

**SELECTED READING ON PhD TRAINING AND THE LABOUR-
MARKET**

No. 2007/6

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Bibliografie

Adler, P. A. and P. Adler (2005). "The Identity Career of the Graduate Student: Professional Socialization to Academic Sociology." The American sociologist **36**(2): pag. 11 (17).

This article examines the stages graduate students in sociology pass through on their way to a Ph.D. and the status of academic professional. The authors relate their experiences in graduate school as well as 25 years of teaching in college. They accumulated data from a dozen current and former students to augment their own thoughts and experiences. The article studies the bonding effect of the cohort structure in graduate school and students' movement away from their cohort as they select areas of specialization and bond more closely with their key faculty members and older students in that network. Students' teaching and conference experiences influence them in adopting the identity of professional sociologists

Allen, J. I. M. and E. De Weert (2007). "What Do Educational Mismatches Tell Us About Skill Mismatches? A Cross-country Analysis." European Journal of Education **42**(1): 59-73.

The relationship between higher education and employment is commonly interpreted in terms of the extent to which the higher education sector is providing graduates with the knowledge and skills to match employment needs. It is assumed that a mismatch between working in a job and level or field of education limits the use of skills, with adverse effects on both productivity and earnings. This article examines this assumption on the basis of five countries from the European graduate survey (CHEERS data). Although the analysis shows that educational and skill mismatches are indeed related, mismatches by no means imply mismatches between available and required knowledge and skills. The results indicate that traditional approaches of mismatches have to be adapted to more flexible forms of relationships between higher education and work.

Anonymus (1984). "PhD Employment Shifts." The Modern Language Journal **68**(1): 20.

Anonymus (1999). "Where have all the graduates gone?" Physics education **34**(2): 53.

Key facts and figures about the labour market for new graduates in the UK were published recently in the IES Annual Graduate Review 1998-99, which indicates that the demand for graduates amongst the traditional recruiters has continued to grow steadily, along with reports of recruitment difficulties. It is noteworthy that last year one in three graduates went into fixed-term or temporary appointments, while many of those who took up permanent jobs went into lower level work that did not make use of their graduate skills. Many graduates are taking more than a year, and sometimes up to three years, to find their way into permanent jobs and careers. Those graduating in computer science, engineering and mathematics, medicine and related subjects, or education have been the most likely to gain high level managerial, professional or technical jobs and have the lowest unemployment rates. In contrast, those with biological science, humanities, social sciences or creative arts degrees are most likely to be unemployed initially. Many new graduates commenced their jobs by earning salaries in the range £10 000-15 000, but they should of course continue to earn more than those lesser qualified, as well as having lower unemployment rates. Of the 400 000 students who graduated in 1998 (more than double the total of a decade ago), over half had first degrees and the rest undergraduate or postgraduate qualifications.

Despite the growth, entry to the physical sciences, engineering and technology has been falling, as has the proportion on sandwich courses. Women now comprise the majority of entrants to first degrees but remain under-represented in mathematics, physical science and engineering or technology courses. Interestingly more than one in three students now has a paid job during their course; such work experience can be beneficial to their long-term job searches. In the longer term, numbers of graduates are expected to stay broadly constant over the next three years, followed by a slight growth in numbers. It is expected that the rising demand for graduates will be maintained but the number of openings for new graduates will not grow sufficiently quickly to absorb the higher numbers actually graduating. With the costs of a degree rising and the returns falling, students would be advised to be increasingly flexible in their investment in higher education and should view the long-term career options. Employers, on the other hand, will have the challenge of recruiting graduates with the right skills and competencies. Those in the greatest demand will combine intellectual with personal attributes and skills in areas such as team-working, motivation and communication, as well as the ability to continue learning. Such attributes will also be important for those in technical areas where good specialist knowledge will rarely be enough. Working and communicating with nonspecialist customers and colleagues is required more and more. Employers should also be focusing on their actual needs in recruits and what they can offer by way of jobs and careers, so that a more realistic match between recruits and jobs, with better long-term performance and retention, ensues. IES Annual Graduate Review 1998-99: the Key Facts by R Pearson et al (IES Report 354, January 1999, ISBN 1 85184 283 7) costs 27.50 and is obtainable from Grantham Book Services, Isaac Newton Way, Alma Park Industrial Estate, Grantham NG31 9SD (fax: 01476 541061).

Anwar, M. A. (2004). "From doctoral dissertation to publication: a study of 1995 American graduates in library and information sciences." Journal of Librarianship and Information Science **36**(4): 151-157.

This article examines the publishing activity of 54 individuals who received their doctoral degrees from American universities in 1995 and the publications that were derived from their dissertations. Publication data covered two five-year periods, 1991-1995 research-in-progress and 1996-2000 post-doctoral period. One third of the graduates did not publish anything during these 10 years. The mean number of publications for all graduates came to 0.54 per year. Only one half of these graduates produced publications out of their dissertations. The mean number of publications derived from their dissertations came to 0.85 for all graduates. Only one of these publications was the result of student/advisor collaboration indicating a very low level of such activity.

Austin, A. E. (2002). "Preparing the Next Generation of Faculty: Graduate School as Socialization to the Academic Career." The Journal of Higher Education **73**(1): 94-122.

Based on a four-year, qualitative study of graduate students, the article discusses graduate student development, students' perceptions of the academic career, and graduate students' suggestions for improving graduate socialization experiences. The article concludes with recommendations and policy questions for faculty advisors, chairpersons, teaching assistant supervisors, and graduate deans.

Bartelse, J., J. Huisman, et al. (2002). "Academic Careers from a European Perspective. The Declining Desirability of the Faculty Position." The Journal of Higher Education **73**(1): 141-160.

This study describes and analyzes the developments and state of the art with respect to the academic career in a number of European countries (The Netherlands, Germany, United Kingdom, and Sweden). It focuses on the position of PhD students and 'advanced' academics. In the comparative analysis we discuss the common developments, policies, problems, and possible solutions.

Basil, M. D. and D. Z. Basil (2006). "The marketing market: A study of PhD supply, demand, hiring institutions, and job candidates." Journal of Business Research **59**(4): 516-523.

The shortage of faculty is a critical problem facing business deans today. This shortage has important implications for teaching, research and academic governance. This study examines two explanations for this shortage - (1) disequilibrium between supply and demand and (2) the match between candidates and jobs - with an eye toward solving the shortage. Our study focuses on the field of marketing using several sources of data. Data suggest that both disequilibrium and mismatch are viable explanations. While it appears that an undersupply of PhDs is primarily responsible for the shortfall in faculty, there are several forces that may be limiting production. As a result, reducing mismatch may be the easier issue to address. The important implications for marketing and business are discussed including those around workload and faculty retention. Finally, implications that arise for business education, research, and faculty governance are discussed.

Bazeley, P. (2003). "Defining 'early career' in research." Higher Education **45**(3): 257.

In order to ensure the future of high quality research in some disciplines it may be necessary to provide special consideration in prestigious research funding schemes for early career researchers who will otherwise become disenchanted with academic research and leave it behind in their search for a stable and fruitful future. Milestones in progression through research studies and academic life to establishment as an academic researcher are outlined. Within this context, a range of potential criteria for determining promising early career status are reviewed. The discussion leads to derivation of the definition of early career which has been adopted by the Australian Research Council for its prestigious Discovery Projects grants scheme.

Bieber, J. P. and L. K. Worley (2006). "Conceptualizing the Academic Life: Graduate Students' Perspectives." Journal of Higher Education **77**(6): 1009-1035.

This article reports on the views that graduate students have about being a member of the university faculty. The authors interviewed graduate students from three Midwestern universities, and the students themselves represented a wide variation of disciplines. The survey reports that the respondents' initial contact with the occupation of an academic came about in more personal ways than the researchers had imagined. Many students worked for professors as undergraduates as babysitters or secretaries or developed personal relationships with faculty members. The graduate students also see their role as a professor as one that mainly involves teaching and research and publication are secondary. They also like the idea of the flexibility and the freedom of creating one's own schedule. This article reports on the views that graduate students have about being a member of the university faculty. The authors interviewed graduate students from three Midwestern universities, and the students themselves represented a wide variation of disciplines. The survey reports that the respondents' initial contact

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Blume, S. S. e. a. (1999). *Balans en flexibilititeit. De functie van Onderzoekscholen in het universitaire bestel: opleiding, onderzoek en organisatie*. Amsterdam, sci-Quest. Research for S&T Policy: 69.

Bourdon, J. (1999). *Formation et normes d'emploi dans le secteur de la reproduction des connaissances avancées: convergence ou divergences*. Marseille, IDEP: 26.

Buis, P. (1983). *Het schrijven van een proefschrift*. 's-Gravenhage, Academische Raad.

Caison, A. (2002). *Alumni Survey*. Raleigh, North Carolina State University. An alumni survey of the Department of Adult and Community College Education (ACCE) at North Carolina State University assessed the impact of graduate study on its students. The survey used a 37-item instrument designed to capture alumni experiences and impact of the academic degree in relation to past and current professional and educational work efforts. Of surveys mailed to 286 graduates from 1997-2001, 125 were properly completed and analyzed. Findings indicated the department awarded the doctoral degree more than any other; adult education was the most popular major; most students completed their coursework in three years or less and finished their final requirements in a year or less; students who worked full-time outnumbered those who did not but took longer to complete their degree than those who did not work or who worked part-time; nearly half changed where they worked since beginning their graduate work, but most did not change the type of organization; often job responsibilities and salary changed since they started their ACCE degree; alumni were well pleased with experiences in graduate school; and written comments demonstrated the greatest challenge facing ACCE students was in balancing school, work, family, and community commitments. Suggestions called for an increased support network of part-time students and those in the dissertation phase of degree requirements, more distance education, and weekend courses. (Appendixes include the instrument and written comments.) (YLB)

Caplow, T. and R. J. McGee (1965). *The Academic Marketplace*. Garden City, New York, Anchor Books.

CHEERS Network. (2007). "Careers after graduation - an European research study (CHEERS)." Retrieved 9 May, 2007, from <http://www.uni-kassel.de/incher/cheers/index.ghk>.

From autumn 1998 to spring 2000, about 3,000 graduates each from 9 countries in the European Region, one EFTA country (Norway), one of the Central and Eastern European countries in transition (the Czech Republic) and one economically advanced country outside Europe (Japan) provided information through a written questionnaire on the relationship between higher education and employment four years after graduation. The respondents answered questions on their socio-biographic background, study paths, transition from higher education to employment, early career, links

between study and employment, job satisfaction and their retrospective view on higher education. The study provided a unique opportunity to examine the extent to which the relationship between higher education and the world of work are similar or different among the Western European countries. This became more clear through the inclusion of one country each from the Central and Eastern European countries and one country outside Europe. The study also helps to understand the common elements and differences between various fields of study and occupational areas. The study looks at current salient issues of higher education, i.e. equality, the role educational levels play, the demand for specialized or general competencies, the growing role of international mobility and of life-long education, the regional diversity in higher education. Last not least, the study allows to examine the extent to which socio-biographic backgrounds, educational experiences and achievements as well as the transition process determine early career and links between competencies and work assignments.

Chikhi, L. s. (2002). "Postdocs face hardship across mainland Europe." Nature **415**(6869): 259-259.

Comments on the article 'Young, gifted...and spurned,' published in the January 2001 issue of the journal 'Nature.' Situation of French PhD students; Ratio of PhD students to tenured staff in France and Great Britain; Case of Claire Amadou.

Chupin, J., M. Maurisse, et al. (2007). Insertion: les habits neufs des jeunes docteurs. Le Monde de l'éducation: 10-19.

Commissie Werkgelegenheid voor Fysici (2003). Arbeidsmarkt voor Fysici (3). Resultaten van een onderzoek naar de arbeidsmarkt en de aansluiting tussen werk en opleiding voor natuurkundigen afgestudeerd tussen 1990 en 2000. Eindhoven, Nederlandse Natuurkundige Vereniging.

Committee on Dimensions Causes and Implications of Recent Trends in the Careers of Life Scientists (1998). Trends in the Early Careers of Life Scientists. Washington, DC, National Academy Press.

Confédération des Jeunes Chercheurs (2000). Doctorants. Résultats de l'enquête 2000. Paris, Confédération des Jeunes Chercheurs.

Confédération des Jeunes Chercheurs (2004). Rapport sur les conditions de travail illégales des jeunes chercheurs. Paris, Confédération des jeunes chercheurs.: 81.

Crum, B. and J. Bal (1998). Werk- en loopbaanpositie van postdocs, Research voor Beleid.

Dany, F. and V. Mangematin (2004). "Beyond the dualism between lifelong employment and job insecurity: some new career promises for young scientists." Higher Education Policy **17**(2): 201-219.

Analysis of the early careers of young scientists in France.

Deem, R. and K. J. Brehony (2000). "Doctoral Students' Access to Research Cultures - are some more unequal than others?" Studies in Higher Education **25**(2): 149-165.

The article explores how different kinds of social science students from two universities, Woodside and Hillside, access and experience a variety of research cultures in those universities. previous research on research students has noted

considerable differences between science and non-science students, with the latter much more likely to work as lone scholars meeting regularly only with their supervisors. Though other researchers have examined academic cultures and their transmission, more generic peer cultures and research training cultures have not always formed part of these studies. The research involved interviews with 26 home and international students, studying both full- and part-time. Four focus group discussions were also conducted. The data suggest that international students and part-time students have the most difficulty in accessing peer cultures and academic cultures. However, international students are much more favourably disposed towards research training cultures than other students. Some evidence of gender differences affecting student experiences was found but was not as widespread as other differences. The article ends by suggesting some practical changes that could be made in universities to provide more equal access to research cultures by all research students.

Dotzler, R. J. and R. Koppel (1999). "What sociologists do and where they do it - The NSF survey on sociologists's work activities and workplaces." Sociological Practice 1(1): 71 - 83. We present data from the National Science Foundation Survey of Doctoral Recipients that challenges the image of sociology as a classroom-based group of professionals. Our data reveal that only 45.8% of Ph.D. sociologists teach sociology. The anachronistic and false image of sociology, we argue, is profoundly consequential to the way sociologists interact with each other and with the larger society. As a discipline we tend to ignore or dismiss the doing of sociology in favor of the teaching of sociology or of theoretically focused research. We also present data on principal tasks and job classifications for those in academic and nonacademic settings.

Enders, J. (2002). "Serving many masters: The PhD on the labour market, the everlasting need of inequality, and the premature death of Humboldt." Higher Education 44(3-4): 493-517. The paper addresses the processes and outcomes of doctoral training and their impact on the subsequent careers and work affiliations of doctoral degree holders on the basis of the results of the first large scale survey among this target group in Germany. It assesses the German experience with the doctoral degree as a ticket to multiple journeys on the labour market inside and - quantitatively more important - outside academe. Links between 'traditional' inequalities in the framework of the equality of opportunity discourse, 'non-traditional' inequalities in the framework of the life-cycle discourse, transition to employment and advanced career stages, are addressed. The overall picture that derives from the survey results shows a quite positive outcome of the PhD on the labour market. By and large, PhD matters if we compare doctoral degree holders and graduates. Selection for doctoral training is biased by social origin while later career attainment among PhD-holders is not. Thus, the 'need of inequality' is mainly satisfied by respective selection processes within the educational system. In contrast, the analysis supports the 'entry-job hypotheses' that suggests a significant impact of early career stages on later stages. The analysis shows as well that a deviation from continuous full-time employment is a clear career hindrance.

Enders, J. and E. d. Weert (2004). "Science, Training and Career." Higher Education Policy 17(2): 135-152.

Veranderende arbeidsmarkten. Verdwijnende grenzen tussen publieke en private arbeidsmarkten. Internationalisering van arbeidsmarkt. Gevolgen hiervan voor promotieopleiding.

Eurodoc. (2003). "EURODOC questionnaire answers. Career paths, Gender Equality, International Mobility, PhD Supervision and Training Introduction of BA/MA."

Ewen, H. H., J. F. Watkins, et al. (2006). "Gerontology doctoral training: The value of goals, program perceptions, and prior experience among students." Educational Gerontology **32**(9): 757-770.

This study concerns the educational experiences and progression through the doctoral programs of two cohorts of students in 5 of the 6 gerontology doctoral programs within the United States. The project goals include assessments of change and/or stability in projected career trajectories, as well as an assessment of students' perceptions of the program-student fit in terms of curriculum, research experience, and faculty involvement. This paper focuses on the perceptions and expectations of students during their first year. Perceptions of the programs are mostly positive, but areas for improvement are identified. Further investigations of data through the subsequent years identify areas of focus for continued modification and potential improvement of doctoral programs.

Frans-Nederlands Netwerk voor hoger onderwijs en onderzoek (2007). Le Doctorat sans Frontières / Promoveren zonder Grenzen. Cahier No 2: 1-72.

Geiger, R. (1997). "Doctoral education: The short-term crisis vs. long-term challenge." Review of Higher Education **20**(3): 239-&.

Recent speculation about the "overproduction" of PhD's has overlooked the long-term stagnation in doctorates relative to bachelors' degrees and in doctorates granted to American citizens. PhD programs have failed to develop the flexibility needed for articulation with nonacademic careers due to departmental sovereignty, a queuing pattern of demand, the quality imperative, and institutional sponsorship. The PhD today represents too much training for many potential students, yet it is too little training for its traditional markets. Hence, a more segmented structure for graduate education ought to be explored.

Gier, E. d., J. Evers, et al. (2001). Wetenschap tussen roeping en beroep. Verslag van een verkennend onderzoek naar de (on)aantrekkelijkheid van een loopbaan in wetenschappelijk onderzoek. Zoetermeer/Amsterdam, Ministerie van Onderwijs Cultuur en Wetenschappen / SISWO: 160.

Giret, J.-F. De la thèse à l'emploi. Les débuts professionnels des jeunes titulaires d'un doctorat. Céreq. Marseille. **220**: 4.

Grandy, J. (2005). "Leaving science: Occupational exit from scientific careers." Journal of Higher Education **76**(2): 240-241.

GRASP! (2007). Report on PhD and Supervisor Survey 2005-2006. Groningen, University of Groningen: 96.

Hackett, E. J. (2005). "Essential Tensions: Identity, Control, and Risk in Research." Social Studies of Science **35**(5): 787-826.

Arbeidsmarkt strategieën. Spanningen in onderzoeksgroepen. Over het belang van het nemen van onderzoeksrisico's. De gevaren van degelijk, ,middle of the road

onderzoek. De positie van de postdoc. Het al dan niet belang van citaties. Typen risico's die het gevolg kunnen zijn van beslissingen van wetenschappelijke leiders. Essential tensions voor onderzoeksgroepen en hun leiders. Leiderschapsstijlen. Functioneren van leiderschap in strijkkwartetten. Life course followed by research groups.

Hansen, W. L., H. B. Newburger, et al. (1980). "Forecasting the Market for New Ph.D. Economists." The American Economic Review **70**(1): 49-63.

Hagens, L. L. and W. O. Hagstrom (1967). "Sponsored and Contest Mobility of American Academic Scientists." Sociology of Education **40**(1): 24-38.

Analysis of data for 576 natural scientists currently faculty in U. S. graduate institutions shows that the prestige of the institution where a scientist received his doctorate is related to the prestige of his present affiliation even when the effects of his productivity are controlled. The relative effects of prestige of doctoral institution and productivity vary between different levels of the academic stratification system and between different stages in the scientific career. Turner's concepts of contest and sponsored mobility are related to these findings, and conditions promoting the existence of each type of mobility are suggested.

Harman, G. (2003). "International PhD students in Australian universities: financial support, course experience and career plans." International Journal of Educational Development **23**(3): 339-351.

Using data from a social survey of PhD students in two major Australian universities supplemented by student interviews, this article reports on the financial support, course experience and career plans of international PhD students. While most international PhD students hold scholarships which include stipends, a minority of students experience financial problems and lack adequate research support. Overall international PhD students express a high degree of satisfaction with their courses, although there are concerns about the quality and effectiveness of supervision, working space available to research students and help provided in designing research projects. Language problems sometimes adversely affect student progress while some international students find difficulty adjusting to a less deferential working arrangement with their supervisors and less structure in research direction. International PhD students are optimistic about their career prospects and certainly more confident about their careers than Australian PhD students. High proportions of international PhD students expect to follow research careers and say that the PhD degree will enhance their career prospects. (C) 2003 Elsevier Science Ltd. All rights reserved.

Henkel, M. (2004). "Current science policies and their implications for the formation and maintenance of academic identity." Higher Education Policy **17**(2): 167-182.

Hills, J. M., G. Robertson, et al. (2003). "Bridging the Gap Between Degree Programme Curricula and Employability Through Implementation of Work-related Learning." Teaching in Higher Education **8**(2): 211.

This article investigates the gap between employers' requirements of graduates and the skills which graduates are furnished with through degree programmes in the higher education (HE) sector in the UK. A survey of 88 subject review reports prepared by the Quality Assurance Agency (QAA) for environmentally related units in the UK

showed little emphasis on employability issues. Surveys of first destination statistics of a cohort of graduates from two biological degrees and from national data showed that a significant proportion of graduates were in non-science-based activities. The non-knowledge-based learning outcomes from one degree were investigated, and showed that employability aspects were partially covered in the programme, but were not always associated with secure assessments. The concept of work-related learning is defined and a conceptual framework for HE practitioners is presented that could be used when designing curricula to better map programme learning outcomes onto graduate employment.

Hoffius, R. S. S. (2006). Tussen wens en werkelijkheid: carrièreperspectieven van jonge onderzoekers. Leiden, Research voor Beleid bv: 41.
1628 promovendi en 204 postdocs werkten aan dit internet-enquete onderzoek mee. Gegevens over aanstellingsduur postdocs, instelling van aanstelling, gebied waarin werkzaam, tevredenheid met bestaand werk wensen ten aanzien van verdere loopbaan, perceptie van carrièreperspectieven, activiteiten met het oog op een vervolgcarière.

Hogan, T. D. (1981). "Faculty research activity and the quality of graduate training." The Journal of Human Resources **16**(3): 400-415.

Holden, C. (1998). "Report paints grim outlook for young Ph.D.s." Science **281**(5383): p1584, 5/6p.

Hout, J. F. M. J. v. (1992). "De onderzoekersopleidingen en de arbeidsmarkt." U&H. Tijdschrift voor wetenschappelijk onderwijs **39**(Sept/Nov): 26-32.

Hout, J. F. M. J. v., M. J. F. Hulshof, et al. (1991). De opleiding van onderzoekers: een evaluatie-onderzoek naar het functioneren van het AiO-stelsel. Beleidsgerichte studies Hoger onderwijs en Wetenschappelijk onderzoek. Den Haag, Ministerie van Onderwijs en Wetenschappen: 225.

Hulshof, M. J. F., A. H. M. Verrijt, et al. (1997). Promoveren en de arbeidsmarkt: ervaringen van de 'lost generation'. Publicatie van het Ministerie van OC&W. Den Haag, Ministerie van OC&W: 342.

Jansen, N. (2002). Jonge wetenschappers: competent talent?! De rol van competenties en de werkomgeving voor een succesvolle loopbaan. Utrecht, Vereniging van Universiteiten (VSNU): 124.

De loopbaan van jonge wetenschappers is niet altijd succesvol. Naast een teruglopend aanbod van promovendi haakt een deel van de jonge wetenschappers alsnog af tijdens het promotie- of postdoctrject. De mogelijkheden om door te stromen naar een wetenschappelijke vervolgfunctie zijn dikwijls (zeer) beperkt. Bovendien verloopt de aansluiting met een functie buiten de wetenschap niet altijd soepel vanwege het (gedeeltelijk) ontbreken van vaardigheden. Doordat de loopbaan van jonge wetenschapper niet optimaal verloopt, gaat een deel van het wetenschappelijke talent verloren. Dit is nadelig voor de individuele universiteiten en voor de Nederlandse kennismaatschappij als geheel. De universiteiten zien zich voor het dilemma gesteld dat ze enerzijds het wetenschappelijk talent zoveel mogelijk willen behouden en anderzijds slechts beperkte doorstroommogelijkheden kunnen bieden, o.a. vanwege een tekort aan beschikbare formatie. Dit dilemma is overigens verschillend voor de

diverse wetenschappelijke disciplines. Met het Project Jonge Wetenschappers is beoogd inzicht te geven in de factoren die een rol spelen bij het succes en falen in de loopbaan van jonge wetenschappers binnen en buiten de wetenschap. Dit rapport richt zich op twee factoren in het bijzonder: de competenties en de werkomgeving. Competenties zijn gedragsvaardigheden die mede bepalend zijn voor succes in een functie. De werkomgeving bestaat uit diverse factoren die van invloed zijn op het huidige functioneren en tevens consequenties kunnen hebben voor de toekomstige loopbaan. Op basis van verricht onderzoek naar de competenties en de werkomgeving zijn aanbevelingen geformuleerd voor verbetering van universitair personeels- en loopbaanbeleid gericht op jonge wetenschappers. Daarmee kunnen hun loopbaanperspectieven worden geoptimaliseerd zodat ze waar mogelijk kunnen doorstromen binnen de wetenschap én zo goed mogelijk worden voorbereid op vervolgfuncties buiten de wetenschap. De aanbevelingen hebben betrekking op het personeels- en loopbaanbeleid bij de Nederlandse universiteiten voor promovendi, postdocs en overige wetenschappers tussen de 25 en 35 jaar met een tijdelijke aanstelling.

Keijzer, B. and E. H. Gordijn (2000). Resultaten arbeidsmarktenquete jonge wetenschappers. Amsterdam, Vakgroep Sociale Psychologie: 38.

Jonge wetenschappers lopen stuk op gebrek aan doorstroommogelijkheden. Jonge wetenschappers zijn ontevreden over financiële en maatschappelijke waardering. Jonge wetenschappers willen intellectuele vrijheid, zelfstandigheid en internationale uitwisselingsmogelijkheden. Beta wetenschappers beschikken over meer financiële middelen dan andere wetenschappers. Vrouwelijke wetenschappers schatten hun kansen op de arbeidsmarkt lager in.

Klep, P. M. M. (1992). "Over de onderzoekersopleiding bij de geesteswetenschappen." U&H. Tijdschrift voor wetenschappelijk onderwijs 39(Sept/Nov.): 15-23.

Knight, P. T. and M. Yorke (2003). "Employability and Good Learning in Higher Education." Teaching in Higher Education 8(1): 3.

Many governments are concerned that investment in higher education should increase the stock of human capital, which is seen as a source of national economic well-being. This concern often leads to an expectation that higher education will foster the learning outcomes that employers value. In the UK it has taken the form of pressure on higher education institutions to improve students' employability. This paper briefly reviews some current responses, claiming that they are inadequate. An analysis of the concept of employability follows, leading to a claim that it necessarily entails complex learning. This gives way to a view of what needs to be done to improve the chances of such learning occurring. The main implication for teaching is contained in the claim that employability policies are not well-served by piecemeal actions. Rather, teaching that enhances employability is associated with systemic thinking about programmes and learning environments.

Kulis, S., H. Shaw, et al. (2000). "External Labor Markets and the Distribution of Black Scientists and Engineers in Academia." The Journal of Higher Education 71(2): 187-222.

We examine how the academic labor market is racially segmented along geographic and disciplinary lines. Results from a national survey indicate that black faculty in the sciences and engineering are found disproportionately in Southern, historically black

institutions, areas with sizable black populations, and, independent of the black doctoral labor supply, in certain fields.

Lequin, F. (1993). *Status versus Structuur. Een KNAW-Onderzoeker aan de Rijksuniversiteit te Leiden, 1988 - 1992*. Leiden, Uitgegeven in eigen beheer.: 53.

Leray, N., T. Raban, et al. (2006). *From PhD to Employment*, FEDORA Employment group.

Lieshout, W. C. M. v. (1992). "Het aio-stelsel heroverwogen." U&H. Tijdschrift voor wetenschappelijk onderwijs **39** (Sept/Nov): 39-46.

Pleidooi voor breed perspectief op arbeidsmarkt voor gepromoveerden. Niet alleen voorbereiden op onderzoekscarrière.

Lindholm, J. A. (2004). "Pathways to the professoriate: The role of self, others, and environment in shaping academic career aspirations." Journal of Higher Education **75**(6): 603-635.

Long, J. S., P. D. Allison, et al. (1979). "Entrance into the Academic Career." American Sociological Review **44**(5): 816-830.

This paper examines the initial academic placement of 239 male, Ph.D. biochemists. Position in the academic stratification system, according to the normative structure of science proposed by Merton, should be allocated universalistically on the basis of a scientist's contribution to the body of scientific knowledge. Our analyses, however, show that after controlling for the effects of doctoral origins and the prestige of the mentor, preemployment productivity has an insignificant effect on the prestige of the scientist's first academic position. This basic finding is elaborated by examining the effects of postdoctoral fellowships, additional characteristics of the doctoral department, and the academic rank of the position obtained. In no instance does preemployment productivity affect the prestige of the first job. The universalistic nature of the scientific stratification system is assessed by comparing those factors which determine job allocation to those which predict scientific productivity later in the career. It is found that prestige of a scientist's first teaching position is least influenced by those factors which are most predictive of future productivity and most influenced by those factors which are likely to involve ascriptive processes.

Mangematin, V. (2000). "PhD job market: professional trajectories and incentives during the PhD." Research Policy **29**: 741-756.

It is becoming more and more difficult for PhD graduates to find a job corresponding to their qualifications. Stephan and Levin have shown that this situation weakens the implicit contract between PhD students or post-doc and the research team in which they are doing their research. This weakness of the implicit contract may slow down scientific production because of the lack of incentives for good students to participate in academic science production. The aim of this paper is to examine incentives for students to invest in a PhD and for PhD supervisors to hire PhD students. After a theoretical analysis, hypotheses are made. These are tested by means of a survey on 400 engineering science PhD students from the University of Grenoble a medium-sized town in France, with a large academic community. Do students with a Master's degree have relevant information about the scientific community and scientific rules to enable them to choose the "best" place to complete their PhD? What are the main factors determining their choice? Are trajectories flexible? To what extent is their

research affected by these variables? In research, do private firms and academia have the same criteria when it comes to recruiting PhD graduates? The analysis shows that trajectories are not flexible and that PhD graduates have to choose a trajectory when their level of information is at its lowest. When they choose their first job after completing their PhD, the cost of switching from academia to the private sector or vice versa depends on whether or not they collaborated with the private sector during their PhD and on the intensity of publication. The existence of two sectors of recruitment with two sets of criteria to evaluate applicants' abilities can affect the implicit contract between PhD graduates and PhD supervisors and the dynamics of scientific production.

Martin, P. E. and B. R. Umberger (2003). "Trends in interdisciplinary and integrative graduate training: An NSF IGERT example." Quest 55(1): 86-94.

In a report entitled Reshaping the Graduate Education of Scientists and Engineers (National Academy of Sciences, 1995), the Committee on Science, Engineering, and Public Policy proposed a modified PhD training model that retains an emphasis on intensive research experiences, while incorporating additional experiences to prepare graduates for an increasingly diverse job market. The National Science Foundation (NSF) subsequently instituted the Integrative Graduate Education and Research Traineeship (IGERT) program to foster interdisciplinary training of doctoral students. Faculty in kinesiology graduate programs are often well positioned to contribute to such interdisciplinary training programs. We highlight an example of such a program, specifically the NSF IGERT program on Musculoskeletal and Neural Adaptations in Form and Function at Arizona State University. Both benefits and challenges of IGERT participation are considered.

Martinez, D., J.-G. Mora, et al. (2007). "Entrepreneurs, the Self-employed and Employees amongst Young European Higher Education Graduates." European Journal of Education 42(1): 99-117.

Moffat, L. K. (1978). "Departmental characteristics and Physics Ph.D. production 1968 - 1973." Sociology of education 51(April): 124 - 132.

Musselin, C. (2004). "Towards a European Academic Labour Market? Some Lessons Drawn from Empirical Studies on Academic Mobility." Higher Education 48(1): 55-78.

In Europe, academic mobility has a long tradition which began with the birth of the European universities in the middle ages. Recently, European policies were strongly oriented towards the promotion of student and academic mobility and the creation of research networks and projects within Europe. Nevertheless, academic labour markets in Europe remain highly national and many obstacles hinder the development of European careers and the europeanisation/internationalisation of academic recruitments. Two different perspectives will be developed in this paper. First we will document the strong divergences among the national recruitment and careers processes within Europe and the problems raised by this situation. Second, we will draw on two empirical studies we conducted on academic mobility, the first one, led in 1995 in France, Germany and the UK and the second this year in France. Both studies show that most post-docs conceived their foreign experience as a personal strategy and aimed at improving their chances for recruitment in their own country. Within Europe, foreign country careers still are an exception due to accidental opportunities.

Musselin, C. (2005). "European academic labor markets in transition." Higher Education **49**(1/2): 135-154.

Even if convergences are to be observed among the orientations adopted by higher education policies in European countries, they still are characterized by strong national features. One of the most striking national patterns of each system is its academic labor market, salaries, status, recruitment procedures, workloads, career patterns, promotion rules, being very different from one country to another. Nevertheless, specific national academic labor markets are experiencing a common evolution that can be summed up by the emergence of more regulated internal labor markets. At the same time, the qualification of the academic production (knowledge) as a public good is questioned and academic activities rely less on individual autonomy than before. Two main transformations can be mentioned: the development of individual assessment and incentive devices in universities and the increasing role of higher education institutions in the issues previously in the domain of the academic profession. The paper relies on a limited number of cases and on empirical studies recently carried out in France and Germany. The evolution engaged in the two countries will be reviewed in order to show that they lead, in different ways, to more regulated internal labor markets. It will also be argued that this is a general trend. In the last section, the implications linked to this evolution and the questions raised, the role of the academic profession, and the transformation of the status of scientific and pedagogical activities will be discussed.

Naess, T. (2004). "Forecasting the Norwegian Labour Market for Graduates Holding Higher Degrees." Higher Education in Europe **XXIX**(1): 103-114.

This article investigates the phenomenon of long-term unemployed graduates of Norwegian higher education institutions over the period 1973–1999. The phenomenon was unexpected. One explanation for it is that the market for graduates was and remains in disequilibrium because wages are not sufficiently flexible downward. Thus unemployment would be involuntary. The other explanation is that unemployment is voluntary because the elasticity of the graduate labour supply is pushing wages down, and graduates are not accepting employment for which wages appear to be unacceptably low. They are waiting for better opportunities to appear. The author has undertaken a simulation by which he has proved, to his satisfaction, that the first explanation is the correct one and that only a slight improvement in the employment prospects of university graduates can be expected in the near future.

Neave, G. (2002). Research and Research-Training Systems: towards a typology. Unesco Forum Occasional Paper Series Paper Paris, UNESCO.

Nelissen, R. L. H. (1992). "Maatschappelijke eisen aan een wetenschappelijke opleiding." U&H. Tijdschrift voor wetenschappelijk onderwijs **39** (Sept/Nov): 36-38.

Nelson, J. I. (1991). "Time in place: the increased length of time to complete the degree." Teaching Sociology **19**(3): 441-443.

Nerad, M. (2004). "The PhD in the US: criticisms, facts, and remedies." Higher Education Policy **17**(2): 183-199.

Neut, A. C. v. d. and J. F. M. d. Jonge (1993). De meerwaarde van een promotie. Een vergelijkende studie van de loopbanen van gepromoveerde en niet-gepromoveerde academici. Publikaties van het Ministerie van Onderwijs en Wetenschappen. Den Haag, Ministerie van Onderwijs en Wetenschappen: 107.

OECD (2006). Labour market characteristics and international mobility of doctorate holders: the case of five OECD countries: 31.

OECD/Unesco/Eurostat (2006). Indicators on careers of doctorate holders. Variables in proposed tabulations - definitions and sources.

Oost, H. and H. Sonneveld (2006). PhD Success and Quality of Graduate and Research Schools in the Netherlands. Utrecht, Netherlands Centre for Graduate and Research Schools: 30.

Recotillet, I. (2003). Disponibilité et caractéristiques des enquêtes sur la destination professionnelle des titulaires de doctorats dans les pays de l' OCDE. Paris, OCDE: 82.

Reskin, B. F. (1979). "Academic Sponsorship and Scientists' Careers." Sociology of Education **52**(3): 129-146.

Scientists' academic sponsors might influence their students' careers through the quality of training they provide and through their ability to transmit to their students a professional status and other ascriptive advantages. Using data for a probability sample of doctoral chemists, this study explores the effects of scientists' Ph.D. departments and several characteristics of their doctoral sponsors on their scientific productivity and positions over their first postdoctoral decade. Sponsorship appears to play a vital role in the chemists' careers. Their sponsors' productivity affected sample members' predoctoral productivity, and the calibre of their Ph.D. department affected their postdoctoral productivity. Although measures of the quality of their training did not affect the setting (university versus other employer) of the chemists' jobs, two measures of their sponsors' professional stature were consequential. These results suggest ascriptive effects of doctoral sponsorship, independent of the effects of sponsors' performance, the calibre of the Ph.D. department, and the chemists' own productivity.

Rimini-Döring, M. (2004). Academic careers and training at Bosch. Conference "Research training as a key to a Europe of Knowledge", Maastricht.

Rip, A. (2004). "Strategic Research, Post-modern Universities and Research Training." Higher Education Policy **17**(2): 153-166.

Rudd, E. (1990). "The Early Careers of Social Science Graduates and the Value of a PhD." Journal of the Royal Statistical Society. Series A (Statistics in Society) **153**(2): 203-232.

To look at the relevance of a PhD to the careers of graduates in the social sciences, the Economic and Social Research Council commissioned a survey of a sample of graduates in certain social science subjects who gained first- or upper second-class honours degrees at British universities between 1972 and 1977. A substantial proportion of respondents with PhDs, and especially of those who also held first-class honours, had become university teachers. The rest were scattered over a wide range of jobs, but few of them had needed a PhD to gain their first job after completing their

studies, and there was no job group where the majority of respondents said that they had needed a PhD to do their first job well. In all job groups there were some respondents who regarded skills in research as relevant to their jobs, but other qualities imparted by a university, such as a training of the mind, were generally regarded as more relevant. Graduates with no university level post-graduate qualifications were generally paid more than those with a PhD, implying that employers put a higher value on experience in employment than on post-graduate research.

Ruth, R. J., K. E. Steckle, et al. (1985). "Careers in OR/MS; or, Life after the Ph.D.: A Student/Practitioner/Faculty Discussion." Operations Research **33**(3): 699-703.

Sanderson, A. and B. Dugoni. (1999). Summary Report 1997. Doctorate Recipients from United States Universities. Chicago, National Opinion Research Center at the University of Chicago: 153.

Data on recipients of research doctorates awarded by U.S. universities. Median time to degree since the baccalaureate. Age of the typical doctorate recipient. Financial support for graduate education. Postgraduation commitments (at graduation) for employment

Schomburg, H. (2007). "The Professional Success of Higher Education Graduates." European Journal of Education **42**(1): 35-57.

Measures of professional success provided by surveys on higher education graduates can be divided into objective (e.g. income or professional position) and subjective (e.g. job satisfaction, reported use of knowledge and skills, work autonomy) indicators. In this article a broad range of measures of professional success is used to describe aspects of employment and work of graduates from 11 European countries and Japan and to analyse the relevance of structural conditions (e.g. country of the institution, type of study programme and field of study) and personal factors (e.g. gender, parental educational background, competences at the time of graduation, employment conditions e.g. economic sector, size of organisation, and the experiences after graduation). The analysis clearly demonstrates the relevance of both structural and personal factors, but no single variable prevails.

Schwirian, K. P. and E. C. McDonagh (1991). "Sociology PhDs in the 1990s." Teaching Sociology **19**(3): 424-429.

Scott, C. E. (1979). "The Market for Ph.D. Economists: The Academic Sector." The American Economic Review **69**(2): 137-142.

Sharp, R. L. (2003). "Doctoral education: The mixture perspective." Quest **55**(1): 82-85.

In the last 30 years, our discipline has become increasingly specialized in the training of PhD students. Development of recent initiatives, such as the Preparing Future Faculty program now in place at many doctorate-granting institutions, has focused attention on the need to broaden the education of PhD students. In addition, recent analyses of the job market for graduating PhD students show that most advertised faculty positions are at institutions where expertise and teaching experience in more than one of our subdisciplines is required. This paper describes a new PhD program at Iowa State University in Health and Human Performance that is designed to offer a broader preparation of PhD students without compromising a quality research experience.

Shi, L. (2003). "Writing in two cultures: Chinese professors return from the west." Canadian Modern Language Review-Revue Canadienne Des Langues Vivantes **59**(3): 369-391.

Little is known about nonnative English language teachers who, after having been awarded an MA or PhD in the West, return to their home countries and write academic papers mainly in their first language. This study, based on interview data, reports on the writing and teaching experiences of nine Western-trained Chinese TESOL (Teaching English to Speakers of Other Languages) professionals in China. The findings show that the participants were all conscious of their biliterate/bicultural intellectual identity: Although some had different views about what counted as logic and digression in academic discourse, most of the participants were persistent in promoting a direct and linear English approach in their own writing as well as in their teaching of both English and Chinese writing. The study highlights the complexity of bilingual/bicultural intellectual identity and the contribution of Chinese TESOL scholars either toward or against an Anglo-centric globalization of rhetorical development.

Siegfried, J. J. and W. A. Stock (1999). "The Labor Market for New Ph.D. Economists." The Journal of Economic Perspectives **13**(3): 115-134.

Sonneveld, H. and H. Oost (2006). Het promotiesucces van de Nederlandse onderzoekscholen. Afsluiting van een drieluik (PhD success at the Dutch research schools. Concluding a triptych). Beleidsgerichte studies Hoger onderwijs en Wetenschappelijk onderzoek. Den Haag, Ministerie van Onderwijs, Cultuur en Wetenschap.: 82.

Steijn, F. v., H. Postel, et al. (1993). Post-doctoral Fellows; a means or an end? Amsterdam, Vakgroep Wetenschapsdynamica, Universiteit van Amsterdam.

Stivale, C. J. (1999). "(Se) rendre compte: Orienting graduate students toward market (un)realities." French Review **72**(6): 1049-1059.

The severe constriction of the job market for new Ph.D. recipients during the 1990s is hardly a secret. What tends to be much more so for students who would enter academe is the array of professional activities and practices with which faculty have become familiar through hard experience when confronted with career demands. Among these are: honing research skills and employing increasingly sophisticated library resources; developing teaching skills and increasing one's familiarity with new methods in teaching pedagogy; responding to calls for papers, developing abstracts, preparing conference papers, and expanding these into publications; establishing placement files, preparing the C.V. and cover letters, navigating the job search in all its phases; negotiating trends among diverse critical theories, particularly the relation of literary analysis to theories and to cultural studies; understanding how all of these facets are intricately related and contribute in complex ways to one's career. In this essay, I wish to report on efforts that my colleagues and I have undertaken to orient graduate students to these practices by means of a pro-seminar on professional issues in foreign languages, literatures, and cultural studies. This report considers three general aspects: successive models of the proseminar's organization, specific content of each of its units, and conclusions as well as certain cautions.

Stivale, C. J. (2006). "Tenure and its denial: Facing the winter years and beyond." College Literature **33**(2): 70-+.

The details that one recalls at the time of dramatic and, indeed, traumatic events in one's life remain indelibly marked and may create difficulties in pursuing the regular course of work and private pursuits. The author reflects on the events the denial of tenure, how he faced this crisis, and how his preparation in research and teaching provided him a basis upon which to overcome the "winter years" of this difficult period and move on with his career.

Straus, S. E., C. Straus, et al. (2006). "Career choice in academic medicine: Systematic review." Journal of General Internal Medicine **21**(12): 1222-1229.

OBJECTIVES: To review systematically the evidence about what factors influence the decision to choose or not choose a career in academic medicine.

DESIGN: A systematic review of relevant literature from 1990 to May 2005.

DATA SOURCES: Searches of The Cochrane Library, Medline (using Ovid and PubMed) from 1990 to May 2005, and EMBASE from 1990 to May 2005 were completed to identify relevant studies that explored the influential factors. Additional articles were identified from searching the bibliographies of retrieved articles.

SELECTION OF STUDIES: We attempted to identify studies that included residents, fellows, or staff physicians. No restrictions were placed on the study methodologies identified and all articles presenting empirical evidence were retrieved. For cohort, case-control, and cross-sectional studies, minimum inclusion criteria were the presence of defined groups, and the ability to extract relevant data. For surveys that involved case series, minimum inclusion criteria were a description of the population, and the availability of extractable data. Minimum inclusion criteria for qualitative studies were descriptions of the sampling strategy and methods.

RESULTS: The search identified 251 abstracts; 25 articles were included in this review. Completion of an MD with a graduate degree or fellowship program is associated with a career in academic medicine. Of the articles identified in this review, this finding is supported by the highest quality of evidence. Similarly, the completion of research and publication of this research in medical school and residency are associated with a career in academic medicine. The desire to teach, conduct research, and the intellectual stimulation and challenge provided in academia may also persuade people to choose this career path. The influence of a role model or a mentor was reported by physicians to impact their decision making. Trainees' interest in academic medicine wanes as they progress through their residency.

CONCLUSIONS: In order to revitalize academic medicine, we must engage trainees and retain their interest throughout their training. Research opportunities for medical students, and fellowships or graduate training can meet this challenge and influence career choice.

Initiatives to stimulate and maintain interest in academic medicine should be evaluated in prospective studies across multiple sites.

Teichler, U. (2007). "Does Higher Education Matter? Lessons from a Comparative Graduate Survey." European Journal of Education **42**(1): 11-34.

Renewed public interest in the relationships between higher education and the world of work and a deficient data base contributed to the decision to undertake a major comparative study on graduate employment and work. In the framework of the CHEERS study, supported by the European Commission's TSER programme, some 40,000 graduates of the academic year 1994/95 from 11 European countries and Japan were surveyed about four years later. The study paid attention to the transition to employment, the employment situation during the first four years after graduation, the

links between competences acquired and work tasks, as well as the professional impact of values and orientations. Altogether, the findings indicate major North-South differences of graduate employment in Europe, but less clear findings as far as work assignments and retrospective views of higher education are concerned. They show on average a more favourable employment and work situation than the public debates suggest, few signs of European convergence, for example with respect to preference for generalists or professionals, and a high weight of intrinsic values.

Twombly, S. B. (2007). "Parenting and Professing: Balancing Family Work with an Academic Career." Journal of Higher Education **78**(1): 121-123.

The article reviews the book "Parenting and Professing: Balancing Family Work with an Academic Career," by Rachel Hile Basset.

Tynjälä, P., J. Válimaa, et al. (2003). "Pedagogical perspectives on the relationships between higher education and working life." Higher education **46**(2): p147, 20p.

The relationship between higher education institutions and their environment has changed markedly during the last two decades. Massification and diversification of the higher education system, economic globalisation, novel modes of knowledge production, new professional requirements and the establishment of new vocational higher education systems in many countries have challenged higher education institutions to develop new forms of collaboration with working life. The new situation also challenges higher education to develop pedagogical and educational thinking and practices. The purpose of this article is to examine the pedagogical aspects of the increasing interaction and collaboration that is taking place between higher education and working life and to outline what kind of challenges it poses for research on higher education. It is emphasised that from the pedagogical viewpoint integration between theory and practice in work-based learning is essential. Our general conclusion is that the relationship between higher education and working life should be examined at least from four different perspectives: (1) from the viewpoint of student learning and the development of expertise, (2) from the viewpoint of educational institutions and staff, (3) from the viewpoint of working life organisations and employers, and (4) from the viewpoint of society and the system of education.

Vila, L. E., A. Garc a-Aracil, et al. (2007). "The Distribution of Job Satisfaction Among Young European Graduates: Does the Choice of Study Field Matter?" Journal of Higher Education **78**(1): 97-118.

The article discusses the impact college degree field has on the hiring of higher education graduates (HEGs) in Europe. A discussion of the importance of graduating from certain degree fields in order to get particular types of jobs is presented. The impact a choice of degree field will have on job satisfaction of HEGs is discussed. The job satisfaction levels of recent European graduates are examined. Research data from CHEERS (Careers after Higher Education-A European Research Survey) is analyzed and discussed.

Watts, A. G. and R. G. Sultana (2006). "Career Guidance in Public Employment Services Across Europe." International journal for educational and vocational guidance **6**(1): 29-46.

The results of a survey of Public Employment Services in all the Member-States of the European Union, plus Iceland, Norway and Switzerland, are reported. The career guidance services offered within these structures are reviewed, in three categories: career guidance elements within personalised employment services; specialised career

guidance provision; and other relevant provision, including career and labour market information and the delivery of services to students. Four trends are identified: towards self-service provision; towards tiering of services; towards decentralisation; and towards outsourcing. Finally, four issues are addressed: quality and impact measurement; role tensions; foregrounding the identity of career guidance; and the role of Public Employment Services in relation to lifelong access to career guidance.