement incentives and concludes that faculty retirement patterns are unlikely to change dramatically in spite of the abolition of mandatory retirement. Findings are detailed in narrative and figures.

Chronister, J. L., Baldwin, R. G., & Conley, V. M. (1997). *Retirement and Other Departure Plans of Instructional Faculty and Staff in Higher Education Institutions. 1993 National Study of Postsecondary Faculty (NSOPF-93). Statistical Analysis Report* No. NCES98254). U.S.; District of Columbia: U.S. Government Printing Office.

This study examined retirement and other departure plans of full- and part-time faculty and staff in higher education institutions using data from the 1988 and 1993 National Studies of Postsecondary Faculty. Among the study's findings were: 22 percent of full-time and 38 percent of part-time faculty planned to leave their current position within the next three years; 57 percent of full-time faculty and staff planned to retire between the ages of 60 and 70; 28 percent of full-time faculty and staff indicated a willingness to take early retirement; and differences in retirement plans existed by gender, race/ethnicity, academic field, and type and control of institution. The study concluded that institutional policies such as early retirement incentives and part-time employment options may alter employees' retirement plans and behavior. Individual sections of the report detail the study's findings on: characteristics of full-time and part-time instructional faculty and staff; retirement and other separation and mobility plans; mobility to a job not in postsecondary education; expected retirement age or age when planning to leave postsecondary education; and interest in early retirement options. Appended are technical notes, standard error tables, and the survey questionnaires.

Clery, S., & Lee, J. (2001). Faculty retirement: loss or opportunity? *NEA Higher Education Research Center Update*, 7(5)

This research update uses the U.S. Department of Education's National Survey of Postsecondary Faculty to analyze faculty retirement and its effects. It presents data regarding retirement and institution type, field of teaching, gender, union status, plans for retirement, and faculty relocation. It concludes that pending retirement does not appear to pose a threat of an overwhelming loss of talent in higher education, although the loss will be more noticeable in some fields and institutions.

Connecticut Community Coll. System, Hartford. (2002). *Analysis of Community College Faculty by Age*. U.S.; Connecticut:

This document is based on research in the area of faculty age statistics based upon data about full time faculty in the Connecticut community college system. The report was done in response to interest expressed by the Chancellor and the Council of Presidents. The data was extracted from the Banner Human Resources Information System as of September 25, 2001. The report is divided into five sections: (1) comparison of the CT community college to national data; (2) information relating to average and median age of faculty; (3) information relating to faculty and retirement plans; (4) information relating to average and median age by rank; and (5) information relating to faculty age by bargaining unit. The report uses 735 faculty members from 12 different community colleges. Out of the faculty members surveyed, 39% are 55 and older and 61% are younger than 55 years-old. The average age is 51 years-old and the median age is 52 years-old. The charts used in the report are separated by the faculty from each of the 12 community colleges.

- Corn, A. L., & Spungin, S. J. (2002). Graduates and current students in leadership programs in visual impairments. *Journal of Visual Impairment & Blindness*, 96(10), 736-740.
A study investigated doctoral personnel preparation programs in visual impairments at 15 universities. Results indicate only nine of the programs had one or more doctoral students and that over the past five years, only four graduates obtained continuing full-time faculty positions, two in education and two in orientation and mobility.
- Cruse, D., & Hamrick, M. H. (1990). The health education professoriate: demographics and projected retirements. *Health Education*, 21(5), 46-52.
According to a national survey of health education program administrators (N=280), projected retirements in the health education professoriate will be distributed fairly evenly over the next two decades. The number of new doctorates produced annually appears to be adequate to fill positions opened through retirements.
- D'Arms, J. H. (1990). Universities must lead the effort to avert impending national shortages of Ph.D.'s. *The Chronicle of Higher Education*, 36, B1.
- De Young Sandra, & Bliss, J. B. (1995). Nursing faculty--An endangered species? *Journal of Professional Nursing*, 11(2), 84-88.
The present nursing faculty shortage is real and a continued shortage can be expected. Possible solutions include adding more education courses in graduate programs, obtaining increased funding for graduate education, recruiting from new areas, mentoring, giving more flexible teaching assignments, and changing the way clinical instruction is performed.
- DeLoughry, T. J. (1988). Small colleges scramble to find and keep computer-science teachers. *The Chronicle of Higher Education*, 34, A11-13.
- Dil, N., Geiger, W. L., & Hoover, J. J. (1993). Available special education faculty positions in higher education. *Teacher Education and Special Education*, 16, 230-239.
- Doigan, P., & Gilkeson, M. (1986). ASEE survey of engineering faculty & graduate students, Fall 1985. *Engineering Education*, 77(1), 51-56.
Summarizes survey findings of faculty and graduate students that were conducted by the American Society for Engineering Education. Provides data collected in the fall of 1985 on faculty shortages, faculty recruitment, faculty mobility, factors limiting Ph.D. production, the quality of engineering education, and graduate student characteristics.
- Dubowsky, N., Hartman, E. M. J., & Simons, L. (2000). The graying of science faculty in U.S. colleges and universities. *Journal of College Science Teaching*, 29(6), 390-393.
Two studies investigated the anticipated retirements of college science teaching faculty in the immediate future and the plans that colleges have made for coping

with these retirements. The results suggested that there will be significant changes in the ranks of those who teach science in U.S. college classrooms by 2005. Moreover, many institutions will have difficulty finding enough qualified replacement faculty.

Edelson, M. (1992). The complicated job of finding faculty. *American Demographics*, 14, 16-17.

Ehrenberg, R. G. (2004). Prospects in the academic labor market for economists. *Journal of Economic Perspectives*, 18(2), 227-238.

Ehrenberg, R. G. (2003). Projections of shortages. *The Economics of Higher Education*, , 403-13.

El-Khawas, E. (1989). *Campus Trends, 1989. Higher Education Panel Report No. 78.*

U.S.; District of Columbia: Division of Policy Analysis and Research.

In the sixth in an annual series of surveys of changes taking place in the academic and administrative practices of American colleges and universities, special attention was given to college and university faculty, in light of significant shortages predicted for the next decade. Questionnaires were completed by senior administrators at 366 colleges and universities (80% of a sample of 456). Responses are statistically weighted so that the results are representative of all American institutions offering undergraduate instruction. Results include the following: (1) some institutions are already experiencing problems in filling certain faculty positions; (2) half reported that it now takes longer to find qualified persons for full-time faculty positions; (3) over the next 5 years faculty shortages are expected to involve a sizeable number of institutions and a range of fields; (4) there is widespread use of general education requirements; (5) much activity is devoted to developing methods of assessing student learning; (6) problems with inadequate physical facilities are growing; and (7) substantial financial pressures confront both public and independent institutions. Findings are presented in five sections: faculty, minority initiatives, assessment, other changes, and challenges ahead. Detailed tables, giving results by type of institution, follow the text. The questionnaire is appended.

Erekson, T. L., & Gloeckner, G. (1986). Supply and demand of university faculty.

Industrial Education, 75(9), 8-10.

A study was conducted to collect employment-related data for current university industrial education faculty that could be analyzed by teaching area. The intent was to determine the age distribution data by teaching area as a basis for making labor market demand projections. Results indicated a potential shortage of industrial education faculty in the near future.

Erekson, T. L., & Gloeckner, G. W. (1987). University employment in industrial education: selected factors and projections. *Industrial Education*, 76, 16-17+.

Erekson, T. L., & Lundy, L. L. (1986). *Supply/Demand for Industrial Education University Faculty Based on Retirement Projections: Implications for Industrial*

Teacher Education, Research and Leadership Development. U.S.; Illinois: The supply and demand were projected for university teaching positions in departments listed in the "Industrial Teacher Education Directory" based upon age distribution, retirement projections, and number of doctoral graduates. Data were collected through a mail survey to department heads/chairs. The specific age distribution of industrial education faculty indicated the profession is growing older with one-fifth of the faculty 55 years old or older. Early retirement options had already had an impact on faculty over 55. Not quite two-thirds of the respondents indicated that their institutions had an early retirement option. Department heads estimated 268 new positions and a loss of 92 positions. Findings suggested it had been relatively difficult for department heads to hire replacement faculty. Of those indicating an area, 44.8 percent indicated that electronics-related specialties were the most difficult to fill. There were 357 doctoral students pursuing a program in an area related to industrial education. Data indicated that there will be supply /demand problems in attempting to fill university faculty positions in industrial education with individuals who hold the doctorate. Approximately 1.2 vacancies per doctoral student in the next five years were projected.

Erekson, T. L., & Volk, K. S. (1990). Who will teach the teachers? *School Shop Tech Directions*, 49, 30-31.

Evangelauf, J. (1986). Shortage of business professors worsens; 16 pct. of tenure-track posts vacant. *The Chronicle of Higher Education*, 32, 1+.

Evelyn, J. (2001). Community colleges face a crisis of leadership. *Chronicle of Higher Education*, 47(30), A36-A37.

Discusses the potential dearth of leaders for community colleges: some 80 percent of their presidents are expected to retire in the next decade, and replacements may be lost to elementary and secondary schools or to retirement. Addresses the training and policy support needed to meet the shortage.

Fallin, J. R., & Garrison, P. K. (2005). Answering NASM's challenge: Are we all pulling together? *Music Educators Journal*, 91(4), 45-49.

Higher education music faculty must work together to address the current shortage of music educators. Some ways in which applied music and music education faculty could help to alleviate the current music educator shortage are suggested.

Feldman, R. A. (1999). The human resource crisis in social work education. *Journal of Social Work Education*, 35(2), 178-181.

There is a growing gap between the number of social work educators with doctoral degrees and the number of educational programs that must be staffed by them. In order to correct the sharply growing disparity, there could be a marked growth in the number of social work doctoral graduates, social work education programs could be staffed with larger numbers of adjunct faculty members or with more educators whose terminal degree is an MSW, social work education programs could be increasingly staffed with faculty members who have acquired the doctoral degree in

a profession or discipline other than social work, or the rate of growth of accredited BSW and MSW programs could be reduced until equilibrium has been reached between the supply and demand of faculty members with social work doctorates.

Fine, L. (2002). Dearth of spec. ed. professors kindles K-12 shortage. *Education Week*, 21(27), 19.

The number of special education professors has dropped over the past two decades. This decline at the university level has meant that fewer people have been equipped to train new teachers needed to ease the personnel shortage in K-12 special education.

Friedman, P. J. (1992). Aging of medical school faculty and the end of mandatory retirement. *Academic Medicine*, 67(4), 223-231.

Analysis of the national demographics of medical school faculty found a substantial drop in growth rate of full-time faculty since 1972 and little change in retirement patterns after the 1982 rise in mandatory retirement age. The uncapping of mandatory retirement age is seen as having little effect in medical education.

Friedman, P. J. (1989). Faculty renewal: modeling the impact of the end of mandatory retirement in the University of California medical schools. *Academic Medicine*, 64(7), 372-377.

A projection based on 1984-85 data on University of California medical school faculty suggests that the impact of delaying faculty retirement by several years would be minimal. It is recommended that academic institutions pay more attention to maintaining faculty vitality and productivity regardless of age.

Futas, E., & Zipkowitz, F. (1991). The faculty vanishes. *Library Journal*, 116(14), 148-152.

Discusses the current shortage of library science faculty members and reports the results of a survey of library school faculty that was conducted to document the need for replacement faculty. Topics discussed include age, predicted retirement patterns, tenure, length of time teaching, salaries, and effects on the library profession.

Gill, J. I., & Others. (1992a). *Bringing into Focus the Factors Affecting Faculty Supply and Demand: A Primer for Higher Education and State Policymakers* No. WICHE2A210). U.S.; Colorado: Western Interstate Commission for Higher Education.

This report offers an analysis of college faculty supply and demand as well as an evaluation of currently available data on this issue. The report was undertaken in response to three concurrent trends which point to significant faculty shortages beginning in 1995. The report begins with a descriptive overview of current faculty demographics that includes data on current shortages. Next, two major factors are reviewed that affect faculty demand: faculty attrition and student enrollment. The factors affecting faculty supply, the faculty pipeline, recruitment and retention, are then discussed. Faculty retirement and demand projection and student enrollment projections are presented, along with critical commentary about using and

developing projections. The monograph concludes with suggestions on adequate data and useful models, compensation and recruitment, under-representation of minorities and women, flexible personnel policies, and professional development. It urges the increased understanding of issues concerning faculty supply and demand as institutions work to maintain quality faculty. The appendix includes a list of data sources.

Gill, J. I., & Others. (1992b). Faculty supply and demand--Data sources and Data needs. *Research Dialogues*, (32)

This publication reviews and analyzes the research on issues affecting faculty supply and demand in higher education and looks at how recent research can assess future trends. An introduction describes many researchers' prediction that three trends will soon create a faculty shortage: (1) increasing faculty retirements based on extensive hiring during 1960s and 1970s; (2) increasing college enrollments; and (3) declining numbers of doctoral recipients interested in a faculty career. The analysis then looks at factors affecting the demand side including changing educational programs; data on student enrollments; and expected replacement needs due to faculty attrition through mobility, death inservice, or retirement. This section concludes that intra-institutional movement as well as attrition are key areas where institutions need more information on faculty decisions to move from one college to another or to leave academe for other work. On the supply side the paper examines graduate school enrollments for doctoral degrees; labor-market competition from noneducational employers; and faculty recruitment. Finally the analysis examines projections for supply and demand based on the data and the assumptions involved. A final section concludes that the analysis raises many questions about the underlying quality of the available data and its collection.

Golicic, S. L., Bobbitt, L. M., & Frankel, R. (2004). And who will teach them? An investigation of the logistics PhD market. *Journal of Education for Business*, 80(1), 47-51.

At a time when there is high demand for logistics/supply-chain education at the undergraduate and master's levels, there is short supply of logistics PhDs to take faculty positions. In this research, the authors used both primary and secondary research to confirm the gap between supply and demand of logistics/supply-chain scholars. Their study draws attention to this salient issue and offers suggestions as to how the discipline can monitor and manage the production of logistics/supply-chain PhDs to bridge the supply and demand gap. Reprinted by permission of the publisher.

Green, J. R. (1993). Future graduate study and academic careers. *Studies of Supply and Demand in Higher Education.*, 145-79.

Gustman, A. L., & Steinmeier, T. L. (1992). Pension incentives, mandatory retirement and retirement behavior in higher education. *Economics of Education Review*, 11(3), 195-204.

Incentives to retire at 26 private colleges and universities are analyzed using data for

tenured, male faculty employed in the 1970s. Simulations suggest that raising or abolishing the mandatory retirement age will substantially delay retirement by faculty members at these institutions.

Haden, N. K., Weaver, R. G., & Valachovic, R. W. (2002). Meeting the demand for future dental school faculty: Trends, challenges, and responses. *Journal of Dental Education*, 66(9), 1102-1113.

Presents data from the American Dental Education Association's 2001-02 survey of vacant budgeted faculty positions and examines challenges likely to exacerbate faculty shortages in the immediate future.

Hamilton, K. (2003). English, foreign language job seekers face major decline in available positions. *Black Issues in Higher Education*, 19(24), 28-29.

The Modern Language Association's Job Information List for October 2002 indicated a major decline in available positions for English and foreign language job seekers. The most comprehensive listing of available job opportunities in those fields, the list revealed a 19 percent decline in jobs in English and a 21 percent decline in foreign language jobs between 2001 and 2002.

Hardman, M. L., & West, J. (2003). Increasing the number of special education faculty: Policy implications and future directions. *Teacher Education and Special Education*, 26(3), 206-214.

This article reviews the history of national policy for personnel preparation under Part D of the Individuals with Disabilities Education Act and offers some recommendations for federal policy that may increase special education faculty. It concludes that higher education must develop new ways of communicating its importance to policy makers.

Hartle, T. W., & Galloway, F. J. (1996). Too many PhDs? Too many MDs? *Change*, 28, 26-33.

The writers give their view of four recent studies that claim there are more Ph.D.'s and medical doctors than the current or future labor market needs.

Heller, S. (1990). The expected turnaround in the faculty job market may come too late for @lost generation' of scholars. *The Chronicle of Higher Education*, 36, A1.

Heller, S. (1986). Creative writers scramble to fill scarce teaching jobs at colleges. *The Chronicle of Higher Education*, 32, 15+.

Heward, W. L. (1995). Introduction to the topical issue: Training special education faculty for the 21st century. *Teacher Education and Special Education*, 18(3), 143-146.

This article introduces a special issue of this journal, featuring six articles on the preparation of higher education special education faculty. Faculty shortages are documented, as is the need for the recruitment and training of faculty representing

minority groups. The need for faculty to be both scholars and researchers is also discussed.

Hodges, L. (1994). Staying alive with the grey brigade. *The Times Higher Education Supplement*, (1137), 9.

The abolition of the mandatory retirement age is creating tremors throughout U.S. higher education. Critics argue that vacancies for young people will dry up, that older professors will cost more than younger ones, and that the quality of research will be affected. Some universities are trying to remedy the problem by offering early retirement and retirement incentive schemes.

Holden, K. C., & Hansen, W. L. (1989). Eliminating mandatory retirement: Effects on retirement age. *New Directions for Higher Education*, 65 (The End of Mandatory Retirement: Effects on Higher Education) v17 n1 p73.

Uncapping the mandatory retirement age is unlikely to alter retirement age by much, but it will lead to substantially higher pensions for faculty members who continue to work. Institutions must monitor retirement-age behavior in order to restructure pension and other benefits appropriately to meet income and retirement objectives.

Holden, K. C., & Hansen, W. L. (1989). Retirement behavior and mandatory retirement in higher education. *New Directions for Higher Education*, 65 (The End of Mandatory Retirement: Effects on Higher Education) v17 n1 p33.

A study of the historical connection between pension, mandatory retirement age, and retirement behavior in higher education suggests that raising the mandatory retirement age from 65 to 70 will have relatively small, short-term effects on the retirement timing of tenured faculty members.

Horton, J. A., & Hintz, S. S. (2002). *The New Faculty Orientation and Mentoring Program: A Strategic Approach*. U.S.; Virginia.

This document describes a potential crisis at Northern Virginia Community College (NVCC) due to the large numbers of faculty who are approaching or have already reached retirement age. NVCC is the third largest community college in the nation, made up of five campuses, soon to be six, and an Extended Learning Institute for distance learning. NVCC mirrors their diverse community with an equally diverse student, staff and faculty population. A study by the NVCC Office of Institutional Research found that a large number of the current staff are eligible to retire and many more are approaching eligibility. The Division Chairs Round Table (DCRT) met to discuss how to confront the potential crises of hiring as much as 50% of the division's instructional faculty at one time. The article reviews research on the successful nature of orientation and mentoring programs for faculty. It also describes a plan developed by the DCRT to create a New Faculty Orientation Task Force and the specifics of the task force including the members, the budget, the meeting schedule, and the proposed goals. Following this, the paper describes the development, implementation and the outcomes of the New Faculty Orientation and Mentoring Program. Includes a figure illustrating the phases of the NVCC New Faculty Orientation and Mentoring Program.

Jacobson, R. L. (1985). Low pay and declining working conditions seen threatening colleges' teacher supply. *The Chronicle of Higher Education*, 30, 21.

Keller, L. J. (1991). *Colorado Community College Survey--Faculty Retirement and Retention, Final Report*. U.S.; Colorado.

In 1991, a study was conducted to provide a demographic profile of Colorado's community college faculty; to determine their retirement intentions; to predict the percent of faculty retiring over the next 14 years; to ascertain those incentives most favorable for retaining the services of faculty beyond their retirement eligibility; and to determine other aging/retirement concerns and perceptions. Surveys were delivered to 1,005 full-time teaching faculty and presidents at the state's 15 community colleges. Study findings, based on a 64.2% response rate, included the following: (1) over 57% of the full-time teaching faculty were over 44 years old, and nearly 20% were over 55; (2) 68.1% of the full-time teaching faculty had graduate degrees; (3) of the full-time teaching faculty 55 years of age and older, 92% planned to continue teaching until retirement eligibility; (4) the major concerns of the respondents about retiring and aging--regardless of age--were adequate financial resources and physical/health problems; (5) most of the respondents favored some form of incentive to continue working beyond retirement eligibility, particularly a raise for each year worked beyond retirement eligibility and part-time work after retirement at a prorated full-time salary; and (6) the respondents agreed that working beyond retirement was often related to income issues and that teaching opportunities at the college were limited for retired faculty. The survey instruments are attached.

Kellogg, A. P. (2001). Report reveals tight job market for historians of gay topics. *The Chronicle of Higher Education*, 47(43), A13.

A new report claims that historians who focus on gay studies have difficulty in finding tenure-track positions. Released by the Committee on Lesbian and Gay History, the report contends that bias is to blame for the tight job market. However, some historians dispute this claim.

Kisker, C. B. (2004). Faculty retirement and recruitment in the community colleges. *Community College Journal of Research and Practice*, 28(1), 91-95.

Several recent studies have shown that a large-scale turnover is likely to occur among community college instructors over the next several years, as veteran faculty retire in large numbers. As colleges begin to experience this mass retirement, researchers and administrators must consider the side effects of a faculty turnover, especially in relation to faculty recruitment, training, and the use of part-time instructors. The citations in this annotated bibliography explore the current issues of faculty retirement and recruitment, and identify some of the key challenges and opportunities that will accompany the predicted largescale

Kuh, C. V. (1993). Future graduate study and academic careers: Comment. *Studies of Supply and Demand in Higher Education*., 179-82.

Leatherman, C. (1991). End of mandatory-retirement policies seen having little effect on professors. *Chronicle of Higher Education*, 37(17), A13-14.

Recent studies have found that most faculty are more influenced to retire by financial incentives, working conditions, and family matters than the end of mandatory-retirement policies, anticipated in 1994. Further research and improved retirement tracking on individual campuses are recommended for improved institutional planning.

Little, S. G., & Akin-Little, K. A. (2004). Academic school psychologists: Addressing the shortage. *Psychology in the Schools*, 41(4), 451-459.

The following article attempts to address the current shortage in school psychology faculty. Although little empirical evidence exists, the authors conclude that such a shortage exists. Possible explanations for the shortage and barriers to overcoming it are discussed. Preliminary data from a survey, which attempted to identify programs with a consistent track record in preparing students who enter academia, are presented. The article concludes with an examination of suggestions for improving the current situation. These suggestions are culled from two directors of successful school psychology programs and the authors' own experiences as trainers.

Lozier, G. G., & Dooris, M. J. (1991). *Faculty Retirement Projections beyond 1994: Effects of Policy on Individual Choice*. U.S.; Colorado: WICHE Publications.

This study examines the age distribution of faculty retirements at 101 colleges and universities offering at least the baccalaureate degree, representing 35,000 faculty. It examines both historical retirement patterns and distributions of faculty by age and discipline. The study also examines data from a survey of 518 retired faculty members concerning factors influencing their retirement decision. Study findings include: (1) the anticipated 1994 elimination of mandatory retirement is unlikely to cause an immediate substantial increase in the average age of retirement; (2) faculty retire on average 1.8 years later at independent versus public institutions of higher education; (3) average ages at retirement differ depending on the retirement program; (4) 88 percent of survey respondents indicated that mandatory retirement was not a significant factor in their decision to retire; (5) the overriding concern among faculty retirees is their financial condition upon retirement; and (6) projections of retirement rates indicate that the largest number of retirements will occur between 1998-99 and 2002-03, though rates are projected to vary by discipline. Thirty-five tables display data on such topics as average ages at retirement by control of institution, level of institution, retirement plan, and location of institution; importance of mandatory retirement in separators' decision to retire; and factors in retirees' retirement planning by discipline and gender. Appendices provide survey instruments, a list of participating institutions, and detailed statistical data.

Lozier, G. G., & Dooris, M. J. (1991). Projecting faculty retirement: factors influencing individual decisions. *The American Economic Review*, 81, 101-105.

Lozier, G. G., & Dooris, M. J. (1988). Elimination of mandatory retirement: anticipating faculty response. *Planning for Higher Education*, 17(2), 1-14.

Lozier, G. G., & Dooris, M. J. (1987). *Is Higher Education Confronting Faculty Shortages? ASHE Annual Meeting Paper*. U.S.; Pennsylvania: Retirement policies and possible effects on teacher shortages were examined. Information was obtained concerning: a 5-year summary of faculty retirements by age, the age distribution of each institution's full-time faculty by academic area, and changes over the past 5 years in personnel policies and procedures in response to anticipated faculty shortages or as part of an ongoing management system. A total of 12 to 20 institutions provided data on faculty retirement ages and age distributions and fields of full-time faculty. These data were used to make projections of faculty retirements for 1987 through 1994 and 1994 through the year 2000. Twenty-four institutions provided information on recently initiated changes in personnel policies. Three modal years of retirement were found: ages 65, 66, and 70. Across the 5-year period, about two-thirds of the faculty had retired by age 66. The data suggest that factors other than the age of mandatory retirement seem to be more instrumental in determining the average age of retirement. There were substantially younger faculty in several of the growth fields of the 1970s and 1980s, including business, computer science and information science, allied health and health sciences, law, and communications.

Magner, D. K. (2000). The imminent surge in retirements. *Chronicle of Higher Education*, 46(28), A18-A20.

Discusses implications for colleges and universities of the coming retirement of the cohort of faculty brought in to teach the baby boomers. Notes both positive and negative financial impacts, effects of the greater amounts of wealth held by senior faculty on their decisions, and an increasing diffusion in retirement ages.

Magner, D. K. (1999). For job hunters in academe, 1999 offers signs of an upturn. *The Chronicle of Higher Education*, 45(21), A14-16.

Many institutions are reporting an increase in hiring for tenure-track positions. The reasons for this increase are the departure of growing numbers of senior professors who were hired in the 1960s and are now retiring and the healthy state of the U.S. economy.

Magner, D. K. (1999). The graying professoriate. *Chronicle of Higher Education*, 46(2), A18-A19.

A survey of 33,785 faculty in 378 colleges and universities found nearly one-third were 55 or older, compared with one-quarter a decade ago. Over the same period, the proportion of faculty under 45 has fallen from 41% to 34%. While more women are in academe, ethnic diversification has not progressed. The survey also examined attitudes toward technology.

Magner, D. K. (1996). Too many science Ph.D's? *The Chronicle of Higher Education*, 42, A19-20.

The scientific community is debating how graduate programs should respond to a bleak job market. Some scholars believe that doctoral programs should cut back on their graduate numbers, whereas others argue that doctoral education should change. Many young scientists who cannot find work have to work in postdoctoral or temporary research positions for four years or more and those who have found jobs cannot find financing for their research.

Magner, D. K. (1994). Job-market blues. *The Chronicle of Higher Education*, 40, A17.

Magner, D. K. (1993). Colleges study how they will be affected by the end of mandatory retirement. *The Chronicle of Higher Education*, 39, A15.

Malveaux, J. (1995). Education pipeline or merry-go-round? *Black Issues in Higher Education*, 12, 40-41.

The writer discusses changing employment trends in higher education--with universities curtailing employment, eliminating departments, and increasingly employing part-time or temporary staff--and how these trends are affecting minority doctorate holders. She notes the emergence of the affirmative-action backlash and the declining numbers of African-American Ph.D.'s.

Mangan, K. S., & Whitfield, T. (1992). Jobs harder to find and harder to keep as budget actions batter much of academe. *The Chronicle of Higher Education*, 39, A16-18.

Maples, M. F., Altekruze, M., & Testa, A. M. (1993). Counselor education 2000: extinction or distinction? *Counselor Education and Supervision*, 33, 47-52.

Mathews, M. B. (2003). Resourcing nursing education through collaboration. *The Journal of Continuing Education in Nursing*, 34(6), 251-257.

The nursing shortage is also a nursing faculty shortage. The shortage of nurses can only be managed if the shortage of faculty is addressed. The profession needs creative and rigorous "research and development" strategies to secure sufficient educator resources across practice settings. Recent position statements of the American Association of Colleges of Nursing and the National League for Nursing on nursing education and the preparation of nurse educators recommend specific actions to meet these needs. The author calls for purposeful and creative collaboration between educators in academic and service settings to resource nursing education, now and in our future.

McAlister, B. K., & Erikson, T. L. (1988). Supply and demand for university technology faculty. *Industrial Education*, 77, 7-8+.

McDonald, K. (1986). Population drop seen softening need for new science professors. *The Chronicle of Higher Education*, 31, 25-26.

- McGuire, M. D., & Price, J. A. (1989). *Faculty Replacement Needs for the Next 15 Years: A Simulated Attrition Model*. U.S.; Pennsylvania:
Faculty replacement needs for the next 15 years are projected at a multi-institutional level within the context of a simulated attrition model. Study participants are members of the Higher Education Data Sharing Consortium. The first study phase consisted of summary data from 60 institutions on mean age, standard deviation, and median age of full-time faculty by rank. The second phase involved faculty attrition ratios such as the annual rate of faculty loss for each of several reasons. Another statistic from the colleges was the anticipated annual rate of overall faculty growth over the next several years. The third phase, formulation of the faculty replacement needs model, relied on attrition ratios and on actual faculty age distributions. Results suggest that: (1) the next 15 years will see a steep increase in the annual net loss of college faculty, with replacement exacerbated by growth in the overall size of the professoriate; (2) the distribution of current age, retirement year, total retirees, total net loss, total new hires, and the summary ratios are similar because retirees account for most of the year-to-year variability in these measures though only 17-37% of total net faculty loss; (3) faculty aging, retirement, and attrition appear to have a differential impact on various academic departments; and (4) probable needs in the late 1990s and beyond may be even greater than those projected if the quality of instruction and research at American colleges and universities is to be maintained or enhanced. An appendix describes departmental clustering (humanities, sciences, social sciences, and other).
- Miyares, I. M., & McGlade, M. S. (1994). Specializations in "jobs in geography": 1990-1992. *The Professional Geographer*, 46, 170-177.
- Monahan, D. J., & Greene, V. L. (1987). Predictors of early retirement among university faculty. *The Gerontologist*, 27, 46-52.
- Montgomery, S. (1989). Findings from the COFHE Studies., *New Directions for Higher Education*; No 65 (The End of Mandatory Retirement: Effects on Higher Education) v17 n1 p51.
The major findings of three studies conducted in 1979-80 for the Consortium on the Financing of Higher Education (COFHE), a group of 30 private colleges and universities, on the potential impact of extending the minimum age of mandatory retirement from 65 to 70 are presented.
- Mooney, C. J. (1990). Faculty job market slowly improving, evidence indicates. *The Chronicle of Higher Education*, 36, A1.
- Mooney, C. J. (1989). In 2003, colleges may need to recruit a third more professors than in '89. *The Chronicle of Higher Education*, 35, A1.
- Mooney, C. J. (1989). Uncertainty is rampant as colleges begin to brace for faculty shortage expected to begin in 1990's. *Chronicle of Higher Education*, 35(20), A14,16,17.

An expected wave of retirements has some institutions stockpiling professors by hiring them before openings occur, while many colleges and universities worry about the dwindling supply of high-quality faculty candidates.

Mooney, C. J. (1987). Expected end of mandatory retirement in 1990's unlikely to cause glut of professors, study finds. *Chronicle of Higher Education*, 34(16), A1,11.
A survey of 24 research universities suggests that contrary to expectations of a faculty surplus, changing demands for different disciplines could further compound a projected shortage of scholars in some fields.

Norris, D. M., & Jeffrey, C. (1991). The supply and demand of accounting faculty by interest area. *Journal of Education for Business*, 67, 41-44.

Norris, W. (1989). America short of academics. *The Times Higher Education Supplement*, (874), 1.

Norris, W. (1988). Staff shortages grow in US universities. *The Times Higher Education Supplement*, (833), 1.

North Carolina State Univ., Raleigh. (2002). *North Carolina State University, Department of Adult and Community College Education Revised Compact Plan for 2003-2005*. U.S.; North Carolina:
This article contends that the Department of Adult and Community College Education at North Carolina State University faces a significant challenge over the next 5 years, due to current Department faculty retirements and increasing competition from traditional, nontraditional, and virtual distance learning programs for prospective students. This revised compact plan aims to strengthen the quality and currency of the Department's instructional focus, enhance its outreach to its stakeholders, and develop ways to nurture and incorporate research-oriented practice throughout the Department's programs. The college compact notes four key gaps through which the department is experiencing serious challenges: (1) Knowledge Gap--reflecting the exponential increase in knowledge and information and the dramatically changing economy and related work and citizenry requirements for adult learners; (2) Technology Gap--in organizations and programs which are attempting to serve adults in a growing e-learning environment; (3) Educator Supply Gap--a serious issue for stakeholders in both postsecondary and work environments, as well as non-profit and community-based organizations; and (4) Achievement Gap--which represents the effort to achieve more effective admissions processes, effective and efficient learning models, and maximized learner productivity in their current and future professional work and leadership roles. As a means of addressing these concerns, the revised compact presents four strategic initiatives and three departmental goals.

Peterson, D. L. (1986). *Retirement in Illinois Community Colleges, 1985-1986*. U.S.; Illinois:
This analysis of retirement planning and early retirement incentive plans in Illinois

community colleges was drawn from a study of early retirement plans at each of the state's 39 community colleges, and a follow-up survey to clarify information in the documents and determine colleges' plans for the future. After introductory comments on the issue of the "aging professoriate" and the information sources for the analysis, chapter 1 provides a general discussion of retirement trends and attitudes nationally, including a review of research on employee attitudes toward retirement. Chapter 2 explores retirement in academe, summarizing several studies related to faculty attitudes toward retirement. Chapter 3 explores the history of the early retirement concept, the growth of early retirement programs in academia, the advantages and disadvantages of such programs, and attitudes toward early retirement. Chapter 4 considers various approaches to helping people plan for retirement, providing examples of pre-retirement programs. Financial aspects of early retirement are explored in chapter 5, which highlights early retirement incentive options and potential benefits of early retirement. Finally, chapter 6 examines early retirement in Illinois community colleges. This chapter describes the current retirement programs of Illinois community colleges, summarizes a study conducted by Illinois State University designed to determine the effectiveness of early retirement programs, and offers recommendations related to community college retirement programs. Appendices present survey responses to open-ended questions concerning community college retirement plans in Illinois, and survey instruments.

Pierce, T. B., Smith, D. D., & Clarke, J. (1992). Special education leadership: supply and demand revisited. *Teacher Education and Special Education, 15*, 175-182.

Pion, G. M., Smith, D. D., & Tyler, N. C. (2003). Career choices of recent doctorates in special education: Their implications for addressing faculty shortages. *Teacher Education and Special Education, 26*(3), 182-193.

A survey of individuals who earned their doctorates between 1994-1998 (n=872) found only 36% of recipients were employed full-time in tenure-line positions. Factors influencing career choices included age at beginning doctoral study; career aspirations of beginning doctoral students; institutional financial support; and the ability to relocate after graduation.

Pogemiller, L. (1991). College teaching jobs and the marketplace. *The American Music Teacher, 41*, 32-5+.

Powell, T. (2004). Finding the right prescription. *Black Issues in Higher Education, 21*(20), 32-37.

The higher education sector is having a tough time meeting the growing demand for pharmacists. There are currently more students applying to pharmacy schools than available slots, and deans are having problems finding people to teach in the record number of pharmacy schools that are being built.

Princeton, J. C. (1992). The teacher crisis in nursing education--revisited. *Nurse Educator, 17*, 34-37.

Rees, A., & Smith, S. P. (1991). The end of mandatory retirement for tenured faculty. *Science*, 253(5022), 838-839.

The effects of the 1986 amendments to the mean age of retirement and on the age distribution of tenured faculty in the arts and sciences are forecasted. It is argued that the end of mandatory retirement will not bring the severe problems to most of higher education as feared by academic administrators.

Reeves, R. A., & Galant, R. L. (1986). *An Academic Resource in Low Supply and High Demand: A Survey of Community College Recruitment Plans of General Education Faculty over the Next Five Years*. U.S.; Michigan:

In anticipation of teacher shortages in liberal arts disciplines, a study was conducted to investigate how community college administrators in the 19-state Council of North Central Community /Junior College Region planned to recruit faculty in general education disciplines over the next 5 years. In spring 1986, 353 community and junior college administrators were surveyed about anticipated positions and vacancies, recruitment planning strategies, recruitment practices, and Equal Employment Opportunity strategies. Study findings, based on a 55% response rate, included the following: (1) respondents anticipated the most difficulties in recruiting mathematics, physical science, and life science faculty; (2) community colleges in rural areas anticipated more difficulties than those in metropolitan areas; (3) only 35.4% of the respondents indicated that they used a recruitment plan; (4) the most commonly identified components of college recruitment plans were related to organization and development, implementation, information sources, and period of time covered by the plan; (5) the top ranked recruitment sources were college placement services, newspaper advertisements, professional journals, part-time/temporary pools, private business/industry, and on-site recruitment; (6) 7% of the respondents reported using special inducements, such as providing housing, special fringe benefit packages, or expanded professional development opportunities, to recruit faculty; and (7) current salary structures were viewed as the primary constraints on efforts to hire competent faculty. Based on study findings, it was concluded that although the supply of faculty may be adequate for future demand, community colleges with developed recruitment plans will be in the best position to optimize faculty recruitment. The survey instrument and responses are appended.

Rosenfield, S. (2004). Academia: it's a wonderful life? isn't it? *School Psychology Quarterly*, 19(4 spec iss), 398-408.

School psychology is currently facing a serious shortage of faculty. Articles in the miniseries, *The State of Developing University Faculty in School Psychology: Current Status and Perspectives on the Future*, address this problem from a variety of perspectives and suggest solutions. Three connected themes emerge: lack of appeal of an academic lifestyle, issues around women entering the professorate, and the lure of practice. Proposed solutions focus on selection, funding, mentoring, and modeling. However, relating these solutions to the themes that have emerged requires thinking in creative ways.

- Rude, C., & Cook, K. C. (2004). The academic job market in technical communication, 2002-2003. *Technical Communication Quarterly*, 13(1), 49-71.
Analysis of the academic job market in 2002-2003 reveals that 118 nationally advertised academic jobs named technical or professional communication as a primary or secondary specialization. Of the 56 in the "primary" category that we were able to contact, we identified 42 jobs filled, 10 unfilled, and 4 pending. However, only 29[percent] of the jobs for which technical or professional communication was the primary specialization were filled by people with degrees in the field, and an even lower percent (25[percent]) of all jobs, whether advertised for a primary or secondary specialization, were filled by people with degrees in the field. Search chairs report a higher priority on teaching and research potential than on a particular research specialization, and 62[percent] of all filled positions involve teaching in related areas (composition, literature, or other writing courses).
- Ryan, M. E., & Irvine, P. (1994). Nursing professorate in America: projected retirements and replacements. *Journal of Nursing Education*, 33, 67-73.
- Schoenfeld, C. (1993). The retirees are coming--or are they? *CUPA Journal*, 44(3), 1-6.
Changes in retirement patterns at colleges and universities can be expected because of demographic reasons and because of federal and state legislation uncapping mandatory retirement. Institutional policies that will encourage reluctant older faculty to retire need to address the three fundamental components of successful employee retirement: (1) adequate income, (2) affordable health care, and (3) continued opportunities for self-fulfillment.
- Schuster, J. H. (1995). Whither the faculty? The changing academic labor market. *Educational Record*, 76, 28-33.
Part of a special section on organizational change in higher education. The writer discusses the factors that affect the academic labor market. Two demographic factors that influence the demand for faculty are enrollment-driven demand and replacement-driven demand. It is very likely that enrollments will continue to increase steadily for at least the next 15 years as the number of 18- and 19-year-olds will increase by almost one-third between 1995 and 2010. For the replacement-driven demand, the U.S. Bureau of Labor Statistics forecasts 291,000 vacancies to be filled between 1992 and 2005. Other factors that will affect the academic labor market of the future are economic and political conditions, the end of mandatory retirements since 1994, immigration and internationalization issues, the need for flexibility in staffing, and technology.
- Schuster, J. H. (1990). Faculty issues in the 1990s: New realities, new opportunities.
Fueled by expanding enrollments in higher education and by unprecedented numbers of faculty vacancies, the marketplace of academe points to sharply escalating demand for qualified faculty. Reasons for an inadequate number of qualified faculty include competition from more lucrative careers and length of time to produce doctorate holders.

Sindelar, P. T., & Others. (1993). Supply and demand of leadership personnel in special education: A follow-up study with analysis of failed searches. *Teacher Education and Special Education, 16*(3), 240-248.

This study investigated the supply and demand of leadership personnel in special education and communication disorders. An analysis of failed college faculty searches in 1988 supported predictions about demand outstripping supply. The shortage was most acute at institutions of higher education with small departmental faculties.

Sindelar, P. T., & Rosenberg, M. S. (2003). The demand for faculty in special education: A study of searches conducted in 1997-98. *Teacher Education and Special Education, 26*(3), 165-171.

Information from 121 chairs of 1997-98 special educational search committees was collected. The majority of positions were at the rank of Assistant Professor and were left vacant due to faculty mobility. Seventy-three percent of searches ended successfully; 76% of those hired were women; and 20% were culturally or linguistically diverse.

Smith, D. D., & Pierce, T. B. (1995). The state of special education leadership training and college and university faculty: what we know and what we don't. *Teacher Education and Special Education, 18*, 156-165.

Part of a special issue on training special education faculty for the 21st century. The writers review the disparate parts of the research literature about special education faculty, leadership training, and higher education programs. The review includes a focus on the relationship between direct service personnel and institute of higher education (IHE) faculty, demand and supply, increasing attrition rates of IHE faculty, insufficient production of new doctorates, and insufficient and misplaced incentives. Currently, the demand for special education doctoral graduates is in excess of the supply. In the late 1980s, it was predicted that the field of special education was going to face a shortage of faculty but that no coordinated effort was made to balance the supply and demand. There are many identified reasons for this situation, however, not all of the factors contributing to this problem have been studied.

Smith, D. D., Pion, G. M., & Tyler, N. C. (2003). Doctoral programs in special education: The nation's supplier. *Teacher Education and Special Education, 26*(3), 172-181.

After a systematic national search, we found that 86 special education doctoral programs were active in 1999. Our search found that five programs had closed in recent years, but six new programs were in the planning process. Additional programs were identified, but they are best described as emphasis areas (possibly minor areas of concentration) administered by other departments or programs typically housed in colleges of education (e.g., educational leadership, curriculum and instruction, early childhood). Administrators of identified doctoral programs were surveyed to determine enrollment, graduate rates, program content, and means of student recruitment. Possibly some of the most revealing findings from this

component of the larger Faculty Study found that: (a) most special education doctoral programs are under-enrolled, (b) doctoral students' enrollment has declined 30[percent] over the last 20 years, and (c) programs are not highly selective. Unless deliberate actions are taken, the supply from special education doctoral programs will not increase and the demand for leadership personnel, particularly for faculty who work in academe, will not be met.

Smith, D. D., & Salzberg, C. L. (1994). The shortage of special education faculty: toward a better understanding. *Teacher Education and Special Education, 17*, 52-61.

Smith, R. B. (1991). Patterns of a lost generation: Adaptations of Ph.D.'s to restricted academic opportunities. *American Sociologist, 22*(2), 85-108.
Discusses a projected critical under supply of Ph.D. level professors. Describes and ranks eight categories of people who may be considered as colleges attempt to fill vacant positions. Recommends vigorous selection and training of new Ph.D.s and full-time employment of competent researchers and teachers.

Stapleton, D. C. (1989). Cohort size and the academic labor market. *The Journal of Human Resources, 24*, 221-252.

Sugar, J. A., Pruitt, K., & Anstee, J. L. K. (2005). Academic administrators and faculty retirement in a new era. *Educational Gerontology, 31*(5), 405-418.
Part of a special issue on pre- and postretirement issues affecting postsecondary faculty. Academic administrators should refocus on faculty retirement because of the looming loss of millions of baby boomer faculty. To create new opportunities for senior faculty, administrators need up-to-date data that relate to the age demographics of their faculty, model retirement programs in higher education and elsewhere, and the expectations and wishes of those generations of faculty who are rapidly approaching their later years. Academic administrators can then develop innovative policies and programs to fit both the professional and personal needs and desires of faculty as they age, as well as the institutions' best interests, because of the uniquely flexible professional context of universities and colleges.

Tack, M. W., & Patitu, C. L. (1992). *Faculty Job Satisfaction: Women and Minorities in Peril. ASHE-ERIC Higher Education Report No. 4, 1992*. U.S.; Michigan: Publications Department.

Given the impending shortage of prospective college faculty that will exist by the year 2000, the topics of faculty job satisfaction, recruitment, and retention must be given priority attention. Moreover, the faculty of the future must reflect the diversity of the population to be served; consequently, immediate actions must be taken to ensure that faculty positions are made attractive to women and minorities alike. Numerous internal stressors uniquely affecting women and minorities must be recognized and dealt with to enhance job satisfaction and create a better fit between the faculty role and the person involved. It has been shown that women faculty members are less satisfied with their positions than their male counterparts because they are often forced to sacrifice more in terms of their personal lives in order to

meet the demands of their jobs, as well as their families. As for minority faculty members, they generally find themselves less likely to be tenured compared to whites, are often concerned about lower salaries, feel isolated and less supported, and often encounter prejudice and racism. Leaders and faculty in higher education must implement a variety of recruiting and retention strategies if a faculty representing a diverse culture is to become a reality. Actions include: (1) recruiting women and minorities into undergraduate and graduate programs in sufficient numbers to fill the pool for faculty positions; (2) attracting women into disciplines where they are currently underrepresented; and (3) using incentives for departments to diversify.

Tanner, C. A. (2005). What are our priorities? Addressing the looming shortage of nursing faculty. *Journal of Nursing Education*, 44(6), 247-248.
A crisis is looming in nursing education as a result of an unprecedented shortage of master's and doctorally prepared nurses who are also qualified to teach in undergraduate and graduate nursing programs. The reasons for the lack of sufficient faculty are discussed and suggestions for fixing the problem are provided.

Tawney, J. W. & DeHaas-Warner, S. (1993). Assessing demand for special education faculty in higher education: A pilot study and a prototype for a national registry. *Teacher Education and Special Education*, 16(3), 283-293.
The imminent problem of a potential national shortage of special education faculty, as current faculty reach retirement age, was investigated through determining the retirement plans of 24 faculty, aged 55 or older, in special education departments at Pennsylvania institutions of higher education. A national registry of doctoral level special education faculty is proposed.

Texas Higher Education Coordinating Board, Austin. (1992). *A Study of Faculty Needs in Texas, 1991-2008. A Report to the Texas Higher Education Coordinating Board by the Faculty Shortages Advisory Committee*. U.S.; Texas: Texas Higher Education Coordinating Board.

This report predicts that, during the next two decades, Texas colleges and universities will have increasing enrollments with larger increases in minority students. Quantitative and anecdotal evidence indicates faculty hiring will become more difficult in this and the next decade if current trends continue, particularly in minority faculty where there already exists a shortage of African American and Hispanic college faculty. This report examines the faculty shortage needs of Texas in the public senior universities and junior colleges and makes a determination of how the state will be affected by the projected nationwide shortages. The report provides recommended approaches to alleviating the expected problems which focus on: (1) increased efficiency in use of faculty resources; (2) increased production of doctoral degree holders; and (3) efforts to increase the number of minority graduate students. Appendices, comprising over 50 percent of the report, contain data tables detailing anticipated staffing and hiring requirements for Texas colleges and universities for all faculty and for each academic discipline. Also, the appendix provides survey

results from Texas public senior and community colleges concerning faculty hiring difficulties.

Tulloch, C. (1987). *Vocational Teacher Education Study*. U.S.; Kentucky:

A study was conducted to determine the present state of vocational education in Kentucky and the supply of and demand for vocational teachers. Results are summarized for vocational teacher education in general and for teachers in the areas of agricultural education, business and office education, marketing and distributive education, health and personal services occupations, home economics education, industrial arts and industrial education, and special vocational education. Information is provided on numbers of teachers, age and experience, turnover, rank, degrees completed, enrollment in higher education, degree goals, institution awarding first degree, historical perspective, enrollment patterns, faculty, enrollment and output, follow-up of graduates, and potential changes. This document contains 166 statistical tables. Data from a national survey of vocational education teachers are also included. Appendixes include the study instruments and related documentation. (KC)

Tyler, N. C., Smith, D. D., & Pion, G. M. (2003). Doctoral students in special education: Characteristics and career aspirations. *Teacher Education and Special Education*, 26(3), 194-205.

A survey of 1,267 doctoral students found their primary consideration in selecting a doctoral program was not having to relocate. Students were fairly satisfied with the training they received in research skills, less so in areas of college teaching, administration/supervision, and diversity. Less than half were interested in faculty positions.

Tyler, N. C., & Smith, D. D. (1999). Career decisions of doctoral graduates in special education. *Teacher Education and Special Education*, 22(1), 1-13.

This study surveyed 146 recent graduates from special-education doctoral programs concerning the following: motivating factors for obtaining a doctoral degree, considerations when selecting initial careers, and the effects of marriage and family on those decisions. Salary, relocation factors, and prior career experiences strongly influenced decisions concerning university careers. Universities need to address the continuing problem of special-education faculty vacancies.

Vaughn, G. B. (2001). *Developing Community College Leaders for the Future: Crisis or Opportunity*. U.S.; North Carolina:

This paper predicts that there will be 129 presidential vacancies each year in the nation's community colleges, and that individuals moving from one presidency to another will likely fill only 30% of these vacancies. The author offers suggestions for preparing community college leaders for the future, including: (1) the American Association for Community Colleges (AACC) should use its prestige and contacts to obtain funding from one or more major foundations, part of which will be allocated to individuals selected as potential presidents; (2) each community college president in the nation should mentor one individual on his or her campus whom he or she has

chosen as a potential future community college leader; (3) graduate programs in higher education should enroll every individual selected by the president as a future leader; and (4) states should cooperate in offering graduate education. If these and other recommendations are implemented, special considerations must be emphasized: (1) professors must be willing to cooperate with AACC, the presidents, foundations, and others in assuring that graduate programs are relevant and flexible; and (2) presidents must take their roles in selecting future leaders very seriously and examine the total pool of applicants on campus, not limiting their choices to those individuals who have chosen to pursue the presidency as a career choice.

Ward, E. C., & Kilpatrick, R. H. (1991). Finding qualified faculty to meet the demand for office systems management instructors. *Journal of Education for Business*, 66, 291-297.

Watkins, B. T. (1986). Promising young scholars now in demand for academic jobs. *The Chronicle of Higher Education*, 33, 1+.

Watts, G. E., & Hammons, J. O. (2002). Leadership development for the next generation. *New Directions for Community Colleges*, (120), 59-66.
Addresses the critical need for leadership development in light of the significant number of community college leaders expected to retire in the near future. Discusses current options and recommended solutions for meeting the training needs of a new generation of community college leaders. Contains 10 references. (AUTH/NB)

Western Interstate Commission for Higher Education, Boulder, Colo. (1991). *The Literature on Factors Affecting Faculty Supply and Demand: An Annotated Bibliography*, 45.

This monograph provides complete citations and summaries of literature and studies on factors affecting faculty supply and demand. The monograph is divided into two sections: (1) annotations for approximately 85 articles, books, and reports; and (2) annotations for approximately 75 edited volumes. References include material on the state of the professorate (distributions of faculty by age, rank, tenure, and salary, and faculty attitudes); factors affecting faculty demand (faculty aging and retirement, impact of mandatory retirement legislation, interinstitutional mobility, student enrollment and population trends); factors affecting faculty supply (supply of new doctorates, career choices, pipeline interceptions, recruitment and retention); current and expected faculty shortages; effective management of faculty resources (recruitment and retirement policies, academic work environment, faculty vitality, professional development); and student characteristics (high school graduation rates, college enrollment patterns, trends in degrees awarded, and career choices).

White, A., & Hernandez, N. R. (1988). Position turnover and volatility in counselor education over a 15-year period. *Counselor Education and Supervision*, 28, 80-88.

Wilke, A. S., & Shaw, W. A. (1988). The faculty shortage: comparing national and local data. *Engineering Education*, 78, 233-235.

Will, G. F. (1999). Ph.D.'s aplenty. *ASEE Prism*, 9(3), 56.

There are more Ph.D.s in the nation than there are tenure-track jobs to go around. This situation will not be changed dramatically by the recent modest spike in tenure-track hiring, which is a result of faculty retirements and surging revenues and endowments produced by the booming economy and stock market. Because engineering Ph.D.s can more easily find attractive posts in the corporate world, the growth of unemployed Ph.D.s is more prevalent in the humanities.

Wilson, R. (1999). Computer scientists flee academe for industry's greener pastures. *Chronicle of Higher Education*, 46(5), A16-A17.

Reports on a decline in computer-science faculty despite rising student enrollments of computer-science majors. The faculty decline is ascribed to increasing jobs competition from industry and a decline in the number of doctorates being awarded in computer science and computer engineering.

Winter, G. M., & And Others. (1990). *A Study To Identify Academic Personnel Replacement Needs in SUNY Community Colleges and Technical Colleges*. U.S.; New York:

In 1990, a study was conducted of full-time faculty, deans, chairpersons, and academic administrators at the State University of New York (SUNY) community and technical colleges. The purpose of the study was to profile these groups and to identify future academic personnel replacement needs. A survey questionnaire mailed to SUNY's 30 community colleges and 6 technical and agricultural colleges, resulted in usable responses from 3,252 faculty members, 486 deans/chairpersons, and 78 administrators from the 36 colleges. The statewide full-time faculty response rate was 62%. A separate survey was sent to the institutional researcher at each college, requesting information on recent retirements to establish employment trends. Study results included the following: (1) faculty were 61% male and 92% white; (2) the master's degree was the highest degree held by 68% of the faculty; (3) 75% of the faculty reported being either extremely satisfied or quite satisfied with their position; (4) assuming the fulfillment of respondents' reported retirement plans, no growth, and a constant staffing ratio, faculty replacement needs by program were expected to range from 7% to 24% within 3 years, and from 16% to 57% by the year 2000; (5) SUNY administrators were 76% male and 86% white; (6) 25% of the administrators held master's degrees, 30% held doctorates of philosophy, and 32% doctorates of education; and (7) the replacement rate for administrators was expected to be 38% in the next 3 years. Recommendations for dealing with the need to replace more than half of SUNY's faculty and more than 75% of their administrators within the next 10 years are included.

Woo, L. K. (1985). The shortage of mathematics and science teachers: lessons from higher education. *Educational Evaluation & Policy Analysis*, 7, 383-393.

Zipkowitz, F., & Futas, E. (1993). Faculty replacements in library schools. *Education for Information*, 11(1), 19-34.

Describes a study of library and information science faculty done to determine the

need for replacements resulting from retirements and other withdrawals. The prediction of a serious depletion of faculty resources in library schools before 2001 is based on information gathered on age, gender, experience, and retirement plans.

References – Other Geographic Areas

High-salaried and specially engaged professor, how much money are you worth?(2004). *Chinese Education and Society*, 37(2), 96-101.

Part of a special issue on the return of overseas students to China. Faced with acute international competition for talented scholars, education in China must adopt truly feasible ways to attract and retain talent. In addition to national projects to develop highly talented personnel, recent efforts in this regard have included increased salaries, the promotion of young academics to leadership positions, and the development of improved research facilities. The perspectives of some young Chinese scholars regarding these developments are presented.

Nice work, if you can get it (1998). *The Times Higher Education Supplement*, (1363), II. Part of a special section on the Modern Language Association (MLA). A sharp downturn in the U.S. economy has meant that many humanities Ph.D. graduates cannot get jobs. The supply of Ph.D. graduates has risen, while the total number of tenure-track positions has reached a plateau. In light of this, the MLA has proposed a motion to exclude from all MLA services any modern language department that, by 2000, exceeds minimum standards for the ratio of full-time to part-time faculty or provides no benefits to part-time faculty.

Professorships crisis over sharp drop in PhDs (1992). *The Times Higher Education Supplement*, (1006), 11.

Ageing of the academic profession (1990). *The Times Higher Education Supplement*, (898), 10-11.

Shortage of new blood (1990). *The Times Higher Education Supplement*, (898), 1.

Bompard, P. (2002). Staff crisis for ageing Italy. *The Times Higher Education Supplement*, (1550), 9.

An annual report from Italy's National Committee for Evaluation of the University System has revealed that almost 50 percent of the country's university lecturers will retire over the next 15 years and that there is no new generation ready to take their place. Further, those with the rank of researcher, who would usually take the place of lecturers, are already largely in their 40s and 50s. Hence, the report says that in 10 to 15 years time, new lecturers will have to be drawn from a generation of graduates with little experience.

Bompard, P. (1999). Swiss fear lecturer dearth. *The Times Higher Education Supplement*, (1411), 11.

The Swiss University Conference has reported that about 40 percent of lecturers and researchers in the country will retire in the next four years and there are not enough new academics to fill the gaps. Higher paying private sector jobs have lured many Swiss away from academic careers. Moreover, Swiss universities are not able to out-bid their competition because they are having to deal with increasingly tight budgets.

Boylard, R. (2002). Retirees asked to plug gaps. *The Times Educational Supplement*, (4502), 33.

The results of a survey by the Association of Colleges in Great Britain reveal that teaching vacancies in further education colleges are on the increase. Moreover, further education colleges have had to lure back retired lecturers over the age of 60 to cover teacher shortages as the crisis in recruitment and retention worsens. Other results of the survey are discussed.

Brookman, J. (2001). Berlin attempts to woo emigres. *The Times Higher Education Supplement*, (1478), 11.

A £55 million campaign has been launched by the German government in order to attract top foreign academics and win back young researchers who have emigrated to other countries in search of better opportunities. The money will be ploughed into several programs run by the German Academic Exchange Service and the Alexander von Humboldt Foundation.

Bruce, D. (1999). Australian universities worry as their technology graduates seek wealth elsewhere. *The Chronicle of Higher Education*, 46(8), A65.

Officials of information technology programs at Australian universities are concerned about who will teach future students. Many of the best and brightest graduates are declining to stay at their alma maters to complete advanced degrees, teach undergraduates, and make a contribution to Australian higher education; instead, they are going abroad to join industry or academe.

Fine, P., & Jobbins, D. (2002). PhD wars warning as ageing dons quit. *The Times Higher Education Supplement*, (1567), 9.

Universities worldwide have been warned that they will have to compete for Ph.D. graduates to replace retiring faculty members. The warning came from the secretary general of the Association of Commonwealth Universities and was based on a Canadian study that showed that insufficient numbers of Ph.D. graduates are attracted to academia to significantly affect the several positions that will be vacated by an aging professoriat.

Gardner, M. (1992). German shortage turns into crisis. *The Times Higher Education Supplement*, (1013), 11.

Goddard, A. (2005). Job boom looms as older staff bow out. *The Times Higher Education Supplement*, (1693), 1, 2.

A report suggests a boom in job opportunities for young academics in Great Britain. The opportunities may arise as new universities replace thousands of aging employees. These universities are much more likely than old research universities to have high proportions of employees approaching retirement.

Hook, S. (2002). Welsh may offer bonuses to lure teachers of shortage subjects. *The Times Educational Supplement*, (4510), 33.

Further education colleges in Wales, Great Britain, may try to ease staffing problems by using pay incentives for teaching shortage subjects and secondments from industry. Recent research reveals that the college sector in Wales is now highly reliant on casual and part-time staff.

Johnston, C. (2004). UK enjoys a brain gain in young talent. *The Times Higher Education Supplement*, (1648), 1, 52.

Recent figures have revealed that the ranks of British universities are being swelled by a brain gain in young academic talent from overseas. Although thousands of young researchers from abroad are securing posts in Great Britain, far fewer overseas professors and senior academics are choosing careers there and increasing numbers of British academics are leaving for posts abroad.

Kigotho, W. (2000). Crisis looms as young blood fails to fill high posts. *The Times Higher Education Supplement*, (1432), 10.

The dearth of clear plans to replace the aging professoriate in east Africa is becoming a major impediment to quality education. In the next decade, estimates suggest that 60 percent of full professors and 45 percent of associate professors will retire.

Leon, P. (2003). Jobwatch: shortages fuel expansion. *The Times Higher Education Supplement*, (1618), 23.

A national shortage of pharmacists has fuelled an expansion in the number of health and medical-related university vacancies in Great Britain. A report on some of the positions available around the country is provided.

Loder, N. (1998). Wealth of opportunity. *The Times Higher Education Supplement*, (1345), XIII.

Part of a special section on higher education in the Commonwealth. Academics at both ends of the career ladder may be able to find jobs at Commonwealth universities. This is because new universities are popping up all over the Commonwealth, creating new jobs. This is particularly true in developing countries that have too few nationals to fill all of their academic posts. For people straight out of a Ph.D., a lecturing position at these universities can be an "ideal jumping post."

MacGregor, K. (2005). Jobs cull set to hit South Africa. *The Times Higher Education Supplement*, (1677), 14.

Hundreds of jobs will be lost at universities in South Africa in coming years, especially in departments duplicated across campuses, as universities merge in an

attempt to end the apartheid system and improve efficiency. Scores of academics have resigned or taken redundancy packages at institutions merged in or before January 2004, and additional cuts are likely as more faculties merge.

Machin, S., & Oswald, A. (1999). Economic rent. *The Times Higher Education Supplement*, (1390), 22.

There will be no British economists teaching in British universities by 2009 unless there is a huge pay increase. The number of British people doing a Ph.D. at some of the country's top departments is insufficient to replenish the stock of academic economists. The reasons why the writers think the problem is pay are outlined.

Machin, S. & Oswald, A. J. (2000). UK economics and the future supply of academic economists. *The Economic Journal*, 110, F334-49.

Marcus, J. (2004). Supply of Arabic teachers impeded as demand soars. *The Times Higher Education Supplement*, (1667), 10.

The Modern Language Association has reported that enrolment in Arabic classes has more than doubled to some 10,000 since 1998, a faster rate of increase than any other foreign language. However, visa restrictions have created a shortage of people who can teach the language, and the lack of qualified staff means that many universities are turning away applicants or assigning graduate students or religion or history professors to teach entry-level classes.

Maslen, G. (2001). Age catches up with Oz lecturer force. *The Times Higher Education Supplement*, (1511), 8.

Australian universities face a staffing crisis as one in every eight academics will reach retiring age over the next five to ten years, according to federal education department statistics. Only 14 percent of academics are younger than 40, and they are mostly junior lecturers, many of whom are employed on a casual basis since the Industrial Relations Commission decided to limit fixed-term contracts in 1998.

Maslen, G. (2000). Maths suffers falling numbers. *The Times Higher Education Supplement*, (1460), 13.

A critical shortage of mathematicians is confronting universities in Australia. Over 25 percent of the academics in math departments have resigned since 1995, and few, if any, have been replaced. According to a report on the future of mathematical sciences in Australia, over 100 of the country's top mathematicians and new researchers have emigrated since 1995, resulting in difficulties in making appointments in key areas, fewer applications for research grants, and the elimination of degrees majoring in mathematics or statistics by some universities.

Maslen, G. (1999). IT academics 'need top pay' to end a generation of skills shortages. *The Times Higher Education Supplement*, (1392), 14.

According to the Australian Computer Society, salaries and resources must be greatly improved if the country's universities are to prevent their information technology (IT) academics from moving to the private sector. A survey of the

society's 2,000 members has revealed that there is a widening gap between the salaries of academics and those in business and industry.

Maslen, G. (1995). Australia ponders grey matter. *The Times Higher Education Supplement*, (1180), 8.

The National Institute of Labour Studies has found that academic staff turnover in Australia has decreased to the point where many heads of departments are worried over the lack of young graduates who could provide new ideas and outlooks to invigorate their departments. The decreased turnover is attributed to the recession. Plans to end compulsory retirement at age 65 are expected to cut staff turnover further.

Maslen, G. (1995). Australia's universities warn of the impact of an aging faculty. *The Chronicle of Higher Education*, 41, A31.

University leaders in Australia are worried about the aging of the country's faculty and the limited opportunities for young scholars to enter the academic workforce, because of the sharp decline in resignations and retirements by senior academics in Australia's universities over the past five years. Many academics seem to have been deterred from leaving their jobs by a reduction in prospects for jobs outside higher education and a substantial salary increase in the early 1980s.

Maslen, G. (1994). No room at top for aspiring women. *The Times Higher Education Supplement*, (1129), 10.

Maslen, G. (1991). Australia warned its universities may face shortage of 19,000 faculty members over next decade. *The Chronicle of Higher Education*, 37, A31.

Maslen, G. (1991). Canberra alarmed at recruitment shortfall. *The Times Higher Education Supplement*, (956), 11.

Maslen, G. (1991). PhDs dropped as way round staff crisis. *The Times Higher Education Supplement*, (961), 11.

Maslen, G. (1990). Retirement time bomb sets alarm bells ringing. *The Times Higher Education Supplement*, (910), 11.

Maslen, G. (1990). V-Cs warn Hawke of lecturer shortage. *The Times Higher Education Supplement*, (929), 1.

Maslen, G. (1989). Staff shortages reach critical mass. *The Times Higher Education Supplement*, (860), 11.

McGavin, H., & Crequer, N. (2000). Colleges scramble for more teachers. *The Times Educational Supplement*, (4369), 1.

A survey conducted by The Times Educational Supplement has revealed that colleges in Great Britain will have to go on a massive recruitment drive to cope with

the expanded Advanced-level choices offered by Curriculum 2000, but some colleges will not be able to find staff in time.

Nash, I. (2002). Morris, the ball is in your court. *The Times Educational Supplement*, (4497), 33.

As the new academic year starts with thousands of staff vacancies left unfilled, further education college employers' leaders in Great Britain blame ministers for the wave of strikes that is threatened in fall 2002. The Association of Colleges has called on the education secretary to provide an extra £ 110 million to avert strikes and improve recruitment prospects.

Norris, W. (1990). Colleges scramble for faculty. *The Times Higher Education Supplement*, (926), 10.

Over, R. (1985). Career prospects for academics in Australian universities. *Higher Education*, 14, 497-512.

Sanders, C. (2001). Medicine facing a crisis. *The Times Higher Education Supplement*, (1489), 56.

Universities in Great Britain are facing a crisis in medical staff. The expansion in medical schools announced as part of government plans to save the National Health Service could be put in jeopardy by the crisis.

Smallwood, S. (2002). The tightening job market. *The Chronicle of Higher Education*, 48(18), A10-11.

College professors and instructors are facing a tightening job market. Hiring freezes and state budget cuts are slowing or stopping job searches at several public higher education institutions. However, some searches are proceeding.

Suroor, H. (1994). Recovery fails to reverse brain drain. *The Times Higher Education Supplement*, (1143), 10.

Indian students and academics continue to migrate in large numbers despite India's economic liberalization and its more hospitable business climate. Academics are reluctant to return to their homeland because of comparatively low salaries, poor career prospects, rigid hierarchy, and inflexible curricula that allow little scope for initiative.

Swain, H. (1998). Class of 63 in mass campus exodus. *The Times Higher Education Supplement*, (1343), 1.

Great Britain is experiencing a mass exodus of academics as a result of cost-cutting, changes to pension arrangements, and demographics. The number of posts falling vacant as a result of retirements between 1994-1995 and 1996-1997 increased by over 200 percent. This trend combined with government policies that mean up to 35,000 more students will come into higher education by 2002 are expected to keep recruitment buoyant.

Wainwright, T. (2005). UK looks abroad to fill jobs. *The Times Higher Education Supplement*, (1702), 1.

A survey has revealed British universities' increasing dependence on overseas academic talent. The Times Higher Education Supplement survey showed that an average of 35 percent of academic appointments made in the past two years by 16 participating universities went to overseas applicants, compared to 29 percent among all universities in 2003-2004.

Walshe, J. (1997). Emerald tiger seeks help. *The Times Higher Education Supplement*, (1270), 10.

To help meet emerging skill shortages in computing and languages, the government in Ireland is to invite tenders from colleges in the rest of the European Union. With the current boom in the Irish economy, the government fears that Irish universities and colleges may not be able to expand their intake quickly enough to meet the needs of multinationals locating and recruiting extra staff in Ireland.

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