Symposium VIII

Symposium: Dynamics of participation in further education and its effects

Chair
Harm Kuper (Freie Universität Berlin, Germany)

Room: Joseph Haydn

Abstract
PIAAC-L offers new opportunities to analyze the selectivity of participation and effects of further education. Due to two central design features of PIAAC-L, research can focus on central desiderata under new theoretical and methodological perspectives. The measurement of basic competences illuminates one of the theoretically most important variables to explain decisions to participate in further education and to analyze effects of adult learning. Thus, a theoretically promising perspective can be added to the current state of research that shows the selectivity of participation in further education due to formal prerequisites such as educational attainment or employment status. Although competences correlate with formal education and employment opportunities their independent influence on adult learning can be analyzed as well as the fit between job requirements and employees' competences. The longitudinal design of the dataset allows to focus on the dynamic nature of further education. Participation in continuing education is a highly context dependent event with high interindividual variation. PIAAC-L data allows to test assumptions on the causal relations between individual prerequisites, participation and effects of continuing education under changing circumstances. Since three sample points are planned, the interaction between educational participation of adults, the effects in terms of competences and social participation and succeeding participation can be modelled. With its unique design characteristics, PIAAC-L is an opportunity to apply advanced methods of statistical data analysis and a challenge for interdisciplinary research on adult learning and continuing education. The contributions to this symposium apply different disciplinary perspectives and share the systematic use of the longitudinal data-structure and the competence measures. One of the most fundamental questions of empirical research on continuing education – whether it shows effects on individual skills – is the matter of the first contribution from a psychological perspective. The second contribution combines theoretical approaches of educational economy and sociology to explain the consequences of skill mismatch for decisions to participate in continuing education. The third contribution again uses psychological theories to explain the influence of motivation on adult’s educational participation. Finally, the last approach combines educational and sociological theories on social participation to analyze interdependences between non-formal learning and social participation.

Presentations

- Title: Learning beyond schooling: Estimating causal effects of adult education on individual skills.
  Authors: Britta Gauly & Natascha Massing (GESIS – Leibniz-Institute for the Social Sciences, Germany)

- Title: Conceptualization of mismatch and the relationship to participation in further education.
  Authors: Sarah Widany & Katrin Kaufmann (Freie Universität Berlin, Germany)
**Title:** Learning beyond schooling: Estimating causal effects of adult education on individual skills.

**Authors**
Britta Gauly & Natascha Massing (*GESIS – Leibniz-Institute for the Social Sciences, Germany*)

**Abstract**
Developing and maintaining individual skills and competencies is essential in today's knowledge societies. To adapt to new technologies and new workplace settings and to acquire further human capital after finishing schooling further training activities are necessary (OECD, 2004).

By participating in further training activities individuals can expect positive effects, not only in terms of wages, but on job-security as well higher labor participation rates, lower unemployment, and shorter unemployment periods (for a detailed overview see e.g., Blundell, Dearden, Meghir, & Sianesi, 1999; or Hansson, 2008). As several studies find a positive relationship between training and wages, it is implicitly assumed that training increases individual productivity. But, while there has been a large amount of literature concerning the economic outcomes of training, little is known about learning outcomes of training in terms of individual skills (Cegolon, 2015).

Previous research provides some evidence for positive effects of training activities on adult literacy or numeracy skills (see e.g., Vorhaus, Litster, Frearson, & Johnson, 2011; or Wolf & Evans, 2011). However, the existing studies only refer to small sample sizes and as the data is not representative, it is not possible to generalize results.

To date the question whether there is a causal relationship between increased training and individual skills or whether individuals with higher ability participate in more training is not answered satisfactorily (Blundell et al., 1999). One of the main challenges is to find an adequate skill measure. The latter is offered by the Programme for the International Assessment of Adult Competencies (PIAAC), an international large scale survey. However, due to the cross sectional character of the data, it is not possible to draw causal claims.

We overcome the problem of endogeneity and selection by using longitudinal data on training activities and skills. The German PIAAC Longitudinal Project follows up the German PIAAC sample with three additional waves of data collection. With the help of this unique data set it is possible to estimate the causal impact of training on skills. We apply first-difference and fixed-effects estimation methods to control for innate ability bias which might drive the selection into training.

**References**
The term mismatch covers labor-market related discrepancies between the fit of job requirements and qualification. For some years now and with varying focuses, a growing body of literature discusses causes for and consequences of mismatch on individual, company and societal/macroeconomic level. Thereby, research on this topic displays a huge variety in underlying terminology and conceptualization. Differences in subsequent operationalization and measurement quite naturally show considerable variations in empirical findings on mismatch.

On the one hand, mismatch is considered as a permanent condition (e.g. Büchel/van Ham 2003; McGuinness/Wooden 2007). On the other hand, findings indicate mismatch as temporary phenomenon related to transitions and adjustments on the micro-, meso- and macro-level (Quintini 2011). Thus, mismatch can be a by-product of technological change, reorganization on the company level or specific characteristics within the occupational career.

Recent availability of data on competencies as well as information on job-related skill requirements has boosted the debate on the adequate measurement of mismatch with several competing indicators (Desjardins/Rubenson 2011, Fichen/Pellizari 2013, Allen et al. 2013, Perry 2014).

As further education can be an effective way to tackle skill and educational mismatch of adults on the labor market, it seems likely to investigate adult’s (job-related) educational activities with respect to various states of mismatch (vgl. Hartog 1999, Desjardins/Rubenson 2011). However, depending on the mismatch indicator at hand, results can be ambiguous.

In the presentation, we will address this issue firstly, by juxtaposing selected mismatch indicators and secondly, their effects on participation in further education by multivariate analysis using the cross-sectional German PIAAC data. Thirdly, using the PIAAC Longitudinal data, we adress the dynamic nature of mismatch and investigate possibilities to monitor intraindividual changes in the measurement of mismatch.

References:


Fichen, Anne; Pellizzari, Michele (2013): A new measure of skills mismatch. Theory and evidence from the survey of adult skills (PIAAC). In: OECD social, employment and migration working papers 153.


Evidence from Australia. [Parkville, Vic.]: Melbourne Institute of Applied Economic and Social Research, University of Melbourne (Melbourne Institute working paper, no. 9/07).


Title: Can you get it if you really want? Motivation to learn as a predictor of participation in further education using German PIAAC-L data.

Authors
Julia Gorges (Bielefeld University, Germany), Débora B. Maehler (GESIS – Leibniz-Institute for the Social Sciences, Germany) & Judith Offerhaus (University of Cologne, Germany)

Abstract
Empirical educational research has rarely addressed the role of psychological factors for a person’s decision to participate in further education. From a Rational Choice perspective, individuals evaluate further education opportunities based on subjective utility by weighing costs and benefits. However, this perspective neglects individual factors beyond strictly rational decision-making that play a role in explaining human behavior. In particular, motivation as a proximal determinant of behavior should be an important predictor of participation in further education. Motivation comprises psychological, non-monetary factors like enjoyment, interests, and sources of psychological strain. Empirical findings suggest that such motivational beliefs may promote participation despite contextual constraints. Unfortunately, motivation to learn is rarely included in empirical research on participation in adult education, which partially is due to a lack of measurement instruments. In addition, most studies only use a cross-sectional design, thereby precluding causal interpretations of findings. The present paper draws on the motivation-to-learn scale, which consist of four items from the first PIAAC background questionnaire. The scale focuses on intrinsic aspects of motivation to learn that typically relate to a deep approach to learning (e.g., using elaborative learning strategies). The scale shows good psychometric properties and measurement invariance across relevant subpopulations. Using PIAAC-longitudinal data, we will be able to investigate the contribution of motivation to learn for adults’ participation in further education. Controlling for demographic and socio-economic predictors of participation in further education such as sex, age, level of education, and employment status, our analyses present a comprehensive and interdisciplinary account of participation in further education. Further, it aims at isolating the impact of motivation to learn to job-related and non-job-related non-formal and informal learning. Results will be discussed with respect to theoretical and practical implications.

Title: Learning to engage and engaging to learn – A virtuous cycle?

Authors
Ina Elisabeth Rüber, Andreas Martin & Carolin Knauber (German Institute for Adult Education, Leibniz Centre for Lifelong Learning, Germany)

Abstract
Lifelong learning is to enhance the development of citizenship (European Commission 2002) while social capital enables a well-functioning society in terms of economic growth and political effectiveness (Putnam 2000). Field (2005) picks up both concepts and investigates how they relate. He provides evidence for their strong association, while on the one hand proposing a virtuous cycle, but on the other hand acknowledging that they may also function as substitutes to one another. Although the empirical support of learning to positively impact
social capital piles up (e.g. McIntyre 2012; Preston 2003), assessments, which take both directions into account, are rather rare. Further, the evidence is majorly built upon qualitative interviews or descriptive statistics, with only a few exceptions from Britain (e.g. Fujiwara 2012). This is where our work ties in, focusing on the association between participation in non-formal learning, as one inherent part of lifelong learning, and volunteering. Following Putnam (2000) volunteering is one of the strongest indicators for social capital. Non-formal learning resembles any institutionalized learning activity after formal schooling. Theoretically, we expect learning to positively influence volunteering, following the concept of internal efficacy. The learning experience creates knowledge and skills, which independent of their content, create a greater sense of agency within the learner, which in turn lowers the barriers to engage voluntarily. Voluntary engagement successively broadens one's network, providing access to more information, which may foster new interests or strive for more knowledge and therewith participation in non-formal learning. To empirically test the association we employ a quasi-experimental approach using combined German data of the PIAAC and the CiLL pile-up study. Due to the data combination (age-expansion 16-80) we are able to observe the effect outside of work settings and therewith control for a greater range of possible confounders. Employing propensity score matching, we try to combat the difficulty of investigating causality in a cross-sectional setting. We run two sets of models using participation in non-formal learning and volunteering interchangeably as predictor and outcome. The stepwise inclusion of literacy competence and eagerness to learn in the model shall provide first insights on the plausibility of the proposed mechanism.