

International Conference on  
Employability of Graduates & Higher Education Management Systems  
Vienna, 22 - 23 September 2011

**TRANSITION FROM UNIVERSITY TO WORKING LIFE**  
**The case of Finland**

Juhani, Rautopuro, Finnish Institute for Educational Research, University of Jyväskylä  
juhani.rautopuro@jyu.fi

Antero, Puhakka, Faculty of Social Sciences and Business Studies, University of Eastern  
Finland  
antero.puhakka@uef.fi

Visa, Tuominen, Philosophical Faculty, University of Eastern Finland  
visa.tuominen@uef.fi

*Abstract:*

According to a nationwide survey (n = 6 692) carried out in Finland the employment of university graduates is on a very high level. The survey was administrated in 2008 to the university graduates of Finnish universities in 2003. Well over half (56 %) of the graduates responded.

Although one out of three graduates had been unemployed at least one day, most of the respondents had experienced only one period of unemployment. In general, the periods of unemployment were relatively short. Five years after graduation only 2 % of the respondents were unemployed and majority (73 %) of those in working life considered that their occupation corresponds with their academic education.

The results of the survey also show that the most important work-related skills that the respondents reported to need in their current occupation were problem-solving skills, team working skills, communication skills, information acquisition skills and organisation skills. It seems that graduates need to acquire skills and competencies that are transferable and enable them to be employed in jobs of different kind.

The urbanisation of the master's degree graduates of 2003 has been intense. According to this study, the university education distributes human resources differently to different parts of Finland. Five years after graduation, the tide has been towards southern Finland although most of the graduates still lived in the provinces they had lived in before their university studies.

## 1. Introduction

*“Employability is the combination of factors which enable individuals to progress towards or get into employment, to stay in employment and to progress during their career.*

-European Centre for the Development of Vocational Training (Cedefop 2008) -

The transition from university to working life, or more precisely the employability of university graduates, is becoming more and more important. The European Commission aims to support Member States in their efforts to harmonise the higher education systems, in all areas of their activity - education, research and innovation - making them more coherent, more flexible, and more responsive to the needs of society. The aim of the Bologna Process is to establish a comparable degree system in an attempt to create the European Higher Education area. This can be seen as a response to one of the basic principles of the European Union - the free movement of labour within the EU. Nowadays there is a common belief that knowledge is the key to any society's success. Grupp & Lazerson (2005) describe this situation as the Education Gospel. While the significance of knowledge is constantly increasing, society, in order to be successful, needs experts with the ability to apply theoretical knowledge in their work. This means that even if there has always been a close connection between universities and certain occupations, the spectrum of occupations seen to require a university degree is currently broadening.

The concept employability can be found in all the main documents of The Bologna Process, but its significance has changed dramatically from by-product to stronger and more independent meaning for employability. The most recent declarations (The London Communiqué 2007; Leuven and Louvain-la-Neuve Communiqué 2009) demand the universities to concentrate more on employability. Ministers responsible for higher education from the Bologna Process countries meeting in April 2009 stressed that

*with labour markets increasingly relying on higher skill levels and transversal competences, higher education should equip students with the advanced knowledge, skills and competences they need throughout their professional lives. Employability empowers the individual to fully seize the opportunities in changing labour markets.*

Although the Bologna Process is merely founded “soft power” instead of directives or any other exercise of power it has a huge influence on national higher education systems (Tomusk 2006; Witte 2006; Amaral & Veiga 2009)

The employment of graduates has become a more significant factor for the universities also in Finland. The Finnish Ministry of Education and Culture (MOE) is planning to use the employment of graduates as a part of its funding allocation system. Employment surveys have become a crucial part of the quality assurance systems of many Finnish universities. By creating quality assurance systems, universities are trying to prove to employers, students as well as society, in general, that their education provision is solid and that the skills and knowledge acquired at the university are transferable and relevant in today's labour market.

However, for university graduates employment of any kind is not necessarily sensible. According to Dolton & Marcenaro-Gutierrez (2009) those graduates who cannot apply their educational qualifications - skills and knowledge - in their work are penalised twice. Their salary is lower than it could be and they have paid from surplus education not needed or at least paid for. Dolton & Marcenaro-Gutierrez (2009) also classified employees into four categories by cross-tabulating two questions (answer yes/no): “*Have you had formal training or education that has given you skills needed for your present type of work?*” and “*Do you feel that you have skills or qualifications to do a more demanding job than the one you have now?*” The categories constructed were 1) Adequately educated (no/yes), 2) Over-educated (yes/yes), 3) Under-educated (no/no) and 4) Educationally mismatched (yes/no).

In this article, we concentrate on over-education because according to several studies made in Finland and other countries also show the unemployment and under-education are not phenomena that encounter university graduates the most (e.g. Rautopuro 2011). Moreover, over-education has many consequences not only in an individual level but also at the educational and institutional level. On an individual level we can talk about “salary punishment” and on institutional level we can talk about “educational inflation”. According to some studies (e.g. Cutillo & Di Pietro 2006) the “salary punishment” of an over-educated person can be even 40 % compared with an adequately educated person. Over-education also causes a turn down of the social status of university graduates and they have to fight for their position in labour market.

Over-education is more or less a consequence of the massification (e.g. Trow 1974) of higher education which has raised the number of students remarkably. In Finland the time of massification was reached in 1970’s when 15 % of age class could enter higher education. Nowadays in Finland it is possible to talk about universal higher education because there is an offer to higher education to nearly 85 % of an age class (Ahola 1995). This does not mean that the same proportion of an age class enters higher education in Finland.

In addition to over-education, in this article the labour market situation of university graduates is analysed by studying the correspondence of education and job requirements. This analysis has been carried out by examining the skills the graduates need and are using in their current job and by mapping the geographical location of graduates. In a way or another question of possible occupational/educational and geographical mismatch in Finland can be stated. The demand for certain types of skilled workers is different in certain areas and education qualifications of different kind are needed, too.

## **2. Research questions, data and methods**

The aim of this article is to study the employment situation of Finnish university graduates with a master’s degree within the five-year period after their graduation. Three main research questions were stated:

- 1) What is the labour market situation of university graduates in general and what is the correspondence between the level of university education and work requirements?

- 2) What are the most important skills needed in working-life and how they vary between different occupations and employment sectors?
- 3) What kind of social aspects in university graduates' employment can be detected (e.g. where graduates live and work after graduation)?

The data for this study was collected as a nationwide Aarresaari network career and employment survey that was aimed at graduates of 2003 and realized in the autumn of 2008. The data covers 16 Finnish universities, with only the four universities of arts not participating in it. The response rate among the 2003 graduates was 56% (n=6,692), with the male rate of 50% and the female rate of 59%. The respondents consisted of more than a half (54%) of all those who took their master's degree in Finland in 2003. This can be considered good, compared with many other international surveys (e.g. Schomburg & Teichler 2006).

The nationwide survey was carried out by using a posted questionnaire mainly consisting of structured (Likert-scale) questions and some open-ended questions. Therefore, the data has been analysed by using various statistical methods. The description of the general features of employability has been mostly looked at in terms of the most common descriptive statistics: frequencies, percentages, arithmetic mean, median, and standard deviation. Relationships between qualitative variables, say association between gender and match/mismatch education, were examined by using the traditional chi-square test. The group differences of quantitative variables, say salary, in relation to background variables (e.g. gender and the field of education) were tested by using either the t-test or ANOVA. Due to skewed distributions and the ordinal nature of some variables, also non-parametric methods (Mann-Whitney U-test and Kruskal-Wallis analysis of variance) were applied. In this article, the statistically significant association/difference refers to significance level that is less than 1% ( $p < 0.01$ ). This significance level was chosen because of the large sample size: practically even small differences reached the "conventional" 5% level ( $p < 0.05$ ).

### **3. Results**

#### **3.1 Employability of Finnish master graduates**

In general, the Finnish university master graduates' of 2003 situation in the employment market has been favourable. Five years after graduation 84% of the respondents were employed. At the time of the survey, every sixth (about 16 %) respondent was temporarily out of the labour market. One in ten was on family leave; this covers 16% of females and only 1% of the males. Five years after graduation only 2% of the respondents were unemployed, at the time of graduation 16 % were unemployed. Within the five-year follow-up period, every third (33%) respondent had experienced unemployment – at least one day. The differences between the sexes were significant, since 26% of the males had at some time been unemployed, whereas as many as 37% of the females had experienced the same. On average, the unemployment period had lasted for eight months, nine months for males and eight months for females. The median duration of unemployment was three months.

The largest employer of the university graduates in Finland is the private sector (41%), followed by the municipalities (33%) and the state (15%). All in all, the public sector is still a very important employer, since almost half of the respondents (48%) work there.

The match/mismatch of education and work for those graduates who were in working life (n = 5609) five years after their graduation has been presented in Table 1.

Table 1. Correspondence of work and university education (n = 5609)

Demands of the task...	First job	Current job
...clearly under educational level (*)	11,4 %	3,3 %
...partly under educational level (*)	20,3 %	11,2 %
...compatible with educational level (**)	59,7 %	72,2 %
...over educational level (***)	8,6 %	13,2 %
(*) Over-education		
(**) Match		
(***) Under-education		

On the basis of Table 1 it is quite easy to see that the change in correspondence of education and working life from the moment of graduation to the situation five years after graduation is remarkable and statistically significant. Almost one third of the graduates considered themselves over-educated in their first job but in the current job the proportion is less than 15 %. One possible explanation for this is that only just half (55 %) of the graduates started their after-graduation working life in a job that necessitated a university degree. In the current job this requirement was essential for 72 % of the respondents. The most important reasons for those accepting a job not corresponding to university education were *an interesting job at the moment* (22 %), *no possibility to a job corresponding to one's educational level* (18 %) and *willingness to continue a work that started before graduation* (14 %).

Some statistically and practically significant differences were detected when comparing those who considered themselves over-educated (n = 805) to those who experienced their job compatible with their educational level (n = 3998). First, about 15 % of male and 18 % of female were over-educated and this difference between genders was about the same in all fields of education and employment sectors. Second, over-education was the most common for the graduates of Humanities and Sciences (about 20 %) while well over 90 % of the graduates of Medicine and Education found their job corresponding to their university education. Third, according to 80 % of the graduates working in the private sector the match of work and education was suitable. In the public sector (state, municipality) this proportion was 8 % higher.

The effect of over-education on incomes can be seen in Table 2. The difference between graduates with educational match to those who are over-educated is clear, remarkable and statistically significant. In this comparison only full-timers (n = 4327) have been taken into account.

Table 2. Gross salary (€/month)

	Mean	Median	Sd. dev.	Q1(25 %)	Q3(75 %)
Educational match	3552	3350	1160	2800	4000

(n=3636)					
Over-education (n=691)	2951	2950	817	2350	3450
All (n=4327)	3456	3300	1134	2730	3962

Due to a skewed distribution of salaries, the median value is perhaps the most sensible one to be taken into consideration. The difference in median salaries between these two groups is 400 €/month. When looking at the salaries in different fields of education and employer sectors and genders huge differences were found. In economic sciences, for example, the chasm between adequately educated and over-educated in median salaries was 1000 €/month, whereas in education and humanities the difference is about 350 €/month. In the private sector differences are bigger than in the public sector but, on the other hand, wage level is also higher. Regardless of the field of education and employer sector women are the losers when comparing adequately educated graduates with over-educated. In general over-educated female earn 700 €/month less than males and in many fields of education and especially in private sector over-educated men are sometimes better paid than adequately educated women.

### 3.2. Transition in the working career and skills needed in the workplace

The occupational career of Finnish university graduates seems to be a little bit splintered. Only one third of the respondents (34 %) had been employed by only one employer in five year time period after their graduation. One out of seven of the respondents (14 %) had had at least four different employers in their career. When analysing their careers by concentrating on the number of contracts it, turned out to be that only 19 % of the respondents had had only one contract and almost every third (30 %) had had at least five different contracts. This shows that permanent and stable work careers are no more reality in 21st century Finland. However, since the unemployment has not been a major problem for these graduates this result can also be interpreted as an evidence of good employability of graduates. They have had enough skills and knowledge to change jobs and advance in their career.

The interpretation above gets more support when analysing the transition between first job and the job five years after graduation. The employment sector (state, municipalites, private or others) has changed for every fourth of the respondent (25 %) and the task they are doing (for example teaching, research, manager duties, marketing, consulting etc) has changed for every third of the respondents. Furthermore, the results showed that the most stable career can be found in teaching (86 %), law (85 %) and church (82 %). These percentages refer to the share of graduates who have been working in jobs of the same kind in their first and in their 5 year jobs. On the other hand, when looking at supervisor-level jobs it can be seen that graduates get more responsibilities when their career advances since for those who were working as supervisor-level jobs at the moment of the survey 71 % had been working in different kind of jobs in their first job. It can be argued that respondents have shown to flexible (Tomlinson 2007) and their ability to adapt to other kinds of tasks (Fallows & Steven 2000) where they still can utilize their skills and knowledge.

The skills the respondents reported being needed in their current job were analysed, too. In addition, to comparisons whether there are differences between occupations and between the jobs of the same kind in different employment sectors were carried out. The most important work-related skills that the respondents considered being needed in their work to a large or very large extent included *problem-solving skills* (86%), *team working skills* (82%), *communication skills in Finnish* (80%), *information acquisition skills* (80%), and *organisation skills* (78%). There were obvious differences in skills needed at work between different jobs. It is quite understandable that those who were working in teaching jobs saw that the most important skills they need are teaching, educational and guidance skills (96 %). However, in administrative jobs the same skills were considered important only for 39 % of the respondents. Differences of the same kind were found for organizational skills when 96 % of supervisors need them, on 61 % of the researchers seem them as equally important.

Table 3. Most important skills (%) needed in current jobs according to different tasks. Three most important skills marked for every task.

%	Teaching	Administration	Supervisor	Research
Problem solving	85	88 (1.)	91	90 (2.)
Team working	93 (2.)	80 (3.)	91 (3.)	62
Information acquisition	79	80 (2.)	80	89 (3.)
Organisational	87	75	96 (1.)	61
Presentation	92 (3.)	59	81	63
Analytical thinking	57	78	83	91 (1.)
Teaching, educational, guidance	96 (1.)	39	55	47

Differences of the same kind can be found out in accordance with different employment sector. The most needed skills were problem solving (86 %) in the private sector, team-work (90 %) in the municipal sector, problem solving (88 %) in the state sector, and Finnish language (83 %) in others. Since the tasks are differently divided between employment sectors this could refer to differences between jobs not between employment sectors. However, we also analysed the differences in the jobs of the same kind between different employment sectors and found out that there were differences between those who worked in similar jobs if they were working in different employment sectors. For instance, the skills needed in research jobs were different depending on whether the respondent worked for a municipality, the state or the private sector. It is obvious that since the tasks had changed for one third of the respondents and the skills needed even in the same job vary depending on the employer, there is no way that education tailored for specific narrowly-defined job needs could be justified.

### 3.3. Social affects: migration and urbanisation

According to Myrskylä (2006) migration increases educational differences between areas in Finland. The young tend to move to areas with better job or study opportunities.

Moreover, according to Aro (2007), those regions in Finland, which already have a high concentration of university-educated people, attract others with the same level of education to move in the area. At the same time, areas populated by less highly educated people are struggling to hold on to the expertise and knowledge base already existing in the area.

Myrskylä (2006) has earlier found out that only three Finnish provinces (out of twenty) are winners when university graduates move to the labour market and re-locate. The results of Myrskylä (2006) seem to be repeated with this nationwide data, but even fiercer way. All the differences between the areas or municipality types stated afterwards are remarkable and statistically significant. Five years after graduation, the tide has been towards southern Finland although many of the graduates still lived in the provinces they had lived in before their university studies. In only two (out of twenty) provinces, the population had increased, while in all the others it had decreased. The winners are the provinces of Uusimaa, with the capital-area of Helsinki, by an increase of 80 % compared with the situation preceding their studies. Another winner is the province of Pirkanmaa with the second largest city of Finland, Tampere, by an increase of 28 %.

In six provinces (Satakunta, Kymi Valley, South Savo, Northern Ostrobothnia, Southern Ostrobothnia, Central Ostrobothnia and Kainuu), the results are ruthless. The number of respondents who lived there now had decreased to less than half in comparison with the situation preceding their studies. The urbanisation of the Finnish master's degree graduates of 2003 has been intense. More than two thirds of the jobs and places of residence of the respondents are placed in eleven cities, while the rest of the jobs and homes spread out in the rest of the a somewhat over 300 Finnish cities, towns and municipalities.

Five years after their graduation, 86% of the respondents who already lived in an urban community while 72% had done so before their studies. Of those who had lived in a rural community before their studies, only less than one third (29%) did so five years after their graduation. Of those who had lived in the cities before their studies, only three percent had moved to live in the rural communities.

The jobs were also mostly located in urban communities, since 87% of the respondents' jobs were in cities or towns, 7% in population centres, and only 6% in rural areas. According to previous findings (Tuominen, Puhakka and Rautopuro 2009) of those who work in the rural communities or population centres, most of them (62 %) work in the field of education. Therefore, it may be claimed by these results that university education distributes human resources differently to different parts of Finland and the chances of finding a job outside the bigger cities may be difficult with certain type of education.

## **5. Discussion**

The latest Communiqués (London 2007, Leuven and Louvain-la-Neuve 2009) show that universities are required to take more and more responsibility for university graduates' employability. Universities should ensure that graduates will get the skills and knowledge that make them employable. Graduates should be flexible and ready to change their plans and workplaces constantly during their work career.

In general, the graduates' situation in the employment market has been quite favourable in Finland. Within the five-year follow-up period, the graduates had been employed in a job that corresponded with their degree for 4 years and 3 months, and on average they had held four different jobs. Almost three out of four respondents (72%) were employed in a job where the requirements matched their degree well. As many as 59% of the graduates told that in their present job they were constantly able to use the skills and competencies they had acquired at the university. More than one third (37%) was able to use what they had learnt at the university to some extent, and only 4% claimed that they could not benefit from their acquired competencies at all.

The share of those who felt themselves overeducated, however, was small in comparison with international studies. Only 3% of the respondents felt themselves clearly over-educated and 11% thought that they were over-educated to some extent. On the other hand, 13% of the informants experienced themselves to be under-educated. The risk of over-education varies between the fields of study. Graduates in the fields that lead to a specific profession degree, for example, in educational sciences, have the best chance to be employed in a job that matches their education.

On the basis of Finnish results it could be argued that in the Bologna Process does not ensure that there is a solid, stable work career for university graduates in Finland. The stable careers may be gone, but if the graduates have enough skills and knowledge that makes them employable, they may have skills that are transferable from one occupation to another and they have a possibility to change working positions and employment sectors.

Graduates have to have skills that are transferable from one occupation to another. This could mean that the generic skills would be more important than the vocational skills. This hypothesis gets at least partial support from our findings. The skills and knowledge that respondents claimed to need most in their current occupation were quite generic ones, including problems solving, teamwork and social skills, communicative skills in Finnish, information acquisition skills and organisational and co-operational skills. There were obvious differences in skills needed at work between different jobs, but there were also differences between those who worked in similar jobs if they were working in different employment sectors. For instance, the skills needed in research jobs were different depending on whether the respondent worked for a municipality, the state or the private sector. It is obvious that since the tasks had changed for one third of the respondents and the skills needed even in the same job vary depending on the employer, there is no way that education tailored for specific narrowly-defined job needs could be justified.

The results of this study also show that university education distributes human resources differently to different parts of Finland. Five years after graduation, the tide has been towards southern Finland although most of the graduates still lived in the provinces they had lived in before their university studies. In only two of the provinces, the population had increased, while in others it had decreased. The winners were the provinces of Uusimaa, with the increase of 80%, and Pirkanmaa, with the increase of 28%. In six provinces (Satakunta, Kymi Valley, South Savo, Northern Ostrobothnia, Southern Ostrobothnia, Central Ostrobothnia and Kainuu), the number of respondents who lived

there now had decreased to less than half in comparison with the situation preceding their studies.

## Literature

- Ahola, S. (1995). From elite university to massification. In Finnish (Eliitin yliopistosta massojen korkeakoulutukseen. Korkeakoulutuksen muuttuva asema yhteiskunnallisen valikoinnin järjestelmänä). Turku: Turun yliopisto.
- Amaral, A. & Veiga, A. (2009). Survey on the implementation of the Bologna process in Portugal. *Higher Education* 57 (1), 57–69.
- Aro T. (2007). The government officials and the factors that have restricted or contributed to immigration in Finland in 1880-2000. In Finnish (Julkinen valta ja maassamuuttoa edistävät ja rajoittavat tekijät Suomessa 1880-luvulta 2000-luvulle.)
- Cutillo, A. & Di Pietro, G. (2006). The effects of overeducation on wages in Italy: a bivariate selectivity approach. *International Journal of Manpower* 27, 2, 143 – 168.
- Dolton, P. & Marcenaro-Gutierrez, O. (2009). Overeducation Across Europe. Teoksessa P.Dolton, R. Asplund & E.Barth (Eds.). *Education and Inequality Across Europe*. Edward Elgar. Northampton, MA, USA, 67- 90.
- Fallows, S & Steven, C (2000) Building employability skills into the higher education curriculum: a university-wide initiative. *Education + Training* 42: 2, 75-82.
- Grubb, W. & Lazerson, M. (2005) Vocationalism in higher education: The Triumph of the education gospel, *The Journal of Higher Education*, 76 (1), 1-25.
- Leuven and Louvain-la-Neuve Communiqué (2009). The Bologna Process 2020 -The European Higher Education Area in the new decade. [http://www.ond.vlaanderen.be/hogeronderwijs/bologna/conference/documents/Leuven\\_Louvain-la-Neuve\\_Communique\\_April\\_2009.pdf](http://www.ond.vlaanderen.be/hogeronderwijs/bologna/conference/documents/Leuven_Louvain-la-Neuve_Communique_April_2009.pdf)
- London Communiqué (2007). Towards the European Higher Education Area: responding challenges in a globalised world. 18.5.2007. <http://www.dfes.gov.uk/bologna/uploads/documents/LC18May07.pdf>
- Myrskylä P. (2006). Migration and labour market, in Finnish (Muuttoliike ja työmarkkinat). Työpoliittinen tutkimus 321. Työministeriö, Helsinki.
- Schomburg, H. & Teichler, U. (2006) Higher education and graduate employment in Europe. Results from graduate surveys from twelve countries. *Higher education dynamics* 15. Springer
- Teichler, U. & Jahr, V. (2001). Mobility During the Course of Study and After Graduation. *European Journal of Education* 36: 4, 443–458.
- Tomlinson, M (2007): Graduate employability and student attitudes and orientations to the labour market. *Journal of Education and Work* 20: 4, 285–304.
- Tomusk, V. (Ed.) (2006). Creating the European area of higher education. Voices from the periphery. Dordrecht: Springer.
- Trow, M. (1974). Problems in the transition from elite to mass higher education. In: OECD (toim.) *Policies for higher education*. Paris: Organisation for Economic Co-Operation and Development, 51–101.
- Witte, J. (2006). Change of degrees and degrees of change: Comparing adaptations of European higher education systems in the context of the Bologna Process. CHEPS/Universitat Twente: Enschede.