

Analyzing Job Requirements and Competences of Graduates: The Misleading Ideal of a "Match" and the Underestimated Diversity

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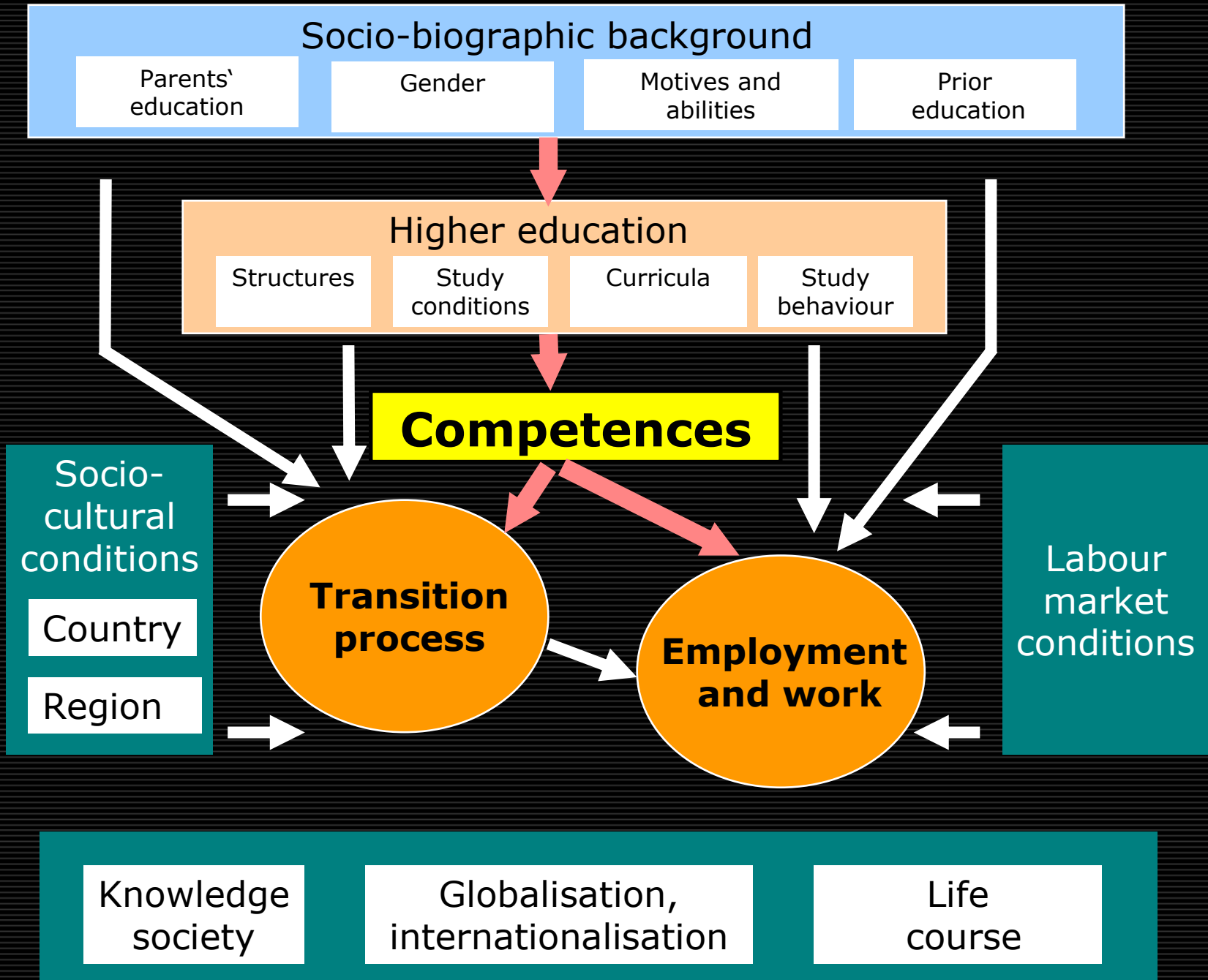
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Higher Education Needs Knowledge on Graduates'

- Employment
- Work
- Knowledge/skill utilisation
- Job requirements regarding competences
 - as a feed-back in order to reflect the consequences of one of its core activities (teaching and learning → Relevance)

Employability and Professional Relevance

- ❑ Requirements of new study programmes in Germany
- ❑ Bologna-process
- ❑ New demand for graduate surveys in order to provide empirical evidence about the professional relevance of study programmes in Germany (accreditation, quality assurance)



Highly Ideological Interpretations of the Relationships between HE and Employment/Work

- ❑ “Vertical match” paradigm
- ❑ “Horizontal match” paradigm
- ❑ “Vocationalism is beautiful” paradigm
- ❑ Neglect of power of professions and organisations
- ❑ Neglect of systemic limitations of information
- ❑ Neglect of cultural variety between countries
- ❑ Over-interpretation of the role of HE in generating the graduates’ competences
- ❑ The misinterpretation of elements of HE having professional impact

Data Sources: The Range of Experts and Actors

- Information on the relationships between study and employment/work can be provided by
 - Students/graduates
 - Teachers and other persons linked to teachers (curriculum development, counselling)
 - University leaders/administrators
 - Specific actors in the transition process (career services, employment agencies)
 - Employers
- The graduates have the broadest range of experience; therefore, graduate surveys are most frequently employed

Key Actors Perspective – Rating Studies

- Higher education research has to identify the key actors' notions of job requirements and competences of graduates, i.e. the notions of the
 - employers,
 - students and
 - academics.

Dimensions of the relationships between HE and employment/work

- ❑ Knowledge and the curriculum (e.g. the field of physics)
- ❑ Teaching and learning (e.g. best ways of enhancing understanding, problem-solving)
- ❑ Achievements (students' expertise in physics upon graduation)
- ❑ Person-related competences (e.g. wisdom, understanding, persistence)
- ❑ Functional competences (e.g. problem-solving ability, time management, leadership)
- ❑ Job requirements (e.g. need for economic reasoning, productive work under time pressure)

Limitations: Vagueness of “Demand” and “Requirements”

- ❑ Employers' views are short-term and biased toward concrete skills and “extra-functional” skills
- ❑ “Credentialism”: belief in credentials, reputation of institutions etc.
- ❑ Income differentials are strongly shaped by socio-political factors, other fuzzy signals
- ❑ Graduate labour markets change quickly
- ❑ International comparison de-mystified national beliefs in “requirements”
- ❑ Graduates do not understand the role of general, abstract knowledge
- ❑ “Qualification paradox”: Graduates have to be over- and under-educated
- ❑ Higher education prepares for sceptical rationality, indeterminate work tasks, innovation
- ❑ Contrasting future scenarios

Perceived Competences and Job Requirements

- ❑ Graduate surveys, unlike tests, do not measure competences, but rely on the self-rating of actors
- ❑ Achievement: output; competences at time of graduation: immediate outcome
- ❑ Does higher education lead to success through knowledge, achievement measures, reputation, or enhancement of competences?
- ❑ How do competences at the time of graduation (often surveyed retrospectively) and the time of the survey differ? What contributed to enhancement?
- ❑ Match or discrepancies of between perceived competences at graduation and job requirements?
- ❑ Methodological problems, but still valuable indicator

Key research questions: Feedback about the actual links between competences and work tasks

- Surveys are needed which are suitable to provide feedback about the actual links between competences and work tasks.
- Thus, the improvement of the quality of actors' rating studies has to be a key area of research activities on competences in higher education.

Challenges for Conceptual Improvements

- ❑ Concepts are needed to overcome the simple "match-mismatch" paradigm
 - Need for overeducation?
- ❑ De-mystifying of the actors' misconceptions of job requirements and competences
 - Do employers really know what they need and graduates what their strengths and weaknesses are?
- ❑ Balance to measure subject-related competences (e.g. mathematical reasoning) and general competences (e.g. leadership).
- ❑ Different demands in the employment systems and the varied curricular concepts

The Expertise of Employers

- ❑ Current job requirements
- ❑ Knowledge development in areas closely linked to the core production/services and core managerial tasks of the company (e.g. petrochemical knowledge, patenting, labour law)
- ❑ Future job requirements (?)
- ❑ Recruitment processes and criteria
- ❑ Personnel policies (e.g. continuing professional training, career pattern and criteria/processes of promotion)

Employers Views: Possible Biased and Politicised Responses (I)

- ❑ Over-emphasis on current skill shortages
- ❑ Over-emphasis on competences not well trained and measured by HEIs (e.g. socio-communicative skills)
- ❑ Educational background of the respondent/interviewee shapes his/her notion of job requirements
- ❑ Different areas of expertise affect the responses (e.g. personnel officers are more likely to address general competences, department heads are more likely to address subject-matter knowledge)

Employers Views: Possible Biased and Politicised Responses (II)

- ❑ Over-emphasis on the majority: hardly valid information regarding employees hired only in small numbers
- ❑ Information provided is influenced by dominant educational and labour market policies of employers in the respective countries (e.g. if the majority of employers fear “over-education”, we can expect cautious responses about the demand for graduates)
- ❑ No validity of responses regarding politically sensitive issues (e.g. in many countries: opportunities of women as compared man)

Competences and Work Requirements - Proposal for a Research Programme (1)

1. Different links between fields of study and occupations (fields preparing for single closed professions, for single open professions, variety of occupations, or without any occupational domains)
2. Different degrees of breadth and specialisation both in HE and occupation
3. Different “theoretical” vs. “applied” emphasis of study programmes
4. Different “reproductive” vs. “innovative” and “critical” emphasis of study programmes and different conditions for creativity in occupations
5. Different job roles and work settings within single occupations (e.g. innovative vs. conventional sectors, leading positions vs. middle-level positions etc.)

Competences and Work Requirements -Proposal for a Research Programme (2)

6. Different graduates' orientations and values (status seeker, intrinsically motivated professional, social change agent, adherent of comfortable life etc.)
7. Different "matches" according to gender?
8. Job requirements and utilisation of knowledge at different stages of career
9. The beneficial functions of over-education (e.g. long-term "upgrading", push toward knowledge society)
10. Learning beyond the borders of disciplines and occupation (innovation through unexpected and undesired cross-disciplinarity)
11. Limits of specialisation in HE: The necessary and beneficial mix of "under-education" and "over-education"

Competences and Work Requirements -Proposal for a Research Programme (3)

12. “Over-education” as a wise risk strategy for the graduates amidst dynamics of job requirements and labour market changes (“flexibility” needs)
13. Differences in employers’ rewards of “match” versus “high competences” (cf. the “screening” and “status-distribution” arguments)
14. Do employers reward a “match” regarding cognitive and professional knowledge vs. a maximum regarding socio-communicative skills, work-related values and attitudes, etc.?
15. How does the issue of “match” change in the process of internationalisation of HE and graduate employment/work?

Need for Improvements of Measurement of Job Requirements and Competences with Surveys (ratings) (1)

- ❑ Problem: Reproduction of the naïveté of practitioners' categories (academics, employers)
- ❑ Selection problems of the multitude of categories
- ❑ Conceptual and empirical classifications of major areas of job requirements and competences
- ❑ Lack of coherence and differentiation of categories according to job requirements, competences and areas of knowledge, personality characteristics, areas and modes of learning
(e.g. tautological definitions such as
 - “problem solving need”,
 - “problem solving ability”,
 - “problem solving learning”)

Need for Improvements of Measurement of Job Requirements and Competences with Surveys (ratings) (2)

- ❑ Divergent views of “match” and of thresholds of “surplus” and “deficits”
- ❑ Competences and job requirements at different stages of study and career
- ❑ Are competence tests the necessary solution (a “university PISA”)? Do we move towards combined testing and surveying studies?
- ❑ Comparison of the results of test and selfratings

Conclusion

- ❑ Surveys are needed which are suitable to provide feedback about the actual links between competences and work tasks.
- ❑ Thus, the improvement of the quality of actors' rating studies has to be a key area of research activities on competences in higher education.