

Requirements higher education graduates meet on the labour market

KomPaed – Job-related competences in educational fields of work

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Session 3: Innovative Methods for the Assessment of Competencies

Project



Tätigkeitsbezogene Kompetenzen in pädagogischen Handlungsfeldern

- KomPaed – Job-related competences in educational fields of work (2012 - 2015)
 - Part of the research programm *Modeling and Measuring Competencies in Higher Education (KoKoHs)*
 - Cooperation with the University of Hamburg (Schwippert, Prinz, Pfeiffer)
 - Counselling through IFBQ (Fickermann)
- Aim: Identification of generic job-related tasks, **activities** and **requirements** of **higher education graduates** (of educational science), as an approximation to job-related competences

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Higher Education System

- More and more people of a cohort start a higher education study programme (Orr et al. 2011)
- Higher education is in charge of preparing students for the labour market (employability), providing them with academic factual knowledge as well as with generic competences (learning outcomes) (Arnove et al. 2013)

- (1) What requirements are demanded by the labour market?
- (2) What activities do higher education graduates fulfil at their workplace?
- (3) Can areas of generic job-related activities and requirements be identified across all graduates?

Surveys of Employees

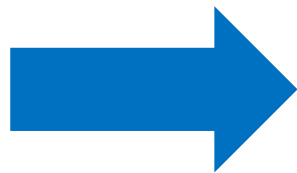
- Existing surveys of employees
(no specific focus on higher education graduates)
 - *National Educational Panel Study (E8)*
(Matthes et al. 2013; Matthes and Christoph 2011)
 - *Generalized Work Activities Questionnaire*
(O*NET 2012; Peterson et al. 2001)
 - *UK Skills Survey* (BMRB 2006; Felstead et al. 2007)
 - *OECD Programme for the International Assessment of Adult Competencies* (Klauskien et al. 2013; OECD 2013a)
- No sufficient integration of current labour market developments
- Often job-related requirements/competences are enquired via abstract descriptions (e.g. 'Analytical thinking') and self-rated levels of importance/competence

Job Requirements Approach

- Methodological (theory-based) approach for the assessment of job-related tasks and activities (Felstead et al. 2007; Klaukien et al. 2013; OECD 2011; OECD 2013b)
 - Asking employees what they do at work reflects work requirements.
 - Employees are in the best position to provide information about the executed activities at the workplace.
 - Employees are able to talk about *what they do at work* and *how often* in an unbiased way, which might not be true when talking about *how important an activity is* or *to what extent certain capabilities are possessed*.
 - As a certain match between employees' activities and skills can be assumed, the assessment of job-related activities and requirements can serve as an indirect, less biased, assessment of competences.

Instrument Development

- Literature research (Google Scholar, TIB Hannover) and text analysis
 - 30 publications (incl. existing job analysis instruments)
- Interview analysis (job-related tasks, activities, and requirements of higher education graduates)
 - 18 guideline-based employer interviews (Prinz et al. 2014)
- Pretest via cognitive interviews



49 (generic) job-related
activities and requirements
of higher education graduates

Item Formulation and Online Survey

- Work reference, as a personal statement, behaviour-related
 - e.g. 'At work ... I organise work processes for others.',
'At work ... I have to react to unexpected situations.'
- 5-point (frequency) answer scale

Never 1	Less than once a month 2	At least once a month but less often than once a week 3	At least once a week but not daily 4	Daily 5
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- Online survey with higher education graduates from the
DZHW Graduate Panels 2001, 2005, 2009
(Dec 2013 – Feb 2014)

Invited	Participation	Employees
18.305	11.502	10.511

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Eight theoretical (literature) and empirical (interviews) based areas:

- 1) Planning of work processes
- 2) Promoting
- 3) Target-oriented acting
- 4) Dealing autonomously with challenging tasks
- 5) Information processing
- 6) Number processing
- 7) Communicating in foreign languages
- 8) Physical performance

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Planning of work processes

items (8)	α	λ
selecting personnel	.75	.43
organising work processes for others		.71
scheduling processes for others		.74
producing something with others		.40
monitoring the compliance with law, guidelines or standards		.42
conceiving of events		.44
presenting in front of others		.51
assessing performance or quality		.60

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Promoting

items (3)	α	λ
educating, teaching or training others	.81	.64
instructing and leading a group		.79
supporting and motivating others		.85

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Target-oriented acting

items (5)	α	λ
developing objectives and strategies for others	.72	.66
dealing with external persons		.36
advising others		.57
persuading others		.69
negotiating with others		.64

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Dealing autonomously with challenging tasks

items (9)	α	λ
identifying potential difficulties	.79	.68
investigating reasons of occurred difficulties		.56
dealing with complex difficulties		.55
considering possible implications		.57
familiarising oneself with new tasks		.50
looking independently for new tasks		.41
dealing with different tasks under pressure of time		.53
reacting to unexpected situations		.65
reflecting one's own feelings and actions		.57

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Information processing

items (6)	α	λ
researching complex issues	.79	.68
reading long specialised texts		.70
documenting complex issues		.62
applying scientific methods		.60
analysing information or data		.60
writing long specialised texts		.58

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Number processing

items (3)	α	λ
conducting complex calculations	.62	.63
cost planning		.36
producing number-based charts or tables		.82

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Communicating in foreign languages

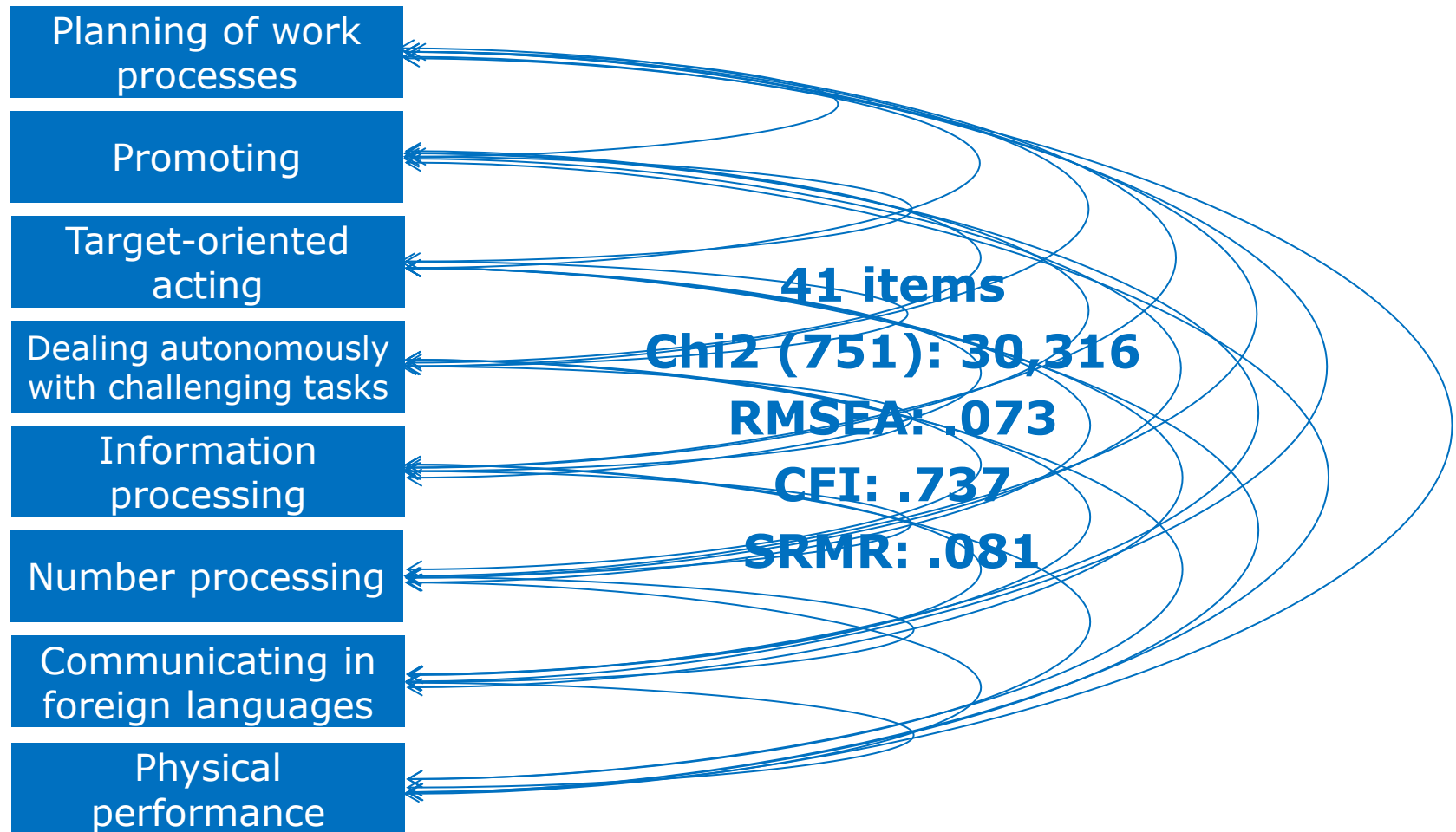
items (4)	α	λ
dealing with persons with another cultural background	.74	.58
communicating in a foreign language		.88
using chats in order to exchange job-related information		.50
producing specialised texts in a foreign language		.72

Areas of generic job-related Activities and Requirements of Higher Education Graduates

- Physical performance

items (3)	α	λ
doing physical work	.77	.75
working manually, creatively, and/or artistically		.80
handling technical devices		.65

Areas of generic job-related Activities and Requirements of Higher Education Graduates



Resume

- Development of a theoretically-/empirically-based instrument for the assessment of higher education graduates' generic job-related activities and requirements
 - Will be made available for other graduate surveys
- Innovative and potentially less biased assessment via the Job Requirements Approach
 - In contrast to the existing self-ratings of importance/competences
- Further information about the requirements higher education graduates meet on the labour market (8 areas)
 - Interesting for curricula developers, academic quality managers, policy makers, employers, etc.

Discussion



Questions?



Remarks?

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Literature

- Arnone, R. F., Torres, C. A., Franz, S. (2013). *Comparative Education. The Dialectic of the Global and the Local*. 4th ed. Lanham: Rowman & Littlefield.
- BMRB Social Research (2006). *2006 Skills Survey. Technical Report*. <http://www.esds.ac.uk/doc/6004/mrdoc/pdf/6004userguide.pdf>. (09.10.2013).
- Felstead, A., Gallie, D., Green, F., Zhou, Y. (2007). *Skills at Work, 1986-2006*. Oxford: Skope.
- Klaukien, A., Ackermann, D., Helmschrott, S., Rammstedt, B., Solga, H., Wößmann, L. (2013). Grundlegende Kompetenzen auf dem Arbeitsmarkt. In: Rammstedt, B. (Hrsg.) *Grundlegende Kompetenzen Erwachsener im internationalen Vergleich. Ergebnisse von PIAAC 2012*. Münster: Waxmann.
- Matthes, B., Christoph, B. (2011). *Nationales Bildungspanel. Großpilot E8 Feldversion. Version 1.02*.
- Matthes, B., Christoph, B., Janik, F., Ruland, M. (2013). *Die Erhebung von Informationen über Job-Tasks. Zur Entwicklung eines Befragungsinstruments für die Erfassung von Tätigkeitsinhalten am Arbeitsplatz*. Vortrag in der Bereichsrunde des FB E1. Nürnberg, 29.05.2013.
- OECD (2011). *PIAAC Conceptual Framework of the Background Questionnaire Main Survey*. Paris: OECD.
- OECD (2013a). *OECD Skills Outlook 2013. First results from the survey of adult skills*. Paris: OECD.
- OECD (2013b). *Technical Report of the Survey of Adult Skills (PIAAC)*. Paris: OECD.
- O*NET (2012). *O*NET Generalized Work Activities Questionnaire*. http://www.onetcenter.org/dl_files/MS_Word/Generalized_Work_Activities.pdf (04.12.2012).
- Orr, D., Gwosć, C., Netz, N. (2011). *Social and Economic Conditions of Student Life in Europe: Synopsis of Indicators: Final Report: Eurostudent IV 2008-2011*. Bielefeld: W. Bertelsmann.
- Peterson, N. G., Borman, W. C., Jeanneret, P. R., Fleishman, E. A., Levin, K. Y., Champion, M. A., Mayfield, M. S., Morgeson, F. P., Pearlman, K., Gowing, M. K., Silver, M. B., Dye, D. M. (2001). Understanding work using the Occupational Information Network (O*NET): Implications for practice and research. *Personnel Psychology*, 54, 451-492.
- Prinz, D., Pfeiffer, J., Schwippert, K. (2014). *KomPaed: Berufsfeldbefragung von Pädagoginnen und Pädagogen in verschiedenen Handlungsfeldern. Erste Ergebnisse einer qualitativen Untersuchung*. Vortrag gehalten auf der 79. AEPF-Tagung am 15. September in Hamburg.