

1 The National Educational Panel Study: need, main features, and research potential

Hans-Peter Blossfeld · Jutta von Maurice · Thorsten Schneider

Abstract: The German National Educational Panel Study has been set up to study the acquisition of education, to assess the consequences of education for life courses, and to describe central education processes and trajectories across the entire life span. Funded by the Federal Ministry of Education and Research the National Educational Panel Study is organized as a network of excellence linking researchers from different disciplines. The life-course perspective is the pre-eminent theoretical characteristic of the National Educational Panel Study. While focusing on eight stages ranging over the entire life span, longitudinal integration will be ensured by a theoretical orientation toward five major dimensions: competence development, learning environments, social inequalities and educational decisions, educational processes of migrants, and returns to education. Methodologically, the National Educational Panel Study follows a multicohort sequence design starting with a total number of more than 60,000 target persons from six cohorts (early childhood, Kindergarten children, 5th graders, 9th graders, first-year college students, and adults who have already left the educational system in most cases). Different instruments including questionnaires and competence tests are being administered in all six cohorts. Each new wave of the panel study will be made available to the scientific community as fast as possible.

Keywords: Education · Panel study · Interdisciplinary research · Life-course perspective · Multicohort sequence design

Das Nationale Bildungspanel: Notwendigkeit, Grundzüge und Analysepotential

Zusammenfassung: Das Nationale Bildungspanel wurde mit dem Ziel ins Leben gerufen, den Erwerb sowie die Konsequenzen von Bildung im Lebenslauf zu untersuchen und zentrale Bil-

© VS Verlag für Sozialwissenschaften 2011

Prof. Dr. Dr. h.c. H.-P. Blossfeld
Chair of Sociology I, University of Bamberg, 96045 Bamberg, Germany
e-mail: soziologie1@uni-bamberg.de

Prof. Dr. T. Schneider
Junior Professor of Sociology, University of Bamberg, 96045 Bamberg, Germany
e-mail: thorsten.schneider@uni-bamberg.de

Dr. J. von Maurice (✉)
National Educational Panel Study, University of Bamberg, 96045 Bamberg, Germany
e-mail: jutta.von-maurice@uni-bamberg.de

dungsprozesse und -verläufe über die gesamte Lebensspanne zu beschreiben. Gefördert vom Bundesministerium für Bildung und Forschung ist das Nationale Bildungspanel als Exzellenznetzwerk von Forschenden unterschiedlicher Disziplinen angelegt. Zentral für die theoretische Ausrichtung des Nationalen Bildungspanels ist die Lebensverlaufsperspektive. Die Integration der acht über die gesamte Lebensspanne hinweg reichenden Etappen wird dabei durch die theoretische Orientierung auf fünf Hauptdimensionen sichergestellt: Kompetenzentwicklung, Lernumwelten, soziale Ungleichheit und Bildungsentscheidungen, Bildungsprozesse von Migranten und Bildungsrenditen. Methodisch ist das Nationale Bildungspanel als Multi-Kohorten-Sequenz-Design angelegt. Dieses Design beginnt in der ersten Erhebungswelle mit mehr als 60.000 Zielpersonen aus sechs unterschiedlichen Kohorten (frühe Kindheit, Kindergartenkinder, Fünftklässler, Neuntklässler, Studienanfänger sowie Erwachsene, die das Bildungssystem zumeist bereits verlassen haben). In allen sechs Kohorten kommen verschiedene Instrumente (z. B. Fragebogen, Kompetenztests) zum Einsatz. Die Daten jeder Erhebungswelle werden der Scientific Community zeitnah zur Verfügung gestellt.

Schlüsselwörter: Bildung · Panelstudie · Interdisziplinäre Forschung · Lebensverlaufsperspektive · Multi-Kohorten-Sequenz-Design

1.1 Project overview

In modern knowledge societies, education has not only become the key factor for economic growth and prosperity. It has also become decisive for coping with the challenges of a rapidly changing globalized world. Moreover, education is an important precondition for active participation as responsible citizens in a democratic society. However, the Programme for International Student Assessment (PISA), initiated by the Organization for Economic Co-operation and Development (OECD), has shown that major proportions of Germany's students are insufficiently prepared to meet these challenges at the end of their compulsory school attendance. Furthermore, analyses of the PISA data have also repeatedly confirmed a strong correlation between social origins and competencies in Germany (PISA-Konsortium Deutschland 2001, 2004, 2007). Despite all educational reforms, equal opportunity still seems to be a distant goal, even though the importance of education has tended to increase rather than to decline in recent decades—not only for positioning on the labor market but also for chances in individual and social life such as obtaining a partner on the marriage market.

Educational institutions deal with young people's acquisition of knowledge, skills, and competencies. Other important issues are attitudes, values, and norms. However, the educational system also assesses student performance, documenting it in grades, certificates, and degrees. These assessments may well determine potential access to specific education tracks such as the transition to a Gymnasium or admission to a university, and they are also very important for job placement in many sectors of the labor market. In this way, schools and training institutes contribute to increasing or decreasing individual's chances in later life.

Research and policy have stressed the need to broaden the view beyond school, vocational education and training, and university. First, we need to take a closer look at the time before compulsory education, at the first years of life. Some findings indicate that promoting children from less privileged families in preschool institutions has long lasting posi-

tive consequences that can even be found at the age of 40 (Heckman and Masterov 2007). The other issue concerns lifelong learning. For members of modern information and service economies, learning does not end by obtaining a final qualification in the general or vocational education system. They are obliged to acquire new knowledge and new competencies continuously throughout their lives. This is why the Programme for the International Assessment of Adult Competencies (PIACC) focuses on the qualifications of the working-age population (OECD 2004).

The technological and organizational transformation of the economy is not only increasingly reducing the need for routine work. It is also leading to a rapid growth in jobs in the service sector and in highly qualified positions requiring complex social and communicative competencies. This upgrading of the job structure raises the demand for highly qualified people and enhances the value of education and training both on the labor market and in society. In addition, globalization is leading to a strong acceleration of social and economic change in modern societies, and this is increasingly requiring more flexibility and adaptability both at work and in society. The ability to acquire new knowledge and to take on new tasks has become an important precondition for both finding new jobs and acting as responsible citizens. This makes it necessary to ask how the education and training processes in childhood and adolescence relate to such an ability and willingness to acquire new competencies over the life course. How do learning processes need to be designed so that they will encourage and enable children, adolescents, and adults to carry on educating themselves throughout their lives?

Germany is also going through fundamental demographic changes. These changes include a declining birth rate and a drop in the number of students, an aging population due to higher life expectancy, and a growing proportion of people with a migration background. Such demographic changes create new challenges for the educational system and the organization of education across the life span.

To gain new insights into the process of educational acquisition and its returns, we need high-quality data collected by theory-driven test and survey instruments. Cross-national achievement assessments like PISA, the Third International Mathematics and Science Study (TIMSS), or the international Progress in Reading Literacy Study (PIRLS) have delivered very important findings on the distribution of competencies among students in elementary and secondary schools. However, one single survey—just like one single snapshot with a camera—only delivers a detailed picture of the situation at one specific point in time. In contrast to the existing cross-national student assessments, we stick to a longitudinal view, tracing individuals over longer spans of time.

The National Educational Panel Study (NEPS) has been set up to study the acquisition of education in Germany, to assess the consequences of education for life courses, and to describe central educational processes and trajectories across the entire life span. The guiding principle of the NEPS is to ask how competencies unfold over the life course, if and how they influence educational careers at various critical transitions, and how and to what extent competencies are influenced in turn by learning opportunities—not only those within the family and the peer group but also those resulting from the way teaching and learning processes are shaped in Kindergarten, school, higher education, vocational education and training, and adult education. The NEPS should also help to understand

which competencies are decisive for gaining educational qualifications, for lifelong learning, and for a successful personal and social life.

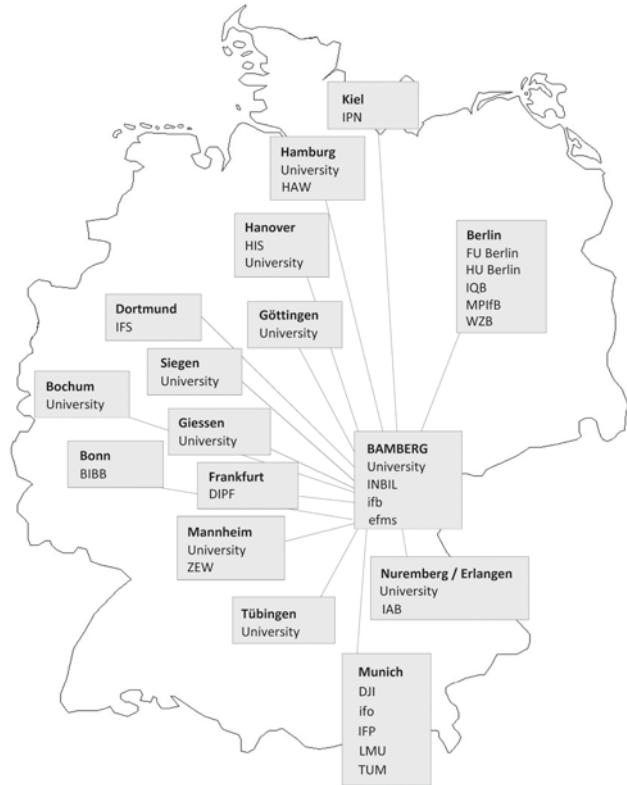
However, the design of an instrument that captures educational processes must not only be methodologically sound, but also based on a strong theoretical paradigm focused on the following: competence development in different domains, the importance of various learning environments in a diachronic and synchronic perspective, social inequality and educational decisions over the life course, the specific situation of migrants and their descendants, and returns to education across different life domains.

1.2 Organization and funding

The NEPS has been established and organized as an interdisciplinary endeavor. It integrates theories and findings from disciplines such as educational science, educational psychology, developmental psychology, the sociology of education, the economics of education, labor market and vocational research, poverty research, research on childhood and adolescence, family studies, gender studies, migration studies, demography, cultural studies, survey research, and research on diagnostics and test theory. Therefore, an interdisciplinary consortium of research institutes, groups of researchers, and renowned researchers was formed in order to link the available experiences and competencies in longitudinal research found at various locations in Germany and to form an effective network of excellence.

The following institutes have a particularly strong involvement because of their highly relevant expertise: The Federal Institute for Vocational Education and Training (Bundesinstitut für Berufsbildung, BIBB) in Bonn; the German Institute for International Educational Research (Deutsches Institut für Internationale Pädagogische Forschung, DIPF) in Frankfurt; the German Youth Institute (Deutsches Jugendinstitut, DJI) in Munich; the European Forum for Migration Studies (Europäisches Forum für Migrationsstudien, efms) in Bamberg; the Higher Education Information System (Hochschul-Informationssystem, HIS) in Hanover; the Institute for Employment Research (Institut für Arbeitsmarkt- und Berufsforschung, IAB) in Nuremberg; the State Institute for Family Research (Staatsinstitut für Familienforschung, ifb) in Bamberg; the Institute for Economic Research (Institut für Wirtschaftsforschung, ifo) in Munich; the State Institute of Early Childhood Research (Staatsinstitut für Frühpädagogik, IFP) in Munich; the Institute for School Development Research (Institut für Schulentwicklungsforschung, IFS) at the TU Dortmund; the Leibniz Institute for Science and Mathematics Education (Leibniz-Institut für die Pädagogik der Naturwissenschaften und Mathematik, IPN) in Kiel; the Institute for Educational Quality Improvement (Institut zur Qualitätsentwicklung im Bildungswesen, IQB) in Berlin; the Max Planck Institute for Human Development (Max-Planck-Institut für Bildungsforschung, MPIfB) in Berlin; the Social Science Research Center Berlin (Wissenschaftszentrum Berlin für Sozialforschung, WZB) in Berlin; and the Center for European Economic Research (Zentrum für Europäische Wirtschaftsforschung, ZEW) in Mannheim. In addition, the consortium also includes renowned colleagues holding chairs at universities in Bamberg, Berlin (Freie Universität and Humboldt Universität), Bochum (Ruhr-Universität), Erlangen-Nuremberg, Gießen, Göttingen, Hamburg (Universität and

Fig. 1: Geographical distribution of institutes and universities participating in the National Educational Panel Study



Hochschule für Angewandte Wissenschaften), Hanover, Mannheim, Munich (Ludwig-Maximilians-Universität and Technische Universität), Siegen, and Tübingen. Figure 1 presents the geographical distribution of the participating institutes and universities in Germany. NEPS is housed in the Institute for Longitudinal Educational Research (Institut für bildungswissenschaftliche Längsschnitfforschung Bamberg, INBIL) at the University of Bamberg.

The NEPS is supported and financed by the Federal Ministry of Education and Research (Bundesministerium für Bildung und Forschung, BMBF). Because education and science are considered to be the most important resources in today's society, the NEPS is integrated into the Framework Programme for the Promotion of Empirical Education Research (BMBF 2008). The BMBF commissioned the German Research Foundation (DFG) to organize review processes for the proposal to establish the NEPS in 2007 and 2008. The international experts strongly recommended financing this project. The first funding period will continue until the end of 2013.

In 2012, the DFG will start a Priority Program "Education as a Lifelong Process" focusing on substantive analyses utilizing the NEPS database, on research linking and analyzing NEPS data together with other national and/or international datasets in order to conduct theory-driven (comparative) analyses, and on projects addressing methodological issues relevant to the NEPS.

1.3 Pillars and stages: the framing concept

The life-course perspective is crucial within the NEPS. This orientation has prompted a decisive shift in how educational researchers' approach to issues of schooling, skills, competence, and attainment. In particular, it redirects attention toward the process of educational and competence development, and it links changing social structure to the unfolding of human lives. It also serves as a bridge between psychological and sociological perspectives and between individual development and social structure. Thus, the life course provides an excellent framework for studying education at the nexus of social pathways, developmental trajectories, and social change (Baltes et al. 1999; Diewald and Mayer 2009; Elder and Giele 2009; Elder et al. 2003; see also Chap. 3, this volume).

At the same time, the longitudinal integration of the educational stages of the NEPS will be ensured by the theoretical orientation toward five major dimensions. These dimensions, in the following described as "pillars," are:

- **Pillar 1: Competence Development across the Life Course**
The role of the competence pillar is to formulate developmental models to trace competencies in the different educational stages and over the entire life course. The following competencies are assessed within the NEPS: domain-general cognitive functions; domain-specific cognitive competencies with a special focus on German-language competencies, mathematical literacy, and scientific literacy; meta-competencies and social competencies, including information and communication technologies literacy (ICT), meta-cognition, self-regulation, and social competencies; and finally, stage-specific (curriculum- or job related) competencies and outcome measures. One central task is to develop test instruments for the longitudinal measurement of these competencies (for pillar 1, see Chap. 5, this volume).
- **Pillar 2: Education Processes in Life-Course-Specific Learning Environments**
The emphasis on educational processes and competence development over the life course requires a perspective that does not just take the processes occurring within a learning environment into account but also examines the transitions between successive and temporally parallel learning environments in the educational biography. This requires the analysis of different conditions within the relevant learning environments, and how these conditions impact on competence development and educational processes. Learning environments can be formal (e.g., school, apprenticeship, university) or nonformal/informal (e.g., training on the job, courses offered by sport associations, music schools, and the child and youth services, as well as peers, media). There is also a particularly strong focus on the family as an important learning environment (for pillar 2, see Chap. 6, this volume).
- **Pillar 3: Social Inequality and Educational Decisions in the Life Course**
This pillar is examining how far and why educational decisions such as school enrollment, the choice of a secondary school track, choice of a profession, choice of a study course, continuing education, or participation in further training vary across socio-economic groups and gender. These differences in educational decisions can even be found when levels of competence are comparable. This makes it necessary to explain the importance of class-specific educational aspirations, motivations, expectations

of success, and assessments of costs. A further focus will be on the gender-specific development of subject choices in educational trajectories (vocational training, choice of study course). Pillar 3 is also responsible for measuring socioeconomic and demographic status or background (for pillar 3, see Chap. 7, this volume).

- Pillar 4: Educational Acquisition with Migration Background in the Life Course
Ethnic or national origin, a migration biography, and their contextualization (relations to the country of origin, integration in ethnic communities and networks) have an impact on competence development and educational decisions that goes beyond the mechanisms of social inequality. As a result, they will be assessed separately. There will be a particular focus on two groups: migrants with a Turkish background and ethnic German immigrants from the former Soviet Union. The migration pillar will also address the methodological issue of designing survey instruments that can be used to study migrants who are unable to participate in German-language surveys (for pillar 4, see Chap. 8, this volume).
- Pillar 5: Returns to Education in the Life Course
In a narrow sense, the concept of (economic) returns to education addresses income, employment, as well as labor market and career opportunities. However, the NEPS also includes returns to education in a broader sense covering such topics as political participation, social commitment, physical and mental health, opportunities for seeking a partner, fertility behavior, and subjective well-being (for pillar 5, see Chap. 9, this volume).

In line with the structure of the German education system, the NEPS divides educational careers into the following eight stages:

- Stage 1: From Birth to Early Child Care (see Chap. 12, this volume),
- Stage 2: From Kindergarten to Elementary School (see Chap. 13, this volume),
- Stage 3: From Elementary School to Lower Secondary School (see also Chap. 13, this volume),
- Stage 4: From Lower to Upper Secondary School (see Chap. 14, this volume),
- Stage 5: From Upper Secondary School to Higher Education, Vocational Training, and the Labor Market (see Chaps. 15 and 16, this volume),
- Stage 6: From Vocational Training to the Labor Market (see Chap. 16, this volume),
- Stage 7: From Higher Education to the Labor Market (see Chap. 17, this volume), and
- Stage 8: Adult Education and Lifelong Learning (see Chap. 18, this volume).

The five theoretical pillars can be combined with these stages and transitions in the educational system to form a two-dimensional matrix (see Fig. 2).

As mentioned above, the pillars ensure the theoretical and methodological integration of the various stages in the life course. The advantage of this model is that all studies of single stages and transitions in the educational system such as school entry or the transition to the labor market are carried out within a unified mold. The general framing concept of the pillars links all stages together longitudinally.

There is also a large methods department in the NEPS. Its tasks include sampling design and weighting (see Chap. 4, this volume) as well as data collection, storage, and

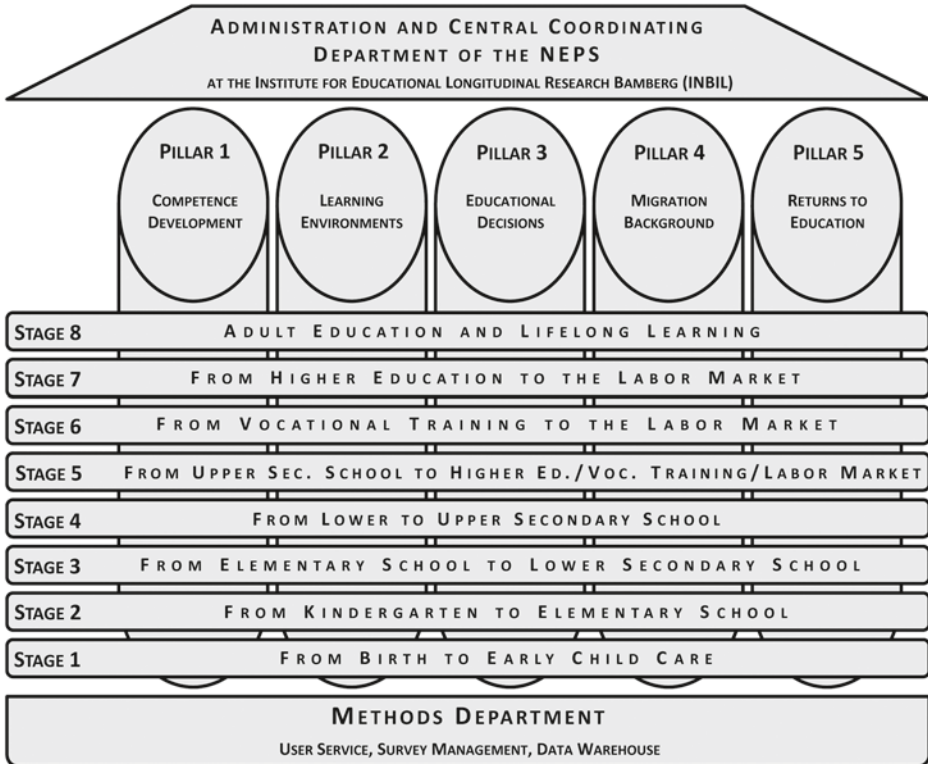


Fig. 2: Framing concept of the National Educational Panel Study: Pillars and stages

access (see Chaps. 19 and 20, this volume). Two additional groups are focusing on special aspects within the NEPS: One group deals with motivational concepts and personality aspects that are relevant for all five pillars and all eight stages (see Chap. 10, this volume). Another group is engaged in technology-based assessment, especially in the context of competence tests, because this might lead to major future reductions in testing time (see Chap. 11, this volume).

1.4 Main research questions

Based on the theoretical priorities set by the pillars, the NEPS is designed to contribute to finding mid- and long-term answers to numerous questions. These include, for example:

- What are the decisive determinants for the acquisition of competencies and educational decisions in the single educational stages?
- What role do educational institutions as well as nonformal/informal learning environments (e.g., family, peers, youth services, cultural provisions, new media) play in the acquisition of competencies and in educational decisions?

- How does competence acquisition relate to social and economic conditions (e.g., socioeconomic living conditions, regional contexts, migration background, gender-specific characteristics, and cultural traditions)? What is the role of primary and secondary effects within different educational decisions?
- Are there “metacompetencies” such as learning strategies, self-regulation, and motivational factors that are particularly important for a successful career in the educational system and on the labor market?
- How can ethnic inequalities in education be explained? Which resources can foster educational advancement within different groups of migrants?
- Which competencies are particularly crucial for being successful in vocational education and training, higher education, and on the labor market? Are the reading, mathematical, and problem-solving competencies assessed in international academic achievement studies really those competencies that determine success in vocational education and training, higher education, and work careers? Once competencies have been acquired, how far and how quickly do they get lost again after general school education has been left behind?
- How do acquired knowledge, trained skills, and competencies relate to educational certificates acquired?
- What are the economic, social, and health-related returns to acquired competencies and to certificates?
- How far do adults take part in education? What are the opportunities and barriers to adult education and learning processes in later life?

1.5 Multicohort sequence design

Methodologically, the NEPS follows a multicohort sequence design (see Fig. 3). To obtain relevant data as quickly as possible, we are starting off with six separate cohorts. The first kind of cohorts are defined by a specific point in the educational system. They reflect the major transitions into, within, and out of the general education and vocational training system. The second kind of cohorts are age-based, these are newborns and adults. Whereas all newborns will enter formal care settings and educational institutions, some of the adults might take part sooner or later in some type of (further) education, while others might not. The members of all starting cohorts are being surveyed and tested over longer spans of time.

Four cohorts have started in fall/winter 2010. The first one contains 4-year-old children attending Kindergarten almost two years before they enter elementary school. The Kindergarten sample will be expanded two years later in grade 1 in elementary school to include the cohort children’s classmates. The second cohort targets 5th graders immediately after entering the tracked secondary school system in most German federal states. The third cohort includes 9th graders who are almost at the end of compulsory education. They will split into one group heading toward vocational education and training, which is often offered in a firm-based way in Germany, and another group who will continue general education in upper secondary schools. A fourth group consists of new entrants to higher education. Finally, there are two other cohorts that are being recruited with different start-

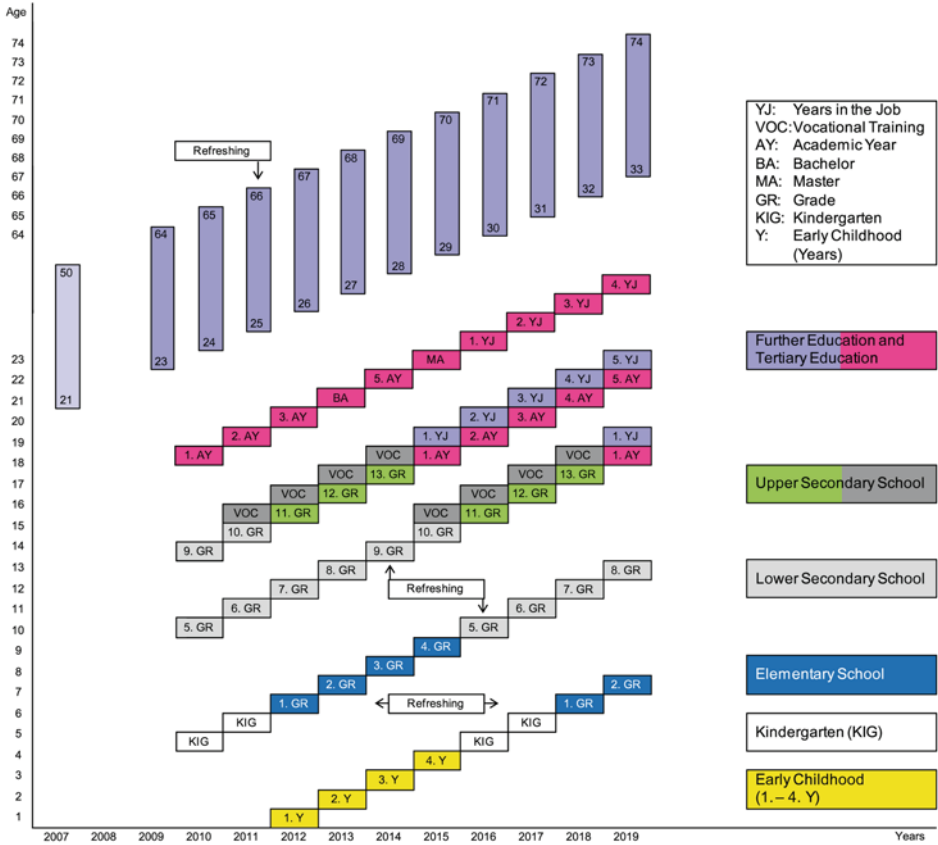


Fig. 3: The multicohort sequence design of the National Educational Panel Study

ing points. The fifth cohort is a representative sample of 23–64-year-olds, irrespective of their current participation in education or the labor market. As the NEPS has been able to integrate the large-scale study ALWA (Arbeiten und Lernen im Wandel) conducted by the Institute for Employment Research (IAB) of the German Federal Employment Agency in 2007 (Kleinert et al. 2008), data collection for the adult cohort has already started in 2009. The data from 2007 as well as the members of the ALWA sample are being integrated into the NEPS. The sixth cohort documents and analyzes early childhood development and the entry to institutions for early child care (day nursery, Kindergarten, etc.). The first major assessments in this cohort will commence in 2012.

To document and analyze historical changes in the way people pass through these stages (e.g., transitions from school to vocational education and training as a function of available apprenticeships or the impact of educational reforms), new starting cohorts will also be recruited in later years (creating a succession of cohorts).

The NEPS design will enable us to quickly obtain findings on all central transitions in the education trajectory. At the same time, the NEPS is also able to assess competence

trajectories and educational careers across longer phases in people's lives. Therefore, the six subsamples will also be followed up beyond the first critical transitions.

1.6 Sampling and data collection

Sampling procedures frequently distinguish between individual and cluster sampling. In an individual sample, each individual has the same probability of being recruited. In cluster sampling, a unit on a higher lever (e.g., school class, firm) is drawn, and then either all or some members of the selected units are tested or surveyed. This sample strategy not only permits the assessment of institutional and compositional context features but also reduces the costs of carrying out competence tests and surveys. We draw cluster samples in Kindergartens, schools, and (applied or theoretically oriented) institutions for higher education. This means, for example, that as many students of one class as possible will be recruited for the NEPS.

In subsequent years, all participants will be followed up even if they are no longer in the same group or class, studying the same subject, or attending different universities. This makes it possible to extend documentation to cover the educational pathways of students who have to repeat a school year, change the type of school they attend or their study course, or drop out of school or higher education. This will permit, for example, analyses of the educational careers of at-risk students. In addition, all students heading toward vocational education and training have to be followed up individually after leaving general education, because they will disperse across so many alternative institutions that assessments in institutions would simply require too much time and effort.

It is not possible to start with institution-based samples in the newborns and adult cohorts. In these subsamples, there is either no common context or, regarding the adults, the situation is at least as complex as that for students in the vocational education and training systems. As a result, individual samples will be recruited. If possible, context features will then be added to the individual data from secondary data sources.

To permit specific analyses, some target groups are oversampled. The NEPS will test how and whether students in special schools for learning disabilities can be integrated into a large-scale longitudinal study with extensive testing. There will be additional samples of students with learning disabilities in 1st grade, in 5th grade, and in 9th grade. Finally, there is also an oversampling of first-year students in teacher-training courses. For a detailed description of the samples, see Chap. 4 in this volume.

The six starting cohorts will contain a total number of more than 60,000 participants. All participants will be surveyed regularly over an extended period of time. Their competencies will also be assessed at set intervals.

Table 1 shows the planned sample sizes of the starting cohorts at the first measurement wave (see also Chap. 4, this volume). Some extensions of the sample are planned (e.g., in the year of elementary school admission to include the classmates of the children who have been observed longitudinally). The surveys in the field of early childhood, Kindergarten, and school will also assess persons from the children's and students' immediate surroundings. In order to obtain detailed reports on, for example, the family environment, one parent will be interviewed by telephone. Furthermore, Kindergarten staff and princi-

Table 1: Projected sample sizes of the National Educational Panel Study

Starting cohorts	Sampling	Units	Participants
Early Childhood	Individual sample	3000	Child, mother, educator, childminder
Kindergarten	Institutional sample	3000	Child, parent, educator, principal
5th Grade	Institutional sample	7500	Student, parent, teacher, principal
9th Grade	Institutional sample	15,000	Student, parent, teacher, principal
College	Institutional sample	16,500	College student
Adult Education and Lifelong Learning	Individual sample	13,000	Adult

pals as well as class teachers, selected subject teachers, and school directors will be asked to complete written surveys at regular intervals.

Data collection is organized in the first funding period by the Data Processing and Research Center of the International Association for the Evaluation of Educational Achievement (IEA-DPC) and by the Institute for Applied Social Sciences (ifas). A close cooperation between these institutes and the NEPS ensures that high-quality data collection procedures are being developed and implemented.

1.7 Data access and expectations

The NEPS database is an infrastructural facility for science and it will be made available to the scientific community as promptly as possible after data collection sweeps. The data collected for the NEPS will be subjected to immediate and strict quality controls before being processed and documented in a user-friendly way (for remote access options in data dissemination, see Chap. 20, this volume). While complying strictly with personal data privacy requirements (see Chap. 19, this volume), this will grant researchers in Germany and other countries the opportunity to analyze the data as exhaustively as possible and contribute to the greatest possible progress in education research. The NEPS will also offer trainings on the use of the database. The aim is to prepare the data from the first waves of the starting cohorts so quickly that they will already become available in an anonymous form for both national and international scientists 12–18 months after the end of fieldwork.

The NEPS will deliver the first nationally representative database with a multilevel structure that provides longitudinal information on individual education careers and competence development while simultaneously documenting information on the family, peers, the education institutes attended, the training centers and workplaces, and general living conditions. With its rich potential for analyses in various disciplines (demography, economics, education science, psychology, sociology, etc.), the data will not only make it possible to test discipline-specific theories more effectively but also to formulate inte-

grative approaches toward interdisciplinary theories in educational science. In particular, this should generate new knowledge about competence development in the life course; the role of education institutions, families, and peers in the acquisition of education; the causes of socially unequal education decisions; the acquisition of education in migrants; as well as the consequences of competencies, certificates, and educational paths for (later) private and occupational paths through life.

The NEPS will not only deliver innovative impulses for basic research but also provide a major information source for policymakers. In particular, it will be an important additional source of data for national education reporting, and it will strengthen our knowledge of education in the life course and developmental processes and trajectories. It will also be possible to study political reforms and their effects on, for example, the acquisition of competencies or equal opportunity in the educational system. In sum, we expect that the NEPS will greatly improve the analysis conditions for empirical education research in Germany, make a major contribution to promoting the careers of young scientists, and lead to a remarkable improvement in the international standing of German education research.

References

- Baltes, P. B., Staudinger, U. M., & Lindenberger, U. (1999). Lifespan psychology: Theory and application to intellectual functioning. *Annual Review of Psychology*, *50*, 471–507.
- Bundesministerium für Bildung und Forschung (2008). *Rahmenprogramm zur Förderung der empirischen Bildungsforschung/Framework Programme for the Promotion of Empirical Education Research. Schriftenreihe Bildungsforschung* (Vol.22). Berlin: Bundesministerium für Bildung und Forschung.
- Diewald, M., & Mayer, K. U. (2009). The sociology of the life course and life span psychology: Integrated paradigm or complementing pathways? *Advances in Life Course Research*, *14*, 5–14.
- Elder, G. H. Jr., & Giele, J. Z. (Eds.). (2009). *The craft of life course research*. New York: The Guilford Press.
- Elder, G. H. Jr., Johnson, M. K., & Crosnoe, R. (2003). The emergence and development of life course theory. In J. T. Mortimer & M. J. Shanahan (Eds.), *Handbook of the life course* (pp. 3–19). New York: Kluwer Academic/Plenum Publishers.
- Heckman, J. J., & Masterov, D. V. (2007). The Productivity argument for investing in young children. *Review of Agricultural Economics*, *29*, 446–493.
- Kleinert, C., Matthes, B., & Jacob, M. (2008). Die Befragung „Arbeiten und Lernen im Wandel“. Theoretischer Hintergrund und Konzeption. IAB-Forschungsbericht 5/2008. <http://doku.iab.de/forschungsbericht/2008/fb0508.pdf>. Accessed 23 Aug 2010.
- OECD (2004). Programme for the International Assessment of Adult Competencies (PIAAC). Draft Strategy Paper. Policy Objectives, Strategic Options and Cost Implications. Stockholm. <http://www.oecd.org/dataoecd/3/3/34463133.pdf>. Accessed 23 Aug 2010.
- PISA-Konsortium Deutschland (Ed.). (2001). *PISA 2000. Basiskompetenzen von Schülerinnen und Schülern im internationalen Vergleich*. Opladen: Leske+Budrich.
- PISA-Konsortium Deutschland (Ed.). (2004). *PISA 2003. Der Bildungsstand der Jugendlichen in Deutschland—Ergebnisse des zweiten internationalen Vergleichs*. Münster: Waxmann.
- PISA-Konsortium Deutschland (Ed.). (2007). *PISA 2006. Die Ergebnisse der dritten internationalen Vergleichsstudie*. Münster: Waxmann.