

# **Increasing Potentials of Alumni Research for Curriculum Reforms: Some Experiences from a German Research Institute**

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## **1. Introduction**

In Europe, institutes for education research or higher education research often were founded with specific tasks reflecting major current policy debates. For example, the Institute for Economics of Education (IREDU) was founded around 1970 at the Université de Bourgogne in Dijon (France) when world-wide debates focussed on the contribution of educational expenditures to economic growth. The Center for Higher Education Policy Studies (CHEPS) was established at the Twente University in Enschede (Netherlands) in the mid-1980s when changes of steering the higher education system and managing higher education institutions became a major policy theme in Europe.

Such a specific Zeitgeist played also a role when the Centre for Research on Higher Education and Work (Wissenschaftliches Zentrum fuer Berufs- und Hochschulforschung) was founded at the University of Kassel (Germany): After the "Oil Shock" of 1973, unemployment, difficulties of getting a job and unstable employment became visible problems in the Federal Republic of Germany and other market-oriented industrialised societies. Moreover, the expansion of higher education had triggered off concerns that a growing number of university graduates (in Western European countries, the English word "graduates" tends to be used in publications in the English language rather than the American word "alumni") would turn out to be "over-educated" or "over-qualified" and would be likely to face "inadequate employment" or "under-employment". Although graduates, in comparison to the total labour force, had roughly half the risk of being unemployed and kept other relative privileges, concern about job prospects of graduates became one of the key issues of higher education policy. A newly founded university in Germany, the University of Kassel, decided under these conditions to set up an interdisciplinary research centre in 1978 hoping it would become both an internationally visible research institute and a think-tank for curricula reforms reflecting the changing demands of the world of work.

Actually, the Kassel research centre was shaped by sociological concepts but also inspired by disciplinary concepts of economics, law, psychology, education, vocational education and other disciplines. The research activities addressed issues of higher education and society, whereby the relationships between higher education and world of work were one key area. The researchers saw the need to caution the practitioners' expectations that the analysis of graduate employment and work could be more or less a direct tool for breeding ideas of curriculum reform, but they tried to design respective research in a way that the results are likely to be relevant for those in charge of monitoring and improving curricula.

The aim of this article is to show, first, the range of the projects undertaken by the Centre in Kassel aiming to improve both the theoretical, methodological and knowledge basis of research and to enhance the practical relevance of research in this domain. Second, the approach and the results of a large internationally comparative study will be portrayed which the Centre has coordinated, thereby illustrating some of the key characteristics of the research approaches named initially. Finally, the experience acquired with these projects will be critically discussed: What does research on graduate employment and work contribute to

enhance curricular concepts, where are the limits, and what improvements might be possible in the future?

Harald Schomburg was involved in research on higher education and the world of work at the Centre in Kassel for more than 20 years, from immediately after graduation to his current assignment as a senior researcher, and he both focussed on substantive and methodological issues. Ulrich Teichler, director of the Centre for most of the time since its foundation, analysed developments of research on higher education and the world of work all over the world and directed major national and international studies in this domain.

## **2. The Range of Projects**

Most research institutes at universities face difficulties in pursuing relatively consistent research and communication policies. They have to respect the diversity of conceptual, thematic and methodological priorities of the scholars participating, and they are exposed to the merits and plight of staff mobility. They have to weigh chances of getting research grants, and the grants actually provided obviously have a feed-back on the future research strategies. And they have to reflect and take up the changing public debates. This notwithstanding, the Centre in Kassel succeeded in setting six priorities relatively consistently for more than two decades.

First, a need was felt to collect information on concepts, available research and other information on the changing relationships between higher education and the world of work as well as their implications for quantitative, structural and curricular developments in higher education. This was done with the help of national and international conferences, often undertaken in cooperation with other institutions (for example Teichler, 1979; Brennan/Kogan/Teichler, 1995), invitations of scholars to write trend reports (for example Kehm/Teichler, 1995) or detailed accounts of available research (Holtkamp/Teichler 1983; Burkhardt/Schomburg/Teichler, 2000; Paul/Teichler/Van der Velden, 2000) as well as synthesizing analyses (Teichler/Sanyal, 1982; Teichler, 1988, 1999a,b, 2003). This – national and international - stock taking was expected to elicit valuable information for other researchers and practitioners as well as to serve as input for the own preparation of research.

Second, efforts were made to overcome the frequent inclination of large-scale graduate surveys to be confined to a small thematic range. Often, graduate surveys provide only information on themes such as field of study, the degree-awarding university, the whereabouts of graduates after some period, their employment success, job satisfaction and possibly overall assessment of their study experiences. The Centre in Kassel, instead, preferred questionnaire surveys asking graduates to provide detailed information on many areas in order to

- examine many features of the transition from higher education to employment, thereby noting how students' competences, the labour market conditions, employers' expectations and the dynamics of the transition mechanisms interact in determining the relationships between graduation and initial employment,
- measure the employment and work "success" of graduates in multiple ways, thereby showing the extent to which remuneration and status, on-the-job utilisation of knowledge acquired during the course of study, as well as an interesting and satisfying job are interrelated or diverge,
- get an in-depth picture of the links between the competences acquired during the course of study and the actual work tasks as perceived by the graduates,

- analyse the extent to which the study conditions and provisions the students experienced actually “matter” for their subsequent employment and work,
- check the impact of the students’ motivations and orientations on their subsequent decisions and actual career paths.

These themes were addressed in a longitudinal study of German graduates actually surveying students from the final year of study in the early 1980s via two years and five years after graduation up to their employment and work ten years after graduation (Teichler/Schomburg/Winkler, 1992; Schomburg, 1992; Schomburg/Teichler 1993, 1998). In the international comparative study discussed below these themes played a major role as well.

Third, various studies were undertaken to examine the relationships between curricula and graduate work in selected fields of study and occupational areas, notably in engineering, fine arts and teacher training (Hermanns/Tkocz/Winkler, 1983; Ekardt/Löffler/Hengstenberg, 1992; Winkler, 2003; Rattemeyer, 1982). In most cases, questionnaire surveys, interviews of graduates, participant observation and expert interviews were combined in order to get a more detailed picture and more thorough interpretations of the links between study and work than one could expect only on the basis of questionnaire surveys.

Fourth, various studies were conducted to map the employers’ views. In the early 1980s, for example, heads of personnel offices of large companies in Germany were interviewed about the recruitment processes and criteria and thereby notably about the role credentials play in recruitment (Teichler/Buttgereit/Holtkamp, 1984; Buttgereit, 1984). In the mid-1990s, a pilot study addressed the demand for graduates and competences expected by companies through surveying heads of personnel and supervisors of university graduates in German companies (Baldauf et al., 1995a,b). Finally, a study was undertaken during the 1990s on recruitment, career and training policies of Japanese companies, whereby questionnaire surveys, interviews and document analysis were employed (Ernst, 1998; Metzler, 1999; Teicher/Teichler, 2000). These studies showed on the one hand that information provided by employers is an indispensable complementary source for understanding the work tasks and job requirements. On the other hand, they made clear that the employers’ views and expectations cannot be considered as the single most valid indication of demands and job requirements, because divergent perceptions of different actors at the work place, difficulties of identifying requirements and competences, and finally, traditions, political biases and other factors come into play.

Fifth, steps were taken to strengthen the element of international comparison in the analysis of the relationships between higher education and the world of work. Most of the above named studies summarizing available information addressed various economically advanced societies. The study on education and employment in Japan named above aimed to understand differences and common elements between the “company-based” approach in Japan and the “profession-based” approach in Germany. As will be discussed below, the Centre had the exceptional opportunity of coordinating a graduate survey in 12 countries. Finally, surveys were conducted on employment and work of persons who had been internationally mobile during their course of study or during early stages of their research career (Schomburg/Winkler/Teichler, 1991; Maiworm/Teichler 1996, 1997; Teichler/Jahr 2001). Internationally comparative analyses turned out to be very helpful for generating ideas how to interpret findings which tend to be taken for granted in individual countries, and they provide food of thought about alternative options than those customary in one’s own country.

Sixth, the Centre was active in supporting others wanting to embark in graduate surveys and related analyses. Increasingly, universities all over the world feel the need to evaluate their

activities and the impact of their activities, thereby also considering the experiences of their graduates. Moreover, interest grew in developing countries to train experts of higher education research, among them experts regarding the relationships between higher education and the world of work. Among others, the Centre undertook advisory activities for administrators and researchers in Germany and other countries embarking for the first time in graduate surveys. A Handbook was written and updated (Schomburg 1995, 2003) in the English language aiming to serve as a “standard instrument” for graduate and employer surveys. Persons aiming to undertake such studies were provided with explanations, specimen questionnaires, computer programmes for data analysis etc. in order to facilitate all steps of a survey. Training workshops were conducted in more than 10 countries in Africa, Asia and Latin America in order to assist researchers and administrators aiming to undertake graduate surveys. Select graduate surveys in developing countries were advised and assisted (Winkler/Hartmann/Schomburg, 1992; Baldauf/Lwambuka, 1993). When eventually 10 graduate surveys were conducted similarly in Africa in the wake of the above named activities, researchers of the Kassel Centre together with African scholars undertook jointly a comparative analysis (Mugabusha/Teichler/Schomburg, 2004). Finally, the Centre started offering individual universities in Germany to survey their graduates in conjunction with a major representative survey of German graduates. In this way, the findings of the representative survey can serve the individual university as a bench mark for the analysis of their own graduates’ employment and work (see for example Gruehn/Schomburg, 2002).

The various projects of the Centre in Kassel aimed on the one hand to facilitate the access to information on the relationships between higher education and the world of work for those actually in charge of shaping higher education systems, institutions and study programmes. Findings relevant for practitioners should be not disguised in international academic modes of presentation and analysis, but accessible, and their relevance for decision-making should be discussed explicitly. Moreover, efforts were made to encourage others who like to embark themselves in similar studies in order to stimulate debates about curricular or other reforms at their own institution. On the other hand, the projects were designed to caution against simple studies and to call for more comprehensive information. Findings, for example, that

- more than a quarter of graduates with remuneration and positions below those typically expected state that they have good opportunities of utilizing their competences acquired during the course of study and have an interesting and satisfying job,
- remuneration of German graduates vary more strongly by the economic wealth or poverty of the region of employment than by the academic reputation of the university,
- graduates from vocationally oriented colleges in Europe are more satisfied with the orientation towards practice than graduates from academically oriented universities, but they observe a higher discrepancy between their competences and work tasks,
- graduates from Japan and Europe differ substantially in the description of the characteristics of study programmes, competences acquired and job tasks, but are very similar in their job orientations,

clearly indicate that a relatively high complexity of the analysis regarding the relationships between higher education and the world of work is indispensable in order to provide meaningful information to be reflected for practical decisions.

### **3. Broadening the Thematic Range and Comparing Internationally: Select Findings of the CHEERS Study**

Around the year 2000, the Centre in Kassel had the opportunity to coordinate an internationally comparative graduate survey in which various of the above named goals could be pursued concurrently. A survey based on a long questionnaire could be administered which addressed many areas highly relevant for those shaping the quantities, structures and curricula in higher education. In addition to those named in the preceding section, the study focussed also on changes within the early career, regional differences and international mobility. A large number of respondents facilitated complex multivariate analyses. The inclusion of 12 countries made a more thorough international comparison possible than in any preceding study. Finally, select interviews of graduates and employers as well select surveys of graduates some years longer on the job than the main target group indicated the potentials of even more even complex research designs. Some findings will be presented, after some basic information, which might illustrate the evaluative potential of such a study.

#### **The CHEERS Study at a Glance**

More than 40,000 graduates from institutions of higher education in Europe and Japan provided information through a written questionnaire on the relationship between higher education and employment three to four years after graduation. The study with the official title "Higher Education and Graduate Employment in Europe - European Graduate Survey", but subsequently called "CHEERS" ("Careers after Higher Education - an European Research Study") was funded predominantly by the European Union in the framework of the Targeted Socio-Economic Research (TSER) programme. Nine countries of the European Union (Austria, Finland, France, Germany, Italy, the Netherlands, Spain, Sweden, United Kingdom), 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) participated (see Table 1). A broad scope of questions were asked related to the graduates' socio-biographic background, study paths, transition from higher education to employment, early career, links between study and employment, job satisfaction and retrospective views on higher education (see Schomburg et al., 2001; Schomburg/Teichler, 2004; Teichler, 2002, 2004; see the list of almost 200 publications in <http://www.uni-kassel.de/wz1/cheers.htm>).

The authors of this article were the co-ordinators of the project with respect to concepts, survey processes, establishment of an international data base (SPSS system file), assistance of the data analysis and final report. The graduate survey was supplemented by in-depth case studies through interviews with graduates, coordinated by Paul Kellermann, and employers, coordinated by Egbert de Weert.

Table 1 Countries Involved, Participating Institutions and Project Directors in the CHEERS Project

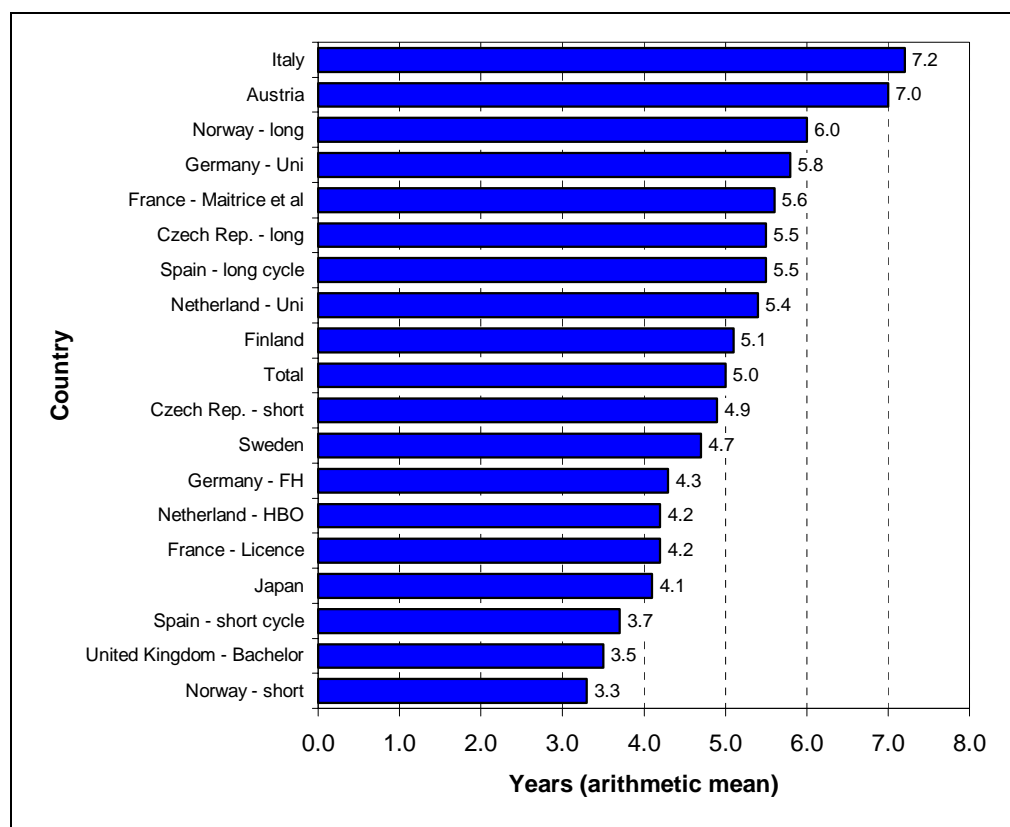
AT	Austria	Prof. Paul Kellermann	Institut für Soziologie, Universitaet Klagenfurt
FI	Finland	Prof. Osmo Kivinen	Research Unit for the Sociology of Education (RUSE), University of Turku
FR	France	Prof. Jean-Jacques Paul	Institut de Recherche sur l'Economie de l'Education (IREDU), Université de Bourgogne
DE	Germany	Prof. Ulrich Teichler and Harald Schomburg (co-ordinators)	Centre for Research on Higher Education and Work, University Kassel
IT	Italy	Prof. Roberto Moscati	IARD Istituto di Ricerca, Milano
NO	Norway	Dr. Per Olaf Aamodt	Norwegian Institute for Studies in Research and Higher Education (NIFU), Oslo
NL	The Netherlands	Dr. Egbert de Weert Dr. Rolf van der Velden	Centre for Higher Education Policy Studies (CHEPS), University of Twente Research Centre for Education and the Labour Market (ROA), Limburg Institute for Business and Economic Research, Maastricht
ES	Spain	Prof. José-Ginés Mora Ruiz	Instituto Valenciano de Investigaciones Economicas (IVIE), Valencia, and Universidad de Valencia
UK	United Kingdom	Prof. John Brennan	Centre for Higher Education Research and Information (CHERI), The Open University (OU), London
<i>Parallel studies (not funded by EU/TSER)</i>			
JP	Japan	Keiichi Yoshimoto	Faculty of Education, Kyushu University and Japan Institute of Labour
CZ	Czech Republic	Dr. Pavel Kuchar	Institute of Sociological Studies, Charles University, Prag
SE	Sweden	Dr. Gunilla Bornmalm-Jardeloew	Dept. of Economics, Goeteborg University

## Diversity of Graduates

The average study duration of the respondents varied enormously: Graduates from Italy were awarded their first degree (Laurea) after 7.2 years as compared to only 3.3 years in the case of short study programs in Norway. Graduates from German universities gained their first degree (on a Master's level) after 5.8 years and those who visited a Fachhochschule (university of applied sciences) after 4.3 years.

The variety in Europe is illustrated in Figure 1.

Figure 1 Years of Study by Country and Type of Programme/Institution (arithmetic mean)



Source: CHEERS survey data

### The Institution of Higher Education Attended

Some countries participating are characterized by a highly stratified system of higher education institutions (e.g. France, United Kingdom and Japan). In some other countries, universities are similar in quality, and students hardly differ on average in their prior school achievements. Therefore, one could assume that many graduates from the former countries and few from the latter countries conceived the reputation of the institution attended as important for getting the first job after graduation.

Actually, 40 percent of the graduates from Japan considered the reputation of their university as an important factor. In Europe, however, only 15-26 percent of graduates hold this view. Even though the percentage was somewhat higher among graduates from European countries assumed to have stratified higher education systems than among graduates from the other European countries, the overall low percentages in Europe are surprising.

### The Transition Process

The smoothness of the transition process from higher education to employment is often measured by the length of the period from graduation up to the first regular employment. This might be misleading, though, because the timing of the job search and the amount of activity involved in the search process differ substantially – both between countries and between different occupational groups within a country.

Actually, most students in Japan start the job search early in the final year of study or even earlier; as a rule, they have their place in the employment system a couple of months before graduation. In Europe, more than one third of students at British institutions of higher education started the job search more than three months prior to graduation. At the other extreme, more than half of the French graduates and almost half of the Italian and Spanish graduates waited until graduation to start the job search.

The duration of the job search for the first regular employment (in the questionnaire defined as “not considered to be casual”) is certainly a more appropriate indicator of the labour market conditions for graduates in a comparative analysis. One has to bear in mind, though, that a long duration of job search on the one hand can be a signal of objective difficulties to get a job meeting the usual expectations of graduates. On the other hand, a certain time of job search is needed for the graduates to explore their chances on the labour market, and students seeking only a short time might have accepted too easily a not so promising job.

Actually, the graduates surveyed spent on average six months on job search (before or after graduation). 66 percent did not seek more than three months. Only 7 percent had a search period of more than one year.

The duration of job search varies substantially by country. Graduates from Czech and Norwegian institutions seek about three months, whereby only 5 percent and 6 percent were involved in the job search for more than half a year. In contrast, graduates from Italian institutions spend on average about three quarters and graduates from Spanish institutions almost one year on the search. The proportions of those with a search period of more than half a year is 34 percent in Italy and 43 percent in Spain (see Table 2).

Table 2 Duration of Job Search for First Job After Graduation in 1994/1995, by Country (percent and means of graduates seeking for a job)

	Country														Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP		
0 months	21	19	24	37	31	31	33	42	47	38	39	33	8	31	
1-3 months	27	22	31	30	33	41	40	35	33	43	45	35	29	35	
4-6 months	18	16	19	16	21	16	15	11	11	12	11	15	37	17	
7-12 months	17	20	15	11	11	8	9	6	6	5	4	10	21	11	
13-24 months	13	14	9	5	4	4	3	3	2	1	1	5	4	5	
25+ months	4	9	2	1	1	1	0	2	1	0	0	2	1	2	
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
Count n	2069	2042	1176	1682	2754	2571	2830	2043	2239	2792	2287	24484	2694	27178	
Arithmetic mean	8.9	11.6	7.1	6.0	5.5	4.7	4.4	5.1	4.9	3.3	2.9	5.8	6.0	5.9	
Median	6.0	8.0	5.0	4.0	4.0	3.0	3.0	3.0	3.0	2.0	2.0	3.0	5.0	3.0	

Question C7: How many months have you sought all-together (before or after graduation) for your first job after graduation in 1994 or 1995, which you consider not to be a casual job?

Source: CHEERS survey data

## Assessment of Study Conditions and Study Provisions

Altogether, the graduates surveyed seemed to have been rather satisfied with their study. Only very few (4 %) stated they would decide not to study if they could decide again. Almost two-thirds would choose the same institution of higher education, and also almost two-thirds would choose the same fields of study. Country differences are rather small in those respects.

This is remarkable, because the structures of course programmes, the conditions and concepts of teaching and learning as well as the labour market situation vary substantially between the 12 countries included.

In all countries of the survey, the satisfaction with study retrospectively stated is most strongly influenced by three factors (see Table 3):

- long-term career prospects,
- personality development, and
- finding a satisfying job after study.

However, the weight of these factors varies. In some countries like Spain, France, Netherlands and Czech Republic the long-term career prospects are the most important factor, while in Italy, Austria, Germany, United Kingdom, Finland and Japan the "transition success" is most clearly linked to the retrospective assessment of satisfaction with their prior study.

The perceived study conditions and provisions also play a role in explaining the overall satisfaction with prior study. In this case, the findings are similar in all the countries surveyed: the content of study/the curricula as well as the quality of teaching are relevant factors for study satisfaction, while social communication (with teachers or students), the resources (library, PCs, etc.), the provision of practical/work experiences and the research orientation have a limited impact.

*Table 3 Explanation of Overall Satisfaction with Study by Usefulness of Study and Assessment of Study Conditions, by Country (standardized regression coefficients, beta)*

	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	JP
a) Study was helpful for ...												
long-term career prospects	.13	.22	.21	.15	.12	.20	.08	.10	.12	.18	.25	.11
development of personality	.21	.15	.13	.11	.15	.17	.18	.10	.17	.15	.03	.09
finding a satisfying job after study	.22	.14	.08	.20	.23	.16	.22	.24	.14	.21	.16	.23
b) Assessment of study conditions												
Content of study/curriculum	.16	.13	.17	.15	.08	.15	.17	.15	.19	.12	.16	.10
Quality of teaching	.10	.12	.11	.11	.08	.16	.15	.13	.10	.11	.07	.09
Social communication	.02	.03	.02	.01	.03	.00	.05	.01	.04	.01	.01	.02
Practical experiences	.02	.05	.01	.01	.04	.01	.06	.07	.03	.06	.06	.01
Resources (e.g. PCs, library)	.01	.01	.02	.01	.03	.02	.12	.01	.00	.02	.01	.01
Research orientation	.00	.00	.01	.01	.02	.00	.00	.01	.02	.01	.00	.06
Explained variance	27.4	30.5	22.1	21.7	23.0	28.9	32.1	22.6	21.0	22.5	24.3	22.0
Sig	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00

a) Question J1: To what extent did your studies help you ...? Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all'. b) Question B9: How do you rate the study provision and study conditions you experienced in the course of study that you graduated from in 1994 or 1995? Scale of answers from 1 = 'Very good' to 5 = 'Very bad'. Study satisfaction: Index of two items from Question J2: Looking back, if you were free to choose again, how likely would you ... a) choose the same course of study b) choose the same institution of higher. Scale of answers from 1 = 'Very likely' to 5 = 'Not likely at all'.

Source: CHEERS survey data.

## **Perceived Competences and Job Requirements**

In the CHEERS study, graduates were asked to rate their competences at the time of graduation and the work requirements about four years later, i.e. at the time the survey was conducted. Table 4 shows the responses to four of the more than 36 items presented in the questionnaire.

Study programmes at higher education institutions undoubtedly are expected to foster field-specific theoretical knowledge. Actually, in most of the countries surveyed the proportion of graduates considering their competences in this domain as high corresponds by and large the proportion of graduates conceiving high job requirements in this respect. We can infer that the academic knowledge acquired matches more or less the work requirements. In some countries (Austria, Sweden, Germany and Finland), we even note a substantially higher level of academic competences on average than the actual job requirements.

In contrast, the graduates rate their competencies, as far as

- planning, co-ordinating and organising,
- problem-solving and
- taking responsibilities and decisions

are concerned, at the time of graduation substantially lower than the job requirements they have a few years later. This corresponds the frequently heard complains by employers that graduates lack “key qualifications”, “soft skills”, etc. Table 4 actually shows that the graduates’ responses vary more strongly by country in rating their competencies than in rating the job requirements. Across countries, graduates seems to face more or less similar work requirements, but they are differently equipped for them at the time of graduation. This suggests that efforts vary between higher education institutions of the different countries in fostering problem-solving, socio-communicative and similar competences – may it be implicitly in the typical academic courses or through specific targeted measures.

*Table 4 Selected Self-rated Competences at the Time of Graduation and Work Requirements Four Years Later, by Country (percent “high”; responses 1 and 2)*

	Country											
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	JP
Field-specific theoretical knowledge												
Competence at time of graduation	60	59	60	78	73	69	63	68	78	76	60	67
Work requirements four years later	60	66	60	57	59	63	62	57	63	71	56	61
Planning, co-ordinating and organising												
Competence at time of graduation	31	33	35	41	39	37	51	38	54	46	18	39
Work requirements four years later	72	68	77	79	83	79	85	82	88	84	58	78
Problem-solving ability												
Competence at time of graduation	47	51	52	58	59	64	65	59	75	64	41	58
Work requirements four years later	82	80	80	88	88	89	80	90	89	90	85	86
Taking responsibilities, decision												
Competence at time of graduation	51	53	38	46	39	61	49	47	62	51	39	48
Work requirements four years later	80	79	75	82	83	85	85	83	89	85	78	82

Question E1: Please, state the extent to which you had the following competencies at the time of graduation in 1994 or 1995 and to what extent they are required in your current work. Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all'.

Source: CHEERS survey data

## The Universal Graduate

Higher education experts and labour market experts are often inclined to chose certain criteria for professional success of graduates. Often income and status are given priority. But it might be worth to listen to the graduates themselves: What do they consider as a good job? In the CHEERS study, the latter question was pursued by analysing how various job characteristics, notably

- status and career (e.g. high income),
- work autonomy (work independendly),
- work content and use of skills,
- social communication,
- job security, and
- time for family and leisure activities,

are linked to the overall job safisfaction. As Table 5 shows, the pattern of what makes a job satisfying is surprsingly similar in all countries. The most important factor is work automy. Status und career, content of work and social communication play also some role. In contrast, job security and leisure time have little bearing on the overall job satisfaction. These findings support modernisation theories which would expect the rise of the professional society to overcome the cultural and socio-economic differences between countries. The findings also suggest that graduates have less instrumental values than for example many economic approaches suggest.

Table 5 Explanation of Job Satisfaction by Characteristics of the Job, by Country (standardised reression coefficients, beta)

	Characteristics of the job						Explained variance
	Autonomy	Status, career	Use of skills	Communication	Job security	Family, leisure time	
Italy	<b>0.4</b>	0.3	0.2	0.2	0.1	0.0	37.9
Spain	<b>0.3</b>	0.2	0.2	0.3	0.1	0.0	34.0
France	<b>0.4</b>	0.3	0.2	0.2	0.2	0.1	41.4
Austria	<b>0.4</b>	0.3	0.2	0.2	0.2	0.1	35.7
Germany	<b>0.4</b>	0.4	0.2	0.3	0.2	0.1	35.5
Netherlands	<b>0.4</b>	0.2	0.2	0.3	0.1	0.1	30.4
United Kingdom	<b>0.4</b>	0.3	0.2	0.3	0.1	0.1	40.1
Finland	<b>0.4</b>	0.3	0.3	0.3	0.2	0.1	40.0
Norway	<b>0.4</b>	0.3	0.3	0.2	0.2	0.1	37.7
Czech Republic	<b>0.4</b>	0.3	0.2	0.2	0.1	0.0	30.3
Japan	<b>0.4</b>	0.3	0.2	0.2	0.2	0.2	42.0

Source: CHEERS data survey

#### 4. Concluding Remarks

Graduate surveys, in the U.S. called “alumni surveys”, in principle can be valuable tools for generating ideas of curricular improvement. Graduate employment and work are key measures of the impact of study programmes. If universities want to assess their programmes and if they do not want to be overwhelmed by the teachers’ and students’ current impressions, a look at their students’ situation and experience after graduation is on the agenda.

However, the results of graduate surveys are often misleading and are often misinterpreted in discussions about possible curricular consequences. Criteria for professional success might be taken which are too narrow with respect both of the educational goals of the study programmes and the motives of the students and graduates. Successes and problems of graduates might depend on other factors than those shaped by the study programme. Surveys might only address employment and work of graduates thus leaving ample room for more or less random speculation how the study programmes have affected employment and work and what directions of curricular improvements could be most promising. The graduates themselves can have biased views; for example, they might feel well prepared for their job if they have some practical experiences during the course of study even if this hardly contributes to the acquisition of competences required on the job.

We draw the conclusion, first, that those who undertake graduate surveys cannot merely deliver data and leave the interpretation of practical implications only to those in charge of shaping the reality of higher education programme. Rather, the researchers have to take stock of the available knowledge on the relationships between higher education and the world of work and thus help to avoid misunderstandings the practitioners might be prone to. In referring to an example presented as illustration above, the researchers might make the readers of their analyses aware that an early completion of the job search is not necessarily a good indicator for smooth transition or for a reasonable search strategy.

Second, a graduate survey should address many aspects of employment and work. This might, for example, show that graduates have taken over jobs linked to their motives, their study

programmes and their competences, even if the occupational category or the level of income does not suggest a “match” and a high “employment success”. It might also illustrate which competences are on high demand.

Third, a graduate study should not merely survey the retrospective satisfaction with prior study, but also address study experiences, achievements and competences. An analysis of the relationships between study and subsequent employment and work provides ample opportunities of generating ideas regarding the way study provisions and conditions affect the subsequent career.

The 12-country study on the relationships between higher education and graduate employment and work choose a variety of means to avoid these widespread weaknesses. Some of them were illustrated above. The major reports of the findings provide information on many additional aspects.

Further more, the 12-country study provided opportunities to consider the relationships between higher education and employment in each country in comparative perspective. With respects to many themes, the readers might ask whether certain study conditions and provisions are more likely than others to lead to the results one appreciates. Moreover, international comparison raises a general question with respect to the variety of higher education systems. For example, the debates surrounding the so-called “Bologna Process” in Europe suggests that a “convergence” of the types and levels of study programmes and the lengths of study are desirable concurrent to a respect for the variety of other aspects, among them the curricular approaches and the prevailing modes of teaching and learning. The CHEERS study contributes to this debate by showing that the students and graduates of the countries surveyed have – on average per country - similar study motives, similar views as regards a desirable job and similar perceptions of the job requirements, but they vary substantially between countries in describing and assessing their higher education system. This suggests to reconsider the “virtue of variety” of the higher education systems. One has to ask whether “different ways lead to Rome” or whether we have to strive across countries for the best solution.

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