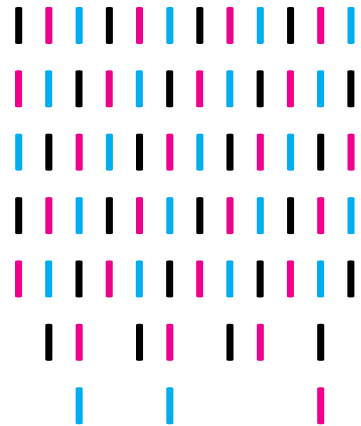




# THE NATIONAL EDUCATIONAL PANEL STUDY

Need,  
Main Features,  
and Research Potential



L'fBi

LEIBNIZ INSTITUTE FOR  
EDUCATIONAL TRAJECTORIES



## Objectives and Participating Institutions

In modern knowledge societies, education is not only the key to economic growth and prosperity but also decisive for coping with the challenges of a rapidly changing globalized world. However, the international student assessment study PISA initiated by the OECD has shown that major proportions of Germany's school student population are insufficiently prepared to meet these challenges. Further analyses of the PISA data in Germany have also repeatedly confirmed a strong correlation between social origin and acquiring education. Despite all educational reforms, equal opportunities still seem to be a distant goal, even though the importance of education has tended to increase rather than decline in recent decades—not only for positioning on the labor market but also for chances in the private sphere such as seeking a partner.

The National Educational Panel Study (NEPS) has been set up to find out more about the acquisition of education in Germany, to plot the consequences of education for individual biographies, 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, how they influence (or do not 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 training, and adult education. The NEPS should also ascertain which competencies are decisive for gaining educational qualifications, which for lifelong learning, and which for a successful personal and social life.

Such an approach has to examine competence development not only in Kindergarten or the general school system but also in vocational training, higher education, and after leaving the education system.

## Objectives and Participating Institutions



*Prof. Dr. Dr. h.c.  
Hans-Peter Blossfeld*

To achieve this goal, Germany's Federal Ministry of Education and Research initiated a consortium under the management of Prof. Dr. Dr. h.c. Hans-Peter Blossfeld and assigned it the task of organizing such a longitudinal study under the name of "National Educational Panel Study" (NEPS). Prof. Dr. Dr. h.c. Hans-Peter Blossfeld led the project until the end of July 2012. On August 1, 2012, Prof. Dr. Hans-Günther Roßbach took over the project management of NEPS. Being an education researcher from Bamberg him-



*Prof. Dr.  
Hans-Günther Roßbach*

self, Professor Roßbach had previously been involved in a leading position in several departments of the National Educational Panel Study since the project was launched.

As of January 1, 2014, the National Educational Panel Study is now situated at the Leibniz Institute for Educational Trajectories (LifBi). As part of the institutionalization process, LifBi became an independent research institution affiliated with the University of Bamberg as well as a member of the Gottfried Wilhelm Leibniz Scientific Association.

As a result of LifBi's induction into the Leibniz Association, a long-term perspective was given to the National Educational Panel Study, which the German Council of Science and Humanities in its statement from April 26, 2013, described as an "internationally unique infrastructure facility". Only 5 years after its foundation, NEPS had thus turned from a temporary research project into an infrastructure facility permanently financed under the funding agreement between the German Federal and State Governments.

Such a diachronic (longitudinally organized) investigation of central issues in educational research can succeed only if it integrates theoretical and methodological approaches from a range of different disciplines (cultural studies, demography, developmental psychology, diagnostics, economics of education, educational psychology, educational science, employment research, family research, gender studies, migration studies, poverty research, research on childhood and adolescence, sociology of education, survey methods, and test theory).

Such an interdisciplinary consortium of research institutes, researcher groups, and research personalities has been assembled in Bamberg. In addition, the competencies and experiences with longitudinal research available at numerous other locations have been networked to form a cluster of excellence (see Figure 1).

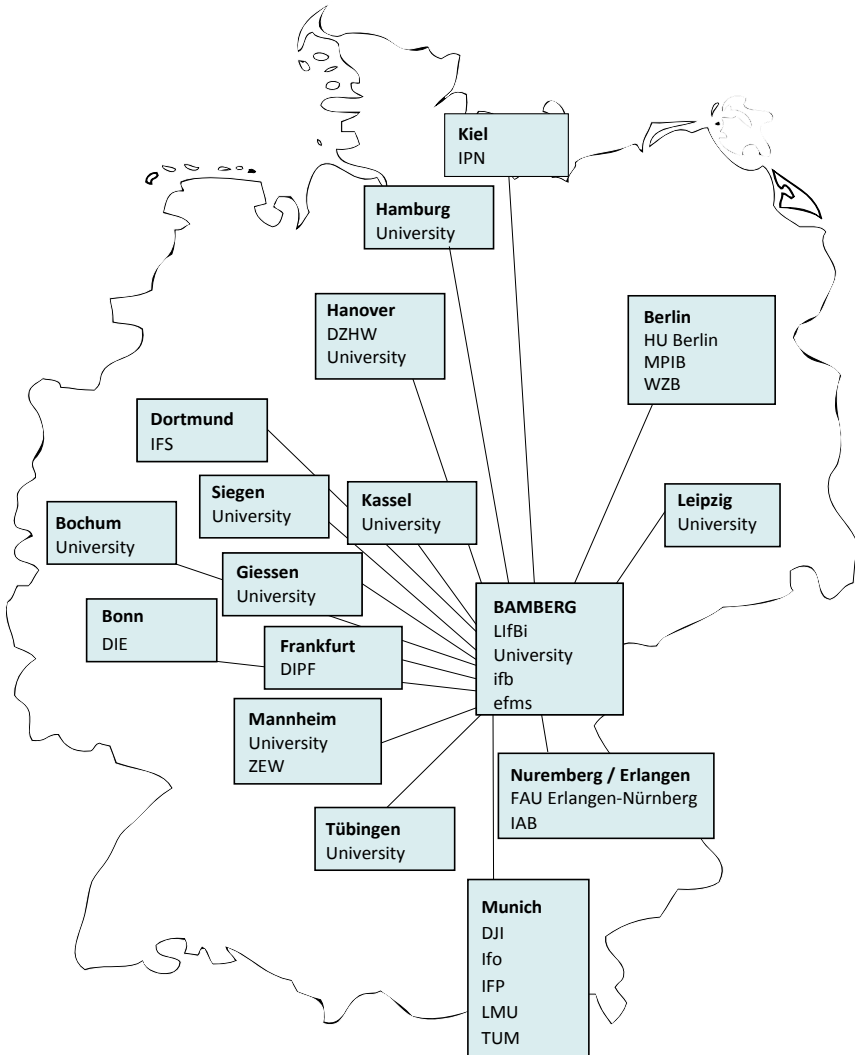


Figure 1: Network of excellence of the National Educational Panel Study.

## Strong Partners, Strong Network

The following 19 partner institutions are contractually bound members of the NEPS Consortium (in alphabetical order, as of March 2015):



German Institute for International Educational Research (DIPF) in Frankfurt



German Centre for Research on Higher Education and Science Studies (DZHW) in Hannover



University of Tübingen



Friedrich-Alexander-Universität Erlangen-Nürnberg



Leibniz Universität Hannover



Institute for Educational Quality Improvement, Humboldt-Universität zu Berlin



Institute for Employment Research (IAB) of the Federal Employment Agency (BA) in Nuremberg



Institute for School Development Research (IFS) at TU Dortmund University



Justus Liebig Universität Giessen

Besides the contractually integrated partner institutions of the NEPS named above, a number of other renowned colleagues from the following nine institutions are currently involved in the study (in alphabetical order):

- German Institute for Adult Education—Leibniz Centre for Lifelong Learning (DIE) in Bonn,
- German Youth Institute (DJI) in Munich,



Leibniz Institute for Science and Mathematics Education (IPN) at the University of Kiel



Leibniz Institute for Economic Research (IFO Institute) at the University of Munich



Ludwig-Maximilians-Universität München



University of Bamberg



Universität Hamburg



Leipzig University



University of Mannheim



University of Siegen



Berlin Social Science Center (WZB)



Center for European Economic Research (ZEW) in Mannheim

- european forum for migration studies (efms) in Bamberg,
- Max Planck Institut for Human Development (MPIB) in Berlin,
- Ruhr-Universität Bochum,
- State Institute for Family Research at the University of Bamberg (ifb),
- State Institute of Early Childhood Research (IFP) in Munich,
- Technische Universität München,
- University of Kassel.

## The Importance of Education in Modern Societies

Educational institutions need to impart not only knowledge, skills, and competencies to young people but also attitudes, values, and norms. At the same time, the education system assesses student performance by documenting it in grades, certificates, and degrees. These assessments may well determine potential access to specific educational tracks such as the transition to a Gymnasium (upper secondary school) 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 of an individuals' chances in later life.

For members of modern information and service economies, however, learning does not come to an end when they leave the general and vocational education system. They are obliged to acquire new knowledge and new competencies continuously throughout their lives. The technological and organizational transformation of the economy is not just increasingly reducing the need for workers who perform routine activities.

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 the light of the continuous decrease of unqualified jobs within the employment system, the question arises whether the proportion of school dropouts without a general educational degree or vocational qualification is not way too high and how educational processes can be organized in secondary school or job training in order to keep pace with the developments within the employment system.

In addition, globalization is leading to a strong acceleration of social and economic change in modern societies, and it is requiring increasingly more flexibility and adaptability in careers 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.



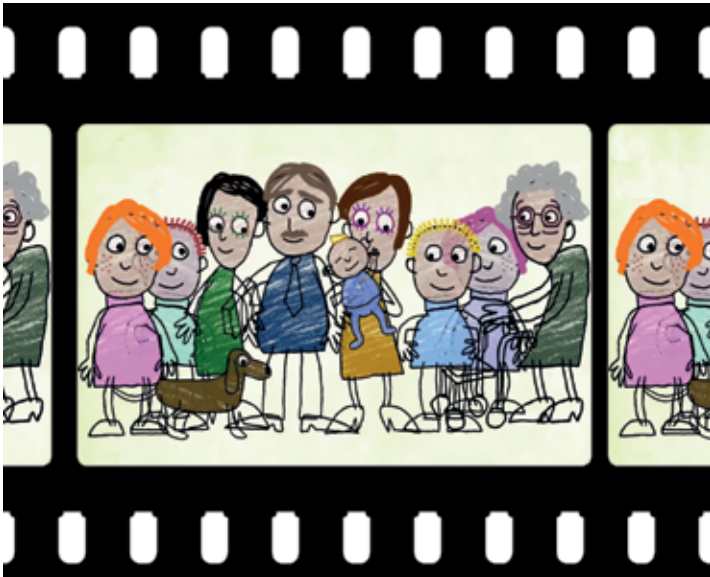


Figure 2: Screenshot from the video on the NEPS study (available at [www.neps-studie.de](http://www.neps-studie.de))

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 encourage and enable children, adolescents, and adults to carry on educating themselves throughout their lives?

Germany is also going through fundamental demographic changes. These 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 education system and the organization of education across the life span.

## The Need for Longitudinal Data in Educational Research

Since the year 2000, the Program for International Student Assessment (PISA) has been regularly assessing adolescent competencies in key domains at the end of ninth grade (age 15). These surveys have delivered very important findings on the distribution of competencies among school students not only within the Federal Republic of Germany but also in comparison with other nations. However, one single survey—just like one single snapshot taken by a camera—delivers a detailed picture of the situation at only one specific point in time. Because PISA studies always test and survey different people at a certain age or at a certain stage in the education system at 3-year intervals, they deliver trends or time-series data. By comparing specific data such as the position of German ninth-grade students in international rankings or the proportion of at-risk students across different years, changes over the course of time can be plotted—similar to looking at a collection of class graduation photographs over successive years.

However, such study designs cannot explain how individual educational processes have developed or will develop over time. They cannot tell us, for example, why Germany reveals a stronger relation between social origins and competencies toward the end of compulsory education than other countries, or how significant the competencies assessed in PISA actually are for the further acquisition of education and for occupational careers.

The international Progress in Reading Literacy Study (PIRLS, known in Germany as IGLU) has shown that correlations between the parents' social status and their child's reading ability are comparatively low in Germany. This discrepancy between the results of PISA and PIRLS was seen as a hint for the very early institutional streaming of school students into different types of secondary school in Germany being one reason for the high correlation between social origins and the competence levels attained at a later age.

Studying this adequately requires better data, namely, panel data. In a panel, the same people are subjected repeatedly to multiple surveys or tests. Just like a personal photo album or—if assessments are performed frequently—a moving picture, individual changes can be plotted across time. The quality of information in this type of data is much higher: first, because one can study not only states but also changes; and,

second, because the explanatory variables and the variables to be explained are linked in time.

Cross-sectional studies can only ascertain, for example, whether there is a positive relation between positive attitudes toward learning and academic achievement, but not whether academic achievement influences attitudes toward learning or whether positive attitudes toward learning influence academic achievement. In contrast, panel data offer the major advantage of being able to trace back changes in academic achievement to preceding changes in attitudes toward learning and vice versa.

Such data can be used to examine differential increases in competence as a function of prior history, the type of school attended, and further relevant environmental variables such as the different levels of achievement given in a specific school class.

Panel data are also indispensable when it comes to studying to what extent educational institutions actually do impart the specific knowledge and competencies that school students, apprentices, and higher education students will need to succeed on the competitive national and international labor market.

# Conceptual Framework of the National Educational Panel Study—Key Perspectives on the Education Process

The NEPS has been set up to describe and analyze the long-term development of educational careers. Its central theoretical foundations are the research paradigms and findings from sociological life-course research and life-span psychology. These are used to explain and understand the cumulative processes in educational careers by which later states are an outcome of a multiplicity of prior decisions and exploited or neglected learning opportunities.

In addition, the NEPS distinguishes between eight educational stages that are integrated theoretically by concentrating on five interlinked dimensions.

These theoretical perspectives are:

- Competence Development Across the Life Course
- Education Processes in Life-Course-Specific Learning Environments
- Social Inequality and Educational Decisions Across the Life Course
- Education Acquisition of Persons with Migration Background
- Returns to Education Across the Life Course
- Motivational Variables and Personality Aspects Across the Life Course

In the following, these six key theoretical perspectives are outlined including a reference to the responsible main cooperation partners within the NEPS network.

## Competence Development Across the Life Course

From the perspective of “Competence Development Across the Life Course”, the National Educational Panel Study is developing models concerning the structural differentiations as well as the development levels of competencies throughout the entire life course. The focus is set on capturing and analyzing the development of subject-related and general competencies. The National Educational Panel Study carries out longitudinal measurements of linguistic competence (reading competence and listening comprehension), mathematical competence and scientific literacy, as well as abilities in handling information and communication technologies (ICT literacy). The focus on

educational processes and competence development across the life course demands a perspective that considers the processes taking place both within a specific learning environment as well as diachronic (longitudinal) and synchronic (simultaneous) transitions between different learning environments.

One major task of this Operational Unit is the development of test instruments facilitating measurements of the above-mentioned spheres of competence across the life course. A further important task is to develop computer-assisted and internet-based competence diagnosis in order to optimize the efficiency and precision of longitudinal testing of representative samples. In this case, efficiency refers to aspects of cost reduction and time saving. Precision refers to the opportunity of going one step further toward comparability and the approximation of reality with the help of technology-based adaptive tests.

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IPN



## Education Processes in Life-Course-Specific Learning Environments

The Operational Unit “Education Processes in Life-Course-Specific Learning Environments” focuses on the theoretical basics and the empirical implementation of assessing characteristics of learning opportunities in the relevant learning environments that can affect the acquisition of competencies and educational processes. Learning environments are conceptualized as providers of learning opportunities that can be used by learners in order to gain skills and competencies.

Within the National Educational Panel Study, learning environments are divided into three areas:

- formal (e.g., school, apprenticeship, higher education),
- nonformal (e.g., offerings by child and youth welfare, associations, or religious communities), and
- informal (e.g., family, peers, media) learning environments.

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DIPF



## Social Inequality and Educational Decisions Across the Life Course

The Operational Unit “Social Inequality and Educational Decisions Across the Life Course” focuses on the extent and reasons of why educational decisions—such as the choice of elementary or secondary school, the choice of career or study course, the continuation of an academic career, or the participation in further professional training—vary across different sociostructural groups.

Class-specific differences in educational decisions can still be observed even when achievements (e.g., grades, competencies, certificates) are comparable. This makes it necessary to clarify the significance of class-specific educational aspirations, motivations, expectations of success, and assessments of costs. Also, particular focus is placed on the gender-specific genesis of subject choice in educational careers (vocational training, choice of study subject).

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## Education Acquisition of Persons With Migration Background

Alongside the well-known mechanisms of social inequalities, specific features and contextualizations are connected to ethnic background or migration biography that may additionally influence the acquisition of competencies and educational decisions. This entails a particular focus on the language spoken in the family, relations to the country of origin, integration into ethnic communities and networks, as well as religious orientation.

As a result, NEPS has created a distinct perspective on “Education Acquisition of Persons with Migration Background” concentrating on assessing migration-specific characteristics that are relevant to education. One emphasis is placed on measuring the knowledge and competencies of students in the language of their parents’ country of origin, because characteristics of first- and second-language acquisition provide a major approach to explaining success in education and on the labor market.

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## Returns to Education Across the Life Course

The fifth central dimension of the theoretical conceptualization of lifelong educational processes deals with returns to education over the life course. However, within the scope of the NEPS, returns to education are not only conceived in terms of qualification-specific remuneration and labor market opportunities.

Instead, returns to education are understood in a broader sense, including, for example, political participation, active involvement in society, physical and mental health, opportunities for seeking a partner and starting a family, and subjective well-being. Some of these returns, such as physical and mental health or a student’s active involvement in society, can be assessed long before entry into the labor market. As a result, these can also be documented and analyzed in terms of their life-course-related development.

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## Motivational Variables and Personality Aspects Across the Life Course

The Operational Unit “Motivational Variables and Personality Aspects Across the Life Course” focuses on mechanisms of social and personality psychology in relation to educational trajectories. This field includes the assessment of personality traits and learning motivations as well as the school-related/academic self-concept of students in school and higher education institutions, their self-assessed self-esteem, general orientations of interest, and different aspects of social competencies.

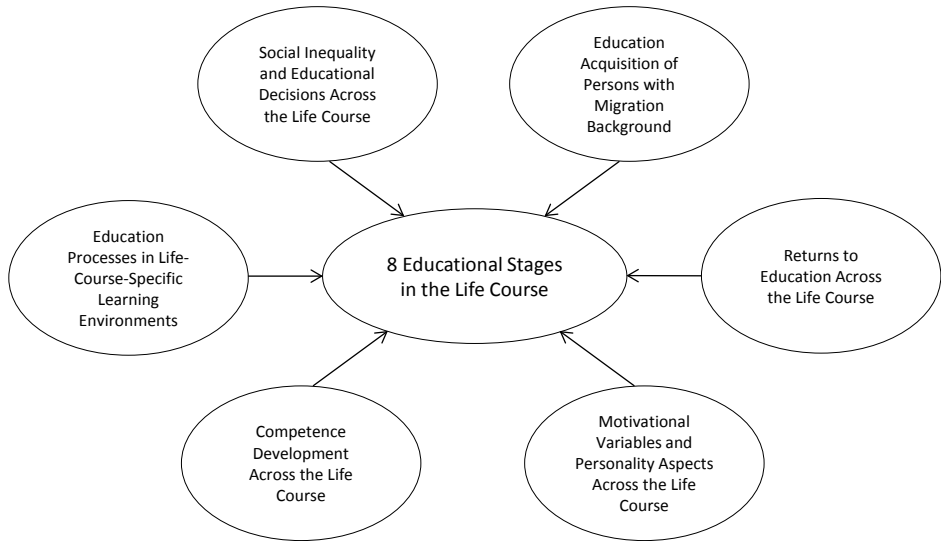
The constructs under investigation can be applied in different explanatory approaches of educational research and can also be understood as a theoretical-conceptual bridge between the more sociostructural determinants and the individual development of competencies. Through longitudinal assessments of the same persons at different points in time, questions can thus be tackled regarding the influence of motivational aspects and personality traits on educational decisions, or on careers in education and further education, as well as questions of whether and how educational experiences will in turn create repercussions for these traits.

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These six perspectives can be combined with the phases and transitions in the education system to form the following theoretical concept:



*Figure 3: The conceptual framework of the National Educational Panel Study*

Within the scope of the National Educational Panel Study, educational careers are dissected into the following eight stages:

- Stage 1: Newborns and Early Childhood Education
- Stage 2: From Kindergarten to Elementary School
- Stage 3: From Elementary School to Lower Secondary School
- Stage 4: From Lower to Upper Secondary School
- Stage 5: Upper Gymnasium Level and Transition to Higher Education, Vocational Training, or the Labor Market
- Stage 6: From Vocational Training to the Labor Market
- Stage 7: From Higher Education to the Labor Market
- Stage 8: Adult Education and Lifelong Learning

# The Conceptual Framework of the National Educational Panel Study—The Stages of Educational Careers

As mentioned before, the key perspectives of the so-called “pillars” ensure the theoretical and methodological integration of the individual educational stages into a total concept related to the life course and educational trajectories. The advantage here is that studies of distinct sections and transitions in the education system, such as school admission or the transition to the labor market, are therefore not carried out separately and in isolation. Instead, the conceptual framework thus links them together longitudinally.

## Newborns and Early Childhood Education

How do children under 4 years of age develop early competencies and skills that are relevant to education? How are developmental and educational processes promoted in care and educational settings both inside and outside the family? How do settings within and outside the family interact? At what age are children introduced to nonfamilial education and care settings? And how much does the use of child-care services depend on the child’s level of development and/or family background, including the familial learning environment as well as parents’ needs and orientations?

Because of the paucity of research in Germany on educational processes in this age group within the context of promoting development inside and outside the family and early education decisions, a great deal of preparatory work is still needed. This particularly involves survey instrumentation and planning.

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## From Kindergarten to Elementary School

In 2010, 96 percent of all 4-year-old children in Germany attended Kindergarten. What can be assumed from this is that almost every child has thus been integrated into the institutionalized pathways of the educational system at this stage of the educational biography. In cooperation with the educational stage “From Elementary School to Lower Secondary School”, this decisive transition from the domestic environment to nonfamilial learning environments can be traced with all its effects on the further development of individual educational biographies. Extensive, theory-guided assessments are carried out with the children (as target persons), their parents, Kindergarten staff, and managers.

Hence, it will be possible to analyze competence development and educational careers comprehensively in this age group. What is the impact of, for example, specific learning environments such as Kindergarten, elementary school, or families? How do transitions from Kindergarten to elementary school play out and the educational decisions that are related to this? The collected data will allow us to estimate the extent and the importance of social and ethnic disparities in Kindergarten and elementary school. Furthermore, the data also facilitate an examination of early returns to education.

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## From Elementary School to Lower Secondary School

Right at the start of elementary schooling, the achievement potentials of children are extremely heterogeneous. Whether elementary school can in fact reduce these differences between children over the course of time—and if so, to what extent—is something that is still unexplained. In most of Germany’s Federal States, elementary school has a duration of 4 years. After this, children transfer to one of several types of lower secondary school (Sekundarstufe I), which all teach different curricula leading to school-leaving qualifications of varying utility. That is why the transition into the differentiated school systems has a huge impact on children’s future life course.

This stage of life within an educational biography brings up a number of exciting questions: How do competencies develop during elementary school? Which factors strengthen or reduce the correlation between social and ethnic origins and competencies attained over time? To what extent are education decisions made by parents at the end of elementary school an outcome of their child’s academic performance, of parental resources and education goals, or an outcome of institutional framing conditions? Which strategies and decisions can be observed when a child’s academic performance fails to match the parents’ educational aspirations? What influence does the more homogeneous composition of school classes in the differentiated school system compared with elementary school have on the school and classroom climate, the academic self-concept, and the development of the child’s competencies?

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## From Lower to Upper Secondary School

Lower secondary school (Sekundarstufe I) is a decisively critical bridge between elementary school on the one hand and either the general educational or vocational higher secondary domain (Sekundarschulbereich II) or the direct entry into the labor market on the other hand. Despite its great significance, the lack of appropriate data—and particularly longitudinal data—makes it impossible to give unequivocal and final answers to important questions.

For example, to what extent do the competencies of students correspond to the type of school selected or recommended, and how do their competencies develop depending on the school type they attend? Moreover, there is a continued lack of sufficient individual data on issues such as how often children transfer from one type of school to another and what determines these transfers, or how having to repeat a school year impacts on students' educational careers and success. The same applies to a crucial set of questions addressing lower-secondary school-leaving qualifications and the transition to higher secondary school.

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Schulentwicklungs-  
forschung



Universität Hamburg



## Upper Gymnasium Level and Transition to Higher Education, Vocational Training, or the Labor Market

In the German education system, the senior grades of the Gymnasium form the bridge between general school education and higher education. The “Abitur” grants students a formal right of access to all available study courses at all German universities and higher education institutions. From an international perspective, this places very high demands on the “Abitur”. Other countries either award specific rights to study certain subjects (e.g., the baccalaureate in France or A-Levels in Great Britain), or they supplement it with general performance tests (e.g., SAT/CAT in the United States). The upper Gymnasium level is faced with complex demands. It is not just responsible for general education and preparing students for academic study (Wissenschaftspropädeutik). By awarding the “Abitur”, those senior grades are also in some ways expected to guarantee the aptitude of these young adults for higher education. This opens up a whole range of demands that are almost impossible to be satisfied in their entirety by the upper Gymnasium level.

Unfortunately, this situation is also accompanied by a continued lack of empirical studies that, for example, systematically test the achievement levels of “Abitur” graduates at different types of Gymnasium (e.g., vocational vs. general education Gymnasium), compare the predictive power of “Abitur” grades versus school performance, and cast light on the role of personal resources in the transition to study courses or vocational training. The NEPS performs a longitudinal follow-up of “Abitur” graduates across their further stages of education. Up to now, studies on the “Abitur” and on the transition to higher education or vocational training have not paid enough attention to how scientific thought and activity are taught in secondary schools.

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DIPF



## From Vocational Training to the Labor Market

This educational stage features adolescents' and young adults' transitions from the education system to working life. This transition is characterized by numerous interdependent transitions and reciprocally influential status passages: access to the vocational training system, passing through one or more training schemes, and finally entering a job.

For example, the following research questions refer to these status passages and can be answered by using data collected as part of the NEPS study: What determines a young person's decision on what job to train for? What strategies for searching for a training position or apprenticeship are available to young people, which ones do they pursue, and how far are differences in the strategies they apply determined by differences in their school biographies, by the competencies they possess, their interests and social environments, as well as their career orientations, and, on the other hand, how much are they determined by the local availability of training positions? What are the determinants for a successful completion of vocational training? How does going through vocational training impact on the acquisition of general cognitive and occupational competencies, and what influence do learning environments have on competence development by and during vocational training? How do school and vocational training biographies, the experiences, competencies, and qualifications acquired through them, along with other variables, influence the transition to the labor market? What patterns can be found in those graduating from schools below the Gymnasium level? And how can individual and structural differences be explained?

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## From Higher Education to the Labor Market

Higher education institutions in Germany are currently facing a series of challenges and developments that raise new research questions. These include the introduction of the two-tier Bachelor's and Master's study structure, the increasing demand for outcome orientation, the trend of higher education institutions turning into centers of lifelong learning, the increase in (international) competitiveness, and the emerging lack of highly qualified experts. At the same time, the central topics of past decades—such as student dropout, socially selective access to higher education, and the relation between higher education and careers—remain just as pressing as before.

To address the research questions associated with this, the National Educational Panel Study follows up a cohort of first-year students in higher education throughout their educational pathways and into their job careers. Particular attention is paid to educational decisions, the development of competencies, the returns from academic studies, and the transition to the labor market.

Among other things, the following questions can be answered using NEPS data: What subject-related and non-subject-related competencies do students possess? To what extent do these correspond to the demands of the employment system? To what extent does the acquisition of competencies depend on the type of higher education institution and the subject studied? How do different learning environments and individual learning strategies influence competence development? What are the determinants of transitions while studying—such as dropping out, switching subjects, studying abroad, starting a Master's course—and of successful graduation? What role do acquired competencies play on the one hand and, on the other hand, formal qualifications (certificates), social origin, gender, and migration background with a view to the transition to the labor market and professional success (e.g., professional status, income, job security)? How important are multidisciplinary competencies compared to subject-specific competencies?

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## Adult Education and Lifelong Learning

The National Educational Panel Study assesses educational and employment careers along with the development of competencies across the life course of adults during their working years—that is, from the age of 23 years until retirement age and also beyond—in order to find out more about adult education and lifelong learning. There is currently little knowledge about adult education in Germany, about the available competencies, and how they develop after the school career.

The collected data make it possible to trace educational careers of adults throughout their life span, especially regarding their employment history. Furthermore, the educational and employment careers of younger cohorts are traced after their entry into working life. In addition, the determinants for decisions of whether or not to take part in formal or nonformal learning activities after the initial vocational training can be identified as well as the set of competencies among different groups of adults throughout Germany. It will also be possible to examine the development of competencies throughout adulthood and to determine what role the employment situation plays in this context.

NEPS data allow us to analyze the impact of specific educational contexts during adulthood, especially concerning the job situation and family constellation, on education decisions and participation in further training. In addition, NEPS data facilitate estimating the returns to formal qualifications, competencies, and job experience in the form of income, employment careers, and other life domains, such as well-being or playing an active role in society. With NEPS data it is possible to generate empirical findings on the competencies available to migrants, their resources, their participation in further training, and their returns, as well as to identify opportunities for and barriers to learning processes and education in later adulthood.

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Institut für Arbeitsmarkt-  
und Berufsforschung  
Die Forschungseinrichtung der  
Bundesagentur für Arbeit



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# Data Collection and Dissemination

The methodological structure of the National Educational Panel Study can be described as a multicohort sequence design (see Figure 4).

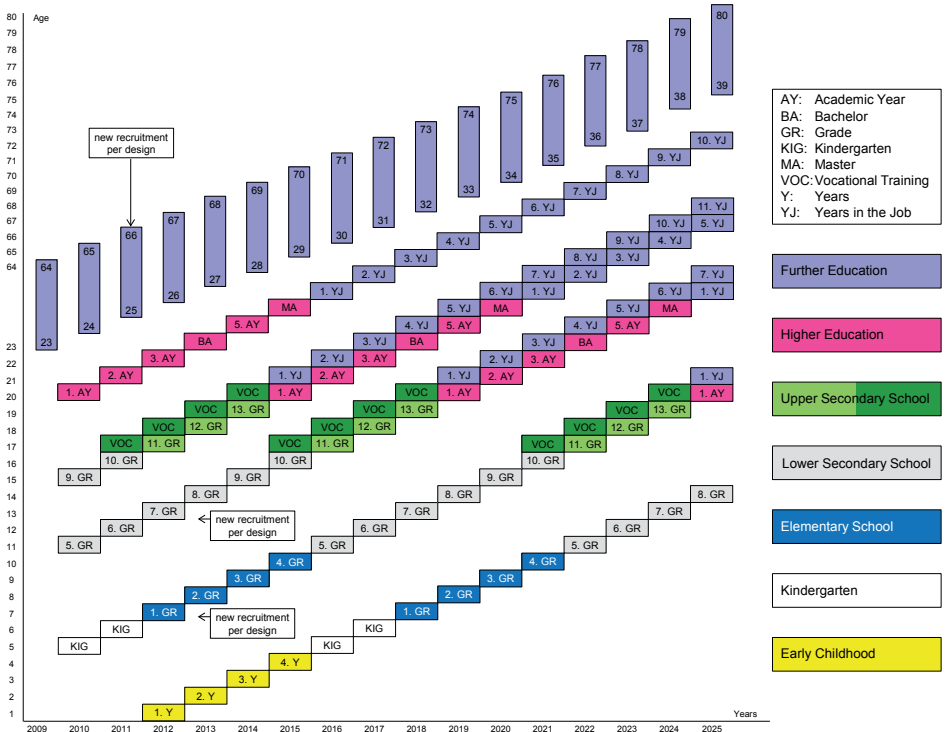


Figure 4: The multicohort sequence design

To obtain relevant data as quickly as possible, four starting cohorts were recruited by the Department „Data Center and Method Development“ in the fall of 2010. These contain persons who are at a specific stage in the education system or in a specific age group. An exception here is Starting Cohort 6, which has been recruited to study adult education. Irrespective of their current participation in education or the labor market, this representative sample of 23- to 64-year-olds was already surveyed in 2009.

In contrast, the first major assessments in Starting Cohort 1 commenced in 2012. This cohort documents and analyzes early childhood development and the entry to early child-care facilities (day care, Kindergarten, etc.).

Sample selection is oriented toward transitions both within the education system and between the education system and the labor market. The major transitions are those to elementary school, to the tracked secondary school system, to vocational training or higher education, and to the labor market for graduates of both vocational training and higher education.

The following representative master samples of subjects form the core of NEPS:

- newborns
- 4-year-olds in Kindergarten
- students in Grade 5
- students in Grade 9
- undergraduates in higher education
- 23- to 64-year-olds

For the newborns, Kindergarten, fifth-grade, and ninth-grade samples, NEPS also surveys the parents, selected Kindergarten staff, teachers, and school principals. To document and analyze historical changes in the way people pass through these stages (e.g., transitions from school to vocational 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).

In order to assess the structural and compositional features of institutional learning environments, cluster samples have been recruited in the domains of Kindergarten, school, and (applied or theoretically oriented) higher education institutions. This means, for example, that as many students as possible in one class are recruited as panel participants.

In addition to permitting data analyses on multiple levels, this has the advantage of greatly reducing the costs of carrying out competence tests and interviews. In subsequent years, all these participants will be followed up even if they are no longer in the

## Data Collection and Dissemination

same group or class or studying the same subject at a university. This makes it possible to extend documentation covering the educational pathways of students who repeat a school year, change the type of school they attend or their study course, or drop out of school or higher education—thus permitting, for example, analyses of the educational careers of at-risk students.

In addition to these starting cohorts for the longitudinal observation of the educational process, two cross-sectional studies have been implemented within the scope of the National Educational Panel Study in Thuringia and Baden-Wuerttemberg in order to analyze the changes regarding the structure (8 or 9 years of Gymnasium) and contents of the upper Gymnasium level.

The data of the National Educational Panel Study are collected by conventional as well as innovative methods, such as computer-based assessment (CBA), and are edited by the LifBi Research Data Center for the professional public.

This involves generating data sets in a range of common formats (e.g., SPSS, Stata) including the coding and generation of variables, the integration of information from other data sets (e.g., regional information) into the NEPS database, and comprehensive documentation material in German and English. These user-friendly Scientific Use Files are made available through modern and flexible ways of data access (download, remote access via “RemoteNEPS”, on-site). They are provided as part of an extensive service package including regular user training sessions, individual guidance, and technical support to facilitate scientific analyses.

In special cooperation with:



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## Potential of the National Educational Panel Study

Up to now, only little is known about the cumulative and interdependent processes in the acquisition of education or about how education is acquired in different learning environments across the life span. The NEPS will deliver the first nationally representative database with a multilevel structure providing longitudinal information on individual educational 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, the data make it possible not only to test discipline-specific theories more effectively but also to formulate integrative approaches toward interdisciplinary theories in educational science. In particular, this should generate new knowledge about

- competence development in the life course,
- the role of educational institutions, families, and peers in the acquisition of education,
- the causes of socially unequal education decisions,
- the acquisition of education in migrant groups, and
- the consequences of competencies, certificates, and educational paths for (later) private and occupational paths through life.

Data collected for the NEPS are subjected to prompt and strict quality controls before being processed and documented in a user-friendly way. While complying strictly with personal data privacy requirements, this will grant researchers in Germany and abroad the opportunity to analyze the data as exhaustively as possible, thereby contributing to the greatest possible progress in educational research.

## Potential of the National Educational Panel Study

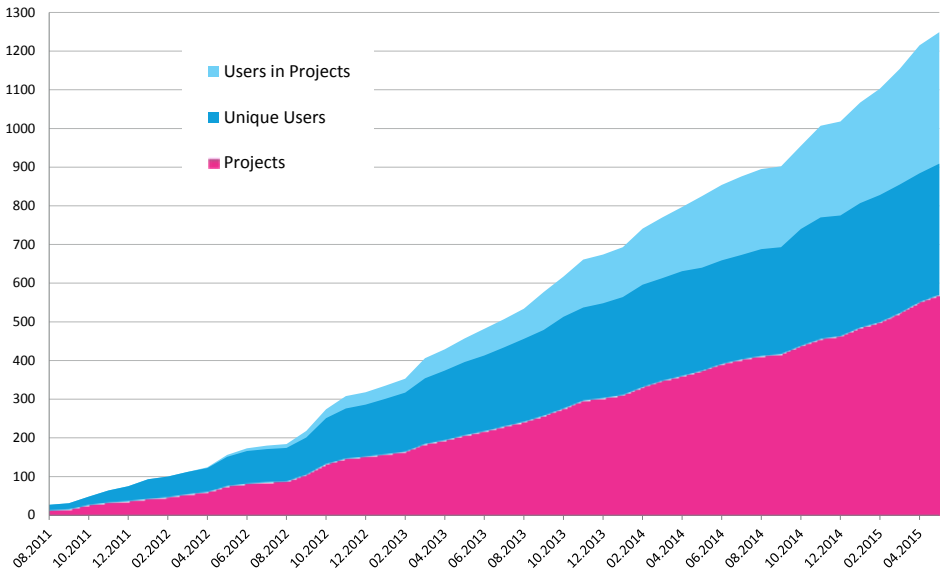


Figure 5: Development of data use since data release in August 2011

The NEPS will not only deliver innovative impulses for basic research but also provide major information for policymakers. In particular, it will be an important additional source of data for national educational reporting, and it will bolster the domain of education in the life course and our knowledge about developmental processes and trajectories. In the midterm, it will also become possible to study political reforms and their effects on, for example, the acquisition of competencies or equal opportunity in the education system.

We expect the NEPS to decisively improve the framing conditions for empirical education research in Germany, make a major contribution to promoting the careers of young scientists, and lead to a marked improvement in the international standing of German educational research.

With more than 900 data users from 16 nations, some of these expectations have already been fulfilled.

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