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Knowledge for Education

DIPF | Leibniz Institute for Research and Information in Education

Profile and Overview 2017 / 2018

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1. Profile of the Institute

DIPF is the Leibniz Institute for Research and Information in Education. DIPF aims at dealing with challenges in education, facilitating access to education, and improving the quality of education. Therefore, the institute supports schools, child day-care centres, scientists, administrators and politicians with empirical research, science infrastructures and knowledge transfer. In general words, DIPF stands for *Knowledge for Education*.

For example, research at the institute focuses on a further development of school and instructional practice, early childhood education and care, the history of education, digital support of education, Open Science and the effects of educational reforms. DIPF offers and develops science infrastructures, e. g. information portals, literature services, databases, digital sources, research instruments and the co-ordination of large-scale research and infrastructure alliances. For the purpose of knowledge transfer in an exchange with society, DIPF offers trainings, compiles practice-oriented manuals, advises and maintains online platforms.



DIPF is nationally and internationally networked. It works on fundamental as well as application-oriented research – with an interdisciplinary perspective. The social and cultural sciences research at DIPF looks at the individual, institutional and the systemic level of educational processes. Research in the area of information science and computer science is geared toward securing and expanding the quality of computer-based infrastructure services offered by the institute. DIPF moreover assesses and monitors digital change in the education system.

DIPF is nationally and internationally networked

To fulfil the tasks, five departments at DIPF collaborate closely (their respective research and work priorities are presented in brackets):

- Information Center for Education / Informationszentrum Bildung IZB
 (Research and information infrastructures for the entire area of education)
- Research Library for the History of Education / Bibliothek für Bildungsgeschichtliche Forschung – BBF (International research library for the history of education in Germany)
- 3. Educational Quality and Evaluation / Bildungsqualität und Evaluation BiQua
 (Quality and effectiveness of professional practice in schools)
- 4. Educational Governance / Struktur und Steuerung des Bildungswesens –
 SteuBis
 (Social, structural and institutional conditions of educational attainment)

5. Education and Human Development / Bildung und Entwicklung - BiEn (Individual development and adaptive education)

The institute, located in Frankfurt am Main and Berlin, is a public foundation with legal capacity and a member of the Leibniz Association. This science organization unites more than 90 independent science institutions to address relevant social, economic and ecological issues. Owing to their national relevance, these institutes are jointly funded by the federal government (Bund) and the federal states (Länder).

To find out more about the DIPF, visit www.dipf.de/en or follow our Twitter account @DIPF en

2. Milestones in the Period of Reporting

New Name and New Building

In November 2018, the institute was renamed into DIPF | Leibniz Institute for Research and Information in Education. The acronym "DIPF" remains, but got appended. The institute thus wishes to express central areas of its work as well as placing more emphasis on its membership in the Leibniz Association. At the same time, DIPF moved to a new building on Campus Westend in Frankfurt am Main. All the employees in Frankfurt are now working under the same roof. The modern new building (see photograph) was constructed over a period of around three years. It contains a set of laboratories with testing rooms for children, a library, a large conference area and a child day-care centre, which is jointly used by employees of DIPF and of Senckenberg Nature Research Society. The usable area comprises around 7,800 square metres across a basement, six base levels and seven tower levels. The immediate vicinity to Goethe University and many



other research institutions offers excellent opportunities for networked collaboration on future issues.

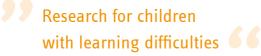
Evaluation: Positive Assessment by Reviewers

The member institutes of the Leibniz Association are subjected to an evaluation once in seven years, when the Leibniz senate assesses their work on the basis of recommendations issued by a group of scientists. In the period of reporting, DIPF underwent this evaluation procedure. The reviewers visited the institute in January 2018 at both locations, and cast a very positive vote which is reflected by this statement from the senate from November 2018: "DIPF links science service and infrastructure tasks very convincingly with research of its own and a transfer to educational practice and educational politics." The management and employees are delighted and they welcome this assessment. "We will use the recommendations mentioned in the report to sustainably secure and develop the fields of work in educational research and educational information", says Professor Dr Marcus Hasselhorn, Executive Director at DIPF. Based on the senate statement, the conditions of funding are validated for

Leibniz institutes, by the Joint Science Conference of the federal and state governments.

Scientific Monitoring of Developments in the Education System

In the period of reporting, DIPF completed several projects aimed at monitoring educational reforms and programmes, focusing on implementation and effects of the measures. For example, researchers at DIPF collaborated with researchers from other institutes in assessing the transformation of the secondary school systems in Berlin and Bremen to a two-track type. In both cases, the researchers concluded that the step had led to a sustainable structure. At the same time, they indicated that it would be important to continue improving the quality of instruction and schooling. Research has also focused on the Bonus Programme in Berlin, which allocated additional funding to schools in difficult social circumstances. Monitoring revealed that the programme sparked school development, while it has so far not led to major success in the students' academic achievements - which could not be expected given the short elapse of time since the programme was enacted. DIPF compiled specific reports for Lower Saxony and Saxony that are based on the concept and analyses of the National Report on Education, and present more in-depth findings for the respective federal states.





Taking Account of Several Years of Research on Children's Learning Development

DIPF coordinates the research centre "Individual Development and Adaptive Education of Children at Risk" (IDeA) which published a volume in

April 2017 to present findings from its work so far. The interdisciplinary centre, which was founded in 2008, unites researchers from DIPF, the Goethe University Frankfurt am Main, and Sigmund Freud Institute to investigate learning developments of children under the age of twelve years, focusing on intervention measures for children with learning difficulties. The volume is entitled "Entwicklungsläufe verstehen - Kinder mit Bildungsrisiken wirksam fördern" (Understanding developmental trajectories - effectively supporting children at risk). It provides an introduction to educationally relevant risks, presents research at IDeA and an overview assessment of work, together with implications for child day-care and school settings. For example, the book illustrates that diagnostic monitoring of learning can assist children with low language skills in German and lead to better achievement. Moreover, according to the publication in mid-primary school years around 13 percent of school children are affected by a learning disorder according to WHO criteria, and caregivers at pre-school day-care facilities are not adequately trained to foster individual children's language needs.



Relaunch of the German Education Server and the German Education Portal

In September 2017, two central information portals at DIPF, the German Education Server and the German Education Portal, went online in a completely new design. What's new: the Education Server which is the central guide to education on the internet now presents online contents in an even clearer, user-friendly design. The new appearance is supported by photographs, icons, explanatory texts on news and topics, a well-sorted structure and a navigation that is always close at hand. The layout was optimised for presentation on all devices, paying particular attention to smartphones. The German Education Portal addresses researchers in education. Science services are presented in a new, more comprehensive design, divided into three areas: literature, research data and research information. Users can now benefit from a layout that is optimised for all devices and more accessible, as well as a needs-oriented navigation structure. Searches can be run across all areas, delivering overviews of all the matching records to the users.

New Funding Phase for Subject Information Service and OERinfo

In early 2018, the German Research Foundation (DFG) revealed it would provide three more years of funding to the Subject Information Service for Educational Science and Research. In November 2018, the Federal Ministry of Education and Research (BMBF) granted two further years of funding to the information service OERinfo. Both services are coordinated at DIPF and several partners are involved in their implementation. The Subject Information Service is integrated into the German Education Portal, to provide researchers with literature at a national level, thus complementary to local scientific library services. For example, users can order books via direct loan, recommend international journals for purchase or licensing that are not yet available from libraries in Germany, and access electronic full texts for which the Subject Information Service has acquired national licences. Moreover,



the Research Library for the History of Education and the Georg-Eckert Institute for International Textbook Research process user requests for digitised copies of non-copyrighted material from their stock. The funding phase targets an expansion of digital resources. More than 3,300 international e-book titles were already integrated during 2018. OERinfo is commissioned to provide comprehensive information and assistance regarding educational material that is openly available on the internet, (Open Educational Resources = OER), as well as reach out to new target groups and network existing OER initiatives. The OERinfo website and a blog are key instruments in this regard, as well as social media activities, talks and trainings. The OERinfo team is now planning to focus more on application-oriented matters and to intensify networks in the diverse educational areas.

MYSKILLS: DIPF Supports Federal Employment Agency in Labour Market Integration

Since March 2018, the Federal Employment Agency has implemented the computer-based test "MYSKILLS" which is developed in cooperation with

the Bertelsmann Foundation. The test is designed to identify professional skills of persons without formal qualifications – for example to identify skills of immigrants and facilitate their access to employment. DIPF contributes to MYSKILLS. During the test development phase, the institute is responsible for psychometric quality assurance of all tests that are offered for a large number of professions. DIPF thus checks whether conditions are met for the statistical procedures applied in test assessments - i. e. whether the tests comply with method criteria of validity. Moreover, the Centre for Technology Based Assessment (TBA) at DIPF holds responsible for the entire technical planning and implementation of the project. For instance, the procedure is built on a test software that is provided by TBA, following an adaptation of the software to the project requirements. The responsible TBA team moreover converts all test tasks into computer format and makes them available online to the employment agencies across the nation. The TBA Centre furthermore hosts operations and offers technical support.

New Open Wiki Platform for Historic Knowledge

In May 2018, the Wiki "Interlinking Pictura", developed by DIPF, went online. The open platform presents the digitised, indexed version of the illustrated textbook "Bilderbuch für Kinder" by Friedrich Justin Bertuch, written between 1790 and 1830. The book contained 1,180 hand-coloured images and comprised 12 volumes to present children with an overview of knowledge at the time: focusing on animals, plants, inventions, discoveries and history. The Wiki presents all the picture plates in good quality including further information. The original texts are available as scanned documents and as searchable versions. In terms of "Citizen Science", interested parties can now enrich the contents. This platform is projected to open new channels for research and teaching. Most of the digitised objects were taken from the DIPF database of historically relevant pictures, "Pictura Paedagogica Online". The project is technically based on Semantic CorA, developed by DIPF on the basis of the Semantic MediaWiki



software. Interlinking Pictura is funded by the Centre for Digital Research in Humanities.

Taking Stock of Education from the Perspective of Effects and Outcomes

The latest edition of the National Report on Education was published in June 2018. DIPF coordinates the study which is compiled by a group of independent scientists, offering a systematic biennial account of education in Germany, by drawing on official statistics and social science studies. Each time, one chapter is dedicated to a focal topic – this recent volume focused on effects and outcomes of education. Altogether, the report summarises that education has a positive effect on employment, income, participation, satisfaction and health. At the same time, different trends have invoked a need for change and expansion. This concerns the growing diversity in pre-school and school settings as well as a trend toward increasing disparity between disadvantaged groups on the one hand, and excellent achievers on the other. Authors of the report represent DIPF, the German Youth Institute, the German Center for Higher Education Research

and Science Studies, the Leibniz Institute for Educational Trajectories, the Sociological Research Institute at the University of Göttingen, and the statistical offices of the federal government and the states. The report is funded by the BMBF and the Standing Conference of Ministers of Education and Cultural Affairs in the federal states.

At a Second Glance: Effects of a Feedback that Monitors Learning

In the period of reporting, in-depth analyses of the DFG-funded project "Conditions and Consequences of Classroom Assessment" underlined the importance of taking a closer look at the classroom interactions and mental processes which lead to higher motivation and achievement. The project assessed effects on ninth year students who received feedback on their learning process in math instruction with regard to strengths and weaknesses of their approaches to solutions, and recommendations regarding further strategies. At first, only a weak effect was found regarding their interest and no effect at all on achievement. However, further analyses revealed that learners found this type of feedback more useful than other types of commonly practiced feedback, for example in terms of grading. An "indirect effect" was found on interest. Moreover, the students' confidence increased regarding their ability to solve mathematical problems which conversely had a positive effect on their achievement. Finally, achievement and motivation also increased when teachers emphasized the usefulness of the given feedback.

Investigating potentials of digitisation for education



Project Campaign for Digital Education at DIPF

In late 2018, three projects were started at DIPF which are funded by the BMBF, involving several partners. The projects investigate potentials of digitisation for education processes. "EduArc – Digital Educational Architectures" is coordinated by the University of Duisburg-Essen to develop a concept for a meta platform for universities to access Open Educational Resources (OER) and their exchange across universities. The University of Duisburg-Essen also coordinates the project "Digi-EBF" – a meta project targeting digitisation in education to analyse work by around 50 projects that the Federal Ministry of Education and Research is funding in this

To find out more about milestones of the institute, take a look at the current press releases: www.dipf.de/en/dipf-news/press-releases or the project overviews: www.dipf.de/en/projects or brief descriptions of the online portals: https://www.dipf.de/en/knowledge-resources/education-portals

area. Dialogue forums will be held and the state of research on digital learning will be presented in dossiers that are made accessible to the public. The project moreover addresses a research method that can be used in various ways. The project DATAFIED – Data for and in Education" (coordinated by the Institute for Information Management Bremen) will in this context assess the influence and effects of progressive digitisation and associated data assessment in the school education system.

3. Persons

In the past two years, many awards and appointments once more demonstrated that DIPF offers very good conditions for researchers to deliver excellent work. Moreover, DIPF was successful in gaining important experts for relevant positions. But there was also sad news:

3.1 Obituary: Dr Jean-Paul Reeff

In May 2018, Dr Jean-Paul Reeff (see photograph) died suddenly and unexpectedly. Since 2006, he had chaired the DIPF service unit "International Cooperation in Education". The staff are sad to have lost a colleague who was highly recognised worldwide. Dr Reeff contributed significantly to national and international networking of the institute with regard to educational policy and administration, even at the level of supranational organisations – for example with regard to the "Programme for International Student Assessment" (PISA).



The trained psychologist and computer scientist was a leader in conceptualizing the Centre for Technology Based Assessment (TBA) at DIPF. Educational researchers were inspired by him particularly with respect to large-scale assessment and the implementation of technology in educa-

tion. His role as an advisor was appreciated by researchers and administrators alike. The board of directors and the staff will remember him as a warm-hearted person who was always ready to share his ideas and advance the development of employees. His competence and worldliness, initiative and visionary thinking were valued by DIPF and many persons and institutions elsewhere.

3.2 Awards for DIPF Employees and Works

Professor Dr Garvin Brod received the Otto Hahn Medal in June 2017 for his doctoral thesis. The Max Planck Society thereby awards excellent achievement of young scientists. Brod wrote his thesis in the context of his prior position at the Max Planck Institute for Human Development, focusing on precursor knowledge effects on memory in a comparison of ages.

In September 2017, Professor Dr em. Lutz Eckensberger, former Director of DIPF and of the Department for Education and Culture, received an award that is biennially tendered by the Society for Cultural Research: the Ernst Eduard Boesch Prize. This award acknowledges achievements in scientific cultural psychology and Eckensberger was chosen for his entire work.

Naemi Brandt took a leading position in designing the poster "Persönlichkeitsmessungen über die Lebensspanne: Die Vergleichbarkeit psychometrischer Eigenschaften des BFI-S bei 11- bis 84-Jährigen" (Measuring Personality Across the Lifespan), which was awarded the Hogrefe Poster Prize for Psychological Diagnostics. She was handed the award in September 2017 at the annual conference for differential psychology, personality psychology and psychological assessment in the German Society for Psychology.

At the annual conference of the Berlin Interdisciplinary Education Research Network in November 2017, the award for the best poster was handed to Cornelius Brandmiller from DIPF. He presented his research on



"Do Audience Response Systems help in university lectures? Toward an interactive lecture".

An international team developed the educational online game "Bertuchs Bilderspiel" which received an award for the best design at the Coding da Vinci contest in December 2017. The application is based on a dataset provided by the *BBF*, the digitised textbook "Bilderbuch für Kinder" by Friedrich Justin Bertuch, which was written between 1790 and 1830.

In April 2018, the Open Education Consortium awarded the Open Education Awards for Excellence, where the information unit OERinfo, coordinated at DIPF, received an Honourable Mention in the category "Open Repository". OERinfo provides comprehensive information to the public and the expert community regarding "Open Education Resources" (OER).

Several researchers from the Open University of the Netherlands and Dr Jan Schneider from DIPF had collaborated in a project which in May 2018 won the International Student Design Contest at the 3rd International Conference on Smart Learning Ecosystem and Regional Development. The work was about "Augmentation of practice with expert performance data: Presenting a calligraphy use case".

3.3 Appointments, Habilitations and Important Changes

Dr Karin Zimmer was appointed to a professorship for Empirical Educational Research at the University of Vechta in January 2017, focusing on school education. She took on the professorship in November 2017. A long-term colleague at DIPF, she had initially coordinated the National Report on Education and then the Leibniz Educational Research Network (LERN).

Dr Olga Kunina-Habenicht was offered a junior professorship for Educational Science Research Methods at the Pedagogical University Karlsruhe in March 2017, where she began working in September 2017. She had previously been an academic staff member at the Department for *Educational Quality and Evaluation* where she worked in the Centre for Technology Based Assessment (TBA).

In April 2017, Dr Heiko Rölke took on a new position as Data Science lecturer at the University for Technology and Economics Chur. For ten years, he had worked in the Information Centre for Education as a software architect and member of the management team at the TBA Centre.

Dr Anna-Katharina Praetorius was appointed a professorship in Education Science Focusing on Pedagogical-Psychological Research on Teaching, Learning and Instruction at the University of Zurich in May 2017, taking on this post in February 2018. In June 2017, she finished her habilitation in psychology at Goethe University. At DIPF, she had been an academic staff member at the Department for *Educational Quality and Evaluation* and a principal member in the team responsible for running the international video study "Teaching and Learning International Survey" (TALIS-Video) and the follow-up TALIS video study for Germany.

Dr Jan Lonnemann was offered a professorship on Empirical Childhood Research in June 2017, at the University of Potsdam, which he took on as of October 2017. He had previously spent several years working in the Department for *Education and Human Development*, where he was part of the management team of the Center "Individual Development and Adaptive Education of Children at Risk" (IDeA). In October 2018, Jan Lonnemann has successfully finished his habilitation in psychology, at Goethe University.

In November 2017, Dr Susanne Kuger (see photograph) completed her habilitation at the University of Bamberg. She received the right to lecture in empirical educational research and in education science. In the same month, she rejected an offer for a professorship in School and Instructional Science at Technical University Munich. In April 2018, she took on a position at the German Youth Institute, where she is now the head of the Department of Social Monitoring and Methodology. She had until then been an academic staff member at the Department for Educational Quality and Evaluation. In this position, she had amongst other activities devised and analysed questionnaires on conditions of learning



for the "Programme for International Student Assessment" (PISA) 2015.

Professor Dr Ulrich Wiegmann retired in late 2017. As an educational historian, he had been a long-term member of staff, most recently in the *Research Library for the History of Education*. Since 2010 he had held an associate professorship at Humboldt University in Berlin. Wiegmann focused his research on education in the period of National Socialism and in the GDR as well as the relationship between the education system and state security authorities in the GDR.

Since September 2018, Dr Markus Sauerwein has held a part-time standin professorship for Theories and Methods of Social Work at the Fliedner University of Applied Sciences Düsseldorf. He is an academic staff member at the Department for *Educational Quality and Evaluation* where he works on the "Study on the Development of All-Day Schools".

From October 2018 until February 2019, Dr Hanna Dumont held a stand-in professorship for Educational Effectiveness at the Hector Research Institute of Education Sciences and Psychology at the Eberhard Karls University of Tübingen. She is an academic staff member at the Department for *Educational Governance*, where she chairs diverse projects in the area of dealing with heterogeneity.

From October 2018 until March 2019, Dr Jan-Henning Ehm held a stand-in professorship for Developmental Psychology at the Pedagogical University Freiburg. He is an academic staff member at the Department for *Education and Human Development*. Here, he is involved in different projects focusing on successful learning.

3.4 Important Changes at DIPF

During the period of reporting, there were some changes to the members of the Foundation Council and the Scientific Advisory Board at DIPF.



Professor Dr Dr h. c. Manfred Prenzel (see photograph) became chair of the DIPF Foundation Council in June 2017. He is Professor for Empirical Educational Research at the University of Vienna and head of its Centre for Teacher Education, having previously held the Susanne Klatten Endowed Chair for Empirical Educational Research at the Technical University of Munich (TUM). He had earlier been dean at the TUM

School of Education and chair of the German Council of Science and Humanities. He focuses on educational monitoring, international student achievement, instructional research, professionalisation and quality development in education, as well as extracurricular learning environments. In May 2017, Professor Dr E. Jürgen Zöllner, member of the Board of the Charité Foundation, left the DIPF Foundation Council, which he had chaired.

Professor Dr Peter Drewek (see photograph) became chair of the Scientific Advisory Board at DIPF in September 2018, having already been a board member. From 2010 until 2015, he was the founding dean at the Professional School of Education and Professor for Education Science at Ruhr University Bochum. Earlier, he had held professorships for Education Science and Educational Research at Freie Universität Berlin and Mann-



heim University. His work focuses on the history of education, general and comparative educational research and teacher education. In September 2018, Professor Dr Tina Hascher, Professor for School and Instructional Research at the University of Bern, joined the Scientific Advisory Board. She studies emotions and motivation in school and instruction, learning at school, well-being and the promotion of health at school, and teacher education. Two members have left the Scientific Advisory Board: Professor Dr Dr h. c. mult. Ingrid Gogolin left in August 2018. Gogolin is Professor for Intercultural and International Comparative Education Science at the University of Hamburg. She had chaired the DIPF Advisory Board. In December 2018, Professor Dr C. Katharina Spieß left the Board, who is the Director of the Department for Education and Family at the German Institute for Economic Research. She also holds a professorship for Family and Education Economics at Freie Universität Berlin.



In January 2017, Dr Jeanette Ziehm (see photograph) became head of the coordination unit for the interdisciplinary research centre "Individual Development and Adaptive Education of Children at Risk" (IDEA). DIPF, Goethe University Frankfurt and the Sigmund Freud Institute collaborate at IDEA in researching learning developments of children and possibilities of support-

ing children with educationally relevant risks. Dr Ziehm had previously worked in the Division for Health Services Research and Rehabilitation Research at the Medical Center Freiburg. Ziehm holds a doctorate in psychology. Her predecessor at IDeA, Dr Ulrike Hartmann, had been a founding member of the research center. She now works as an academic staff member at the Institute for Educational Research at the University of Wuppertal.



In June 2017, Professor Dr Hendrik
Drachsler (see photograph) became
Professor for Computer Science with
a Focus on Educational Technologies
at DIPF and Goethe University. He had
previously worked in the Netherlands,
as a Professor for Technology-Enhanced Learning, at Zuyd University,
as well as being Associate Professor
for Learning Analytics at the Open

University of the Netherlands. Drachsler holds a doctoral degree in computer science, and he was principal investigator regarding several Dutch and EU-wide projects. He focuses his research on new educational technologies. A priority area is trusted learning analytics, i.e. the assessment of data from educational processes which allows insights into the

education system and individual teaching and learning processes, which potentially serve to customize personalized learning arrangements. At DIPF, the professorship is allocated to the *Information Center for Education* and tied to the Centre for Technology Based Assessment (TBA). At the University, the professorship is part of the Faculty of Computer Science and Mathematics. DIPF and the University have thus expanded their long-standing cooperation.

Dr Garvin Brod (see photograph) became Professor for Psychology with a Focus on Individual Intervention at DIPF and the Goethe University in January 2018. The assistant professorship is assigned to the IDEA Center. Professor Brod researches opportunities for teachers to assess individual student learning prerequisites, to provide individual support. In this



regard, he also takes new technical developments into account. Garvin Brod began his scientific career as a staff member in the Department for Developmental Psychology at the Max Planck Institute for Human Development in Berlin. He most recently chaired the learning intervention lab at the IDeA Center. At DIPF, Brod belongs to the Department for *Education and Human Development*, while at the University his professorship is situated at the Faculty for Psychology.

To find out more about the DIPF staff, visit www.dipf.de/en/staff

4. Networking

4.1 Cooperations

Nationally and internationally, DIPF runs and develops research and infrastructure activities in diverse cooperation contexts - in alliances, projects, institutionalised partnerships and in the context of permanent tasks. In Germany, the leading role DIPF holds in the fields of research and information in education is also evident from its dense network of cooperations. This incorporates long-term links with universities, i. e. the University of Applied Sciences in Darmstadt, Humboldt-University Berlin, University of Hildesheim and Goethe University Frankfurt, the latter being the most relevant partner in this area. The institute also experiences diverse cooperations in two of the Leibniz Research Alliances, Science 2.0 and the Leibniz Educational Research Network (LERN). The latter unites more than 20 institutes that focus on matters of education, coordinated by DIPF. The institute has moreover taken on a leading and coordinating role regarding many long-term cooperation projects. This concerns the National Educational Report, the Study on the Development of All-Day Schools, the Educational Research Data Alliance, and services that are permanently delivered by DIPF - the German Education Server and the German Education Portal. Two examples serve to illustrate what has been achieved in this regard. DIPF and several other institutions have linked to offer the central information point regarding Open Educational Resources (OER): OERinfo. OER are an important element in the progress toward improvements of teaching and learning via digitisation. The following partners are involved in OERinfo: Federal Institute for Vocational Education and Training, German Institute for Adult Education - Leibniz Centre for Lifelong Learning, FWU - Media Institute of the Federal States, the University Library Centre NRW, the agency "Jöran und Konsorten", and the Learning Lab at the University of Duisburg-Essen. Another example illustrating networking activities concerns the interdisciplinary research centre "Individual Development and Adaptive Education of Children at



Risk" (IDeA). Here, researchers from DIPF, Goethe University and Sigmund Freud Institute jointly investigate children's developmental processes in the first twelve years of life, and intervention approaches paying particular attention to children at risk of individual failure to achieve in education. The IDeA infrastructure has meanwhile been institutionalised at DIPF.

The institute's profile has always been characterised by networking at an international level. DIPF fosters a dialogue across countries, provides incentives to the German community of researchers, and contributes to an international comparison of education systems. DIPF participates in far-reaching projects run by supranational organisations such as the Organisation for Economic Co-operation and Development (OECD) or the United Nations Educational, Scientific and Cultural Organization (UNESCO). One example in this respect is the video study of the Teaching and Learning International Survey (TALIS-Video) of the OECD. The study focuses on the effectiveness of math instruction in different countries. It is managed by a consortium of staff from the US organisations "Educational Testing Service" (ETS) and "RAND", and the DIPF. The Centre for Technology Based Assess-

ment (TBA) at DIPF also collaborates with many international organisations. The TBA Centre develops and researches innovative, computer-assisted software tools by which learning outcomes can be assessed, and offers these tools as a service. Currently, they are for instance implemented in the Programme for the International Assessment of Adult Competencies

Software tools to assess learning outcomes 66



(PIAAC) of the OECD. Partners of the TBA Centre include the Luxembourg Institute of Science and Technology, the Belgian company "cApStAn linguistic quality control", and the University of Szeged in Hungary. DIPF supports international associations and networks, for example by acting as a coordinator for the Library and Information Science Network of the European Educational Research Association. Not least, DIPF operates the service unit "International Cooperation in Education" to offer advice to German educational researchers regarding internationalisation.

To find out more about the co-operations of DIPF, visit www.dipf.de/en/networks/research-cooperations

4.2 Transfer

Based on its educational research and infrastructure services. DIPF aims to generate knowledge of education for society and make it effective. Subject to the term "transfer", the institute does not only seek an exchange with scientists but also with practitioners, policy-makers, administrators and the general public. Activities pertain to three categories:

The institute provides (1) information and products for special interest groups. This concerns manuals for child day-care centres and schools, online dossiers and exhibitions that are open to the public, articles in journals for practice and administration, as well as digitally processed research findings and publications. DIPF moreover develops diagnostic tools for educational practice. The portfolio of products also extends to systematic reviews which present an application-oriented preparation of scientific findings. In the period of reporting, a review was compiled on early language intervention. DIPF offers (2) evaluations, advice and training, i. e. commissioned studies, scientific monitoring of educational reforms, expertise and position papers in expert committees. Transfer also pertains to monitoring services such as the National Report on Education, which is regularly compiled and coordinated at DIPF to present a systematic account of the entire education system. The institute likewise transfers knowledge via workshops, further education and talks. DIPF (3) interacts with target groups in many different ways. DIPF does not only convey expertise but also endorses a reciprocal dialogue with all relevant groups in society. For example, DIPF thus collaborates with networks that are



relevant to practice and organises forums for exchange. Feedback from boards of users and from studies on practice needs is fed into further developments of its infrastructures. Some individual projects also collaborate closely with politics, practice and administration. For example, the institute supports the Swiss Conference of Cantonal Ministers of Education in assessing basic student competencies.

To support the process of transfer, an institution-wide transfer working group was established in the period of reporting. In 2017, the group launched an internal call for innovative transfer projects.

4.3 Visits and Guests

DIPF employees are offered opportunities to spend time abroad to research and work at other institutions, in order to improve exchange with colleagues from other science and research institutions. 22 such visits were recorded in the past two years. In many cases, the staff travelled to the USA. For example, DIPF staff members spent several weeks or



even months at the University of California, Berkeley, Stanford University and Columbia University. DIPF staff members also visited the Centre for Educational Measurement in Oslo, Norway, the Université du Luxembourg, the École normale supérieur in Lyon, France, and the University of Cambridge, United Kingdom. At the same time, DIPF has repeatedly welcomed renowned experts from abroad. In the period of reporting, international guests came 69 times for talks, research visits or expert discussions. Two examples: Professor Dr Catherine Snow from the Harvard Graduate School of Education in the USA spent one month at DIPF in 2018. She is knowledgeable in language, reading and spelling development of children. Professor Dr Dominique Lafontaine from the University of Liege in Belgium and the respective research centre "Service d'analyse des systèmes et des pratiques d'enseignement" (aSPe) is an associated scientist who is continually in contact with DIPF researchers. She visited the institute several times during the period of reporting to exchange on context questionnaires and reading competencies concerning the PISA study.

4.4 Events

DIPF regularly organises events which also serve as platforms for networking. 179 science events were held in the past two years. In March 2017, together with Humboldt University Berlin and the Higher Education Alliance for Information Science, DIPF organised the International Symposium for Information Science in Berlin – with more than 200 participants from 14 countries. In September 2018 DIPF and Goethe University organised the 51st conference of the German Society for Psychology which sparked particularly high attention, visited by around 2,500 researchers from across the world. This event presented more than 2,300 contributions which focused on the relevance of scientific psychology for coping with individual and societal challenges, with some of the "Hot Topics" looking at "Fake News and Dealing with Evidence" or "Heterogeneity in Learning Contexts". The DIPF service unit "ice" regularly organises events for exchange among researchers at the annual conference of the Amer-

ican Educational Research Association. In 2017, an ice forum focused on the interplay of education and societal challenges, and in 2018 a panel discussion and seminar looked at perspectives of public education. Each year, several partners collaborate in organising the Frankfurt Forum – which familiarises pedagogical practitioners with empirical research. In 2017, the Forum focused on recognising and fostering gifted children, and the Forum in 2018 was dedicated to readiness for school. The Educational Political Forum which is annually held in Berlin serves the purpose of fostering dialogue with politicians and administrators. DIPF coordinates the Leibniz Educational Research Network (LERN), which organises the Forum together with partners from the network. In 2017 the programme concentrated on digital education opportunities, and in 2018 on early childhood education.

The Research Library for the History of Education (BBF) at DIPF in Berlin does not only offer a workspace for researchers, but it is moreover a centre for a community of experts as well as being a part of this community. The research library thus takes a great interest in organising conferences



and workshops. These events provide a setting for discussing new insights into the history of education - also deriving from research at the BBF. At the same time, the scientific infrastructures provided by the BBF are presented to the community - for example important stocks of sources. In the period of reporting, for example, the library hosted an international workshop in October 2017, which was organised in collaboration with the Humboldt University Berlin and the Pedagogical University of North-West Switzerland. This workshop was entitled "Student selection, evaluation and tests 1880-1940" and looked at monitoring, comparison and selection mechanisms in state education systems at the specified time. In August 2018, the BBF and the National Museum of Education in the Netherlands jointly hosted a precursor workshop to the annual conference of the "International Standing Conference for the History of Education" in Berlin, which the library in parts also organised. Under the title "Picture Archives and the Emergence of Visual History of Education" the workshop highlighted the issue how image sources and image archives can be used for a visual history of education, and which requirements from researchers they must meet. Because of its relevance for exchange with the interested public, it is also important to report that the BBF also takes part in the annual Science Night in Berlin - offering join-in activities, information services and talks.

5. Promoting Young Scientists

DIPF is dedicated to promoting young scientists and researchers. In the period of reporting, 34 doctoral students who were internally or externally supervised by DIPF researchers graduated successfully.

DIPF offers an internal interdisciplinary programme to the doctoral students to ensure optimal conditions for working on a doctoral thesis: PhDIPF. The doctoral students will thus find room for cooperations and

exchange. The programme supports them in planning their publications and developing their own profile. A central element is the annual academy held in English, where the participants can present and discuss their

34 doctoral students graduated successfully

ideas with national and international experts, as well as seminars and trainings. Altogether, DIPF does not merely offer a systematic and individual supervision to the doctoral students, but it also encourages them to participate in conferences and plan research stays abroad.

Further activities concerning the promotion of young researchers:

- The Research Library for the History of Education awards short-term scholarships to doctoral students and post-docs in the field of educational history, for research at the DIPF department in Berlin. In the period of reporting, nine such scholarships were awarded.
- Moreover, DIPF is co-organiser of the College for Interdisciplinary Educational Research (CIDER), which is run by several Leibniz institutes.
 CIDER receives funding from the BMBF and the Jacobs Foundation and it targets post-docs. Experienced researchers support the scientists in developing their projects. Workshops that are run at regular intervals enable the participants to exchange their ideas and experiences
- DIPF coordinates the research centre "Individual Development and Adaptive Education of Children at Risk" (IDeA) which runs a mentoring programme to support young scientists, organises workshops and offers financial and organisational support in the case of acquiring external funding and going abroad.



- The institute is a member of the Berlin Interdisciplinary Education Research Network, which is also funded by the BMBF. The initiative provides a meeting ground for young scientists working at educational research institutions in Berlin.
- DIPF cooperates with the GRADE Center Education at Goethe University to organise special interest groups, workshops, talks, and conferences for doctoral students and post-docs.
- The service unit "International Cooperation in Education ice" at DIPF runs English training workshops for young scientists.

To find out more about DIPF promoting young academics, visit www.dipf.de/en/institute/careers/promoting-young-academics

DIPF is moreover engaged in initial and continuing vocational education and training. DIPF trains information assistants (FaMI). Moreover, DIPF offers a post-graduate training for information specialists (WissDok). In the past two years, two FaMI apprentices completed their education.

6. Human Resource Development, Balancing of Work and Life and Equal Opportunities

DIPF supports and fosters employees in a systematic way, for example by offering further and continuing training. Moreover, DIPF is continually working on an improvement of principles of human resource development. Good conditions for balancing work and life demands are regarded as a key factor of successful work. The certificate "audit berufundfamilie" marks engagement at DIPF in this regard. The institute was re-certified for the second time in spring 2017. Attention is now focused on the further development of leadership awareness of family needs – for example by offering respective training measures. Moreover, DIPF intends to establish a discourse on the alignment of work and family life at the leadership level, starting with a first workshop in September 2018. Health management also plays a central role, and DIPF publishes a health newsletter to inform employees. In November 2017, a health-oriented action day was organised at both locations – this time focusing on relaxation.

The institute is committed to the responsibility to improve equal opportunities for women and men. In this regard, further training measures and seminars on the support of women are important, as are the work of the equal opportunities officers and the equal opportunities plan. In 2017 and 2018, the proportion of women in nearly all salary groups was 50 percent or above. However, only two professorships, a W1 professorship and a W3 professorship, were held by a woman – corresponding to 20 percent. Women are also underrepresented with respect to leading positions in

administration. DIPF has identified a particular need to act in these areas, and will continue to seek measures to increase the proportion of women in this field in future recruitment procedures.

7. Outlook

7.1 Challenges to Education System and Central Topics at DIPF

DIPF will continue to provide research, infrastructures and knowledge transfer in order to overcome challenges in education, facilitate access to education, and improve the quality of education. In many cases, scientific work at DIPF focuses on professional actions of pedagogues, their dealing with different learning prerequisites and the correlation between instructional variables and learning processes. The institute moreover takes consequences of systemic and demographic changes into perspective as well as migration and social segregation. In summary, across the departments



a particular focus will be placed on the topics of professionality, individual intervention and effects of educational reforms.

Not only regarding digital change, we can moreover assume educational trajectories and opportunities to become increasingly more individual. Flexible transitions between different areas of education are thus required. There is also a high need for alignment regarding formal, non-formal and informal education. Educational policy-makers and administrators have reacted to the situation by adapting governance models. They present pedagogical and structural innovations, shift responsibility to actors in educational institutions, and provide for outcome-oriented monitoring. All the developments should optimally be grounded in systematic knowledge. This means challenges which DIPF responds to by focusing activities on five institution-wide strategic priorities. The first three strategic priorities have already been implemented, while the latter two have been added owing to their potential power.

7.2 Strategic Priorities: Continuing Work on Proven Activities

Assessment: It is important to reliably assess learning outcomes and prerequisites. Assessments are a basis of empirical studies but they can also be used for educational monitoring, evaluation of learning environments, and individual interventions in educational practice. DIPF will thus continue its traditional work in the area of pedagogical-psychological assessment, and develop and research innovative test procedures and psychometric methods. This pertains to questionnaires and technical solutions developed and implemented by the interdisciplinary Centre for Technology Based Assessment (TBA). Assessment procedures developed at DIPF can measure learning outcomes in school, vocational and university education, learning conditions such as working memory capacity and learning environment. They are also intended to support the learning process by enabling targeted feedback. Technical innovations comprehend automated assessments and online assessments in everyday life.



Educational monitoring: The institute will continue to play an important role in educational monitoring, thus contributing to a continual data-based inspection and analysis of the education system. The scope spans individual educational biographical processes, institutional settings and societal framework conditions. The National Report on Education is central to monitoring in Germany. Since the beginning, DIPF has been in charge of coordinating and developing this report which regularly presents a systematic account of the entire education system. DIPF also coordinates monitoring with regard to the Study on the Development of All-Day Schools and international large-scale Assessments. DIPF moreover is engaged in developing new monitoring concepts, instruments and formats, and networking within and outside.

Research data for education science: DIPF offers high-quality data services and librarian as well as archival stock, thus an infrastructure that can be used for efficient and quality-assured educational research. The institute is developing its data service for supporting digital research processes and Open Science into a national infrastructure node and will

apply for respective funding from the Leibniz Association. DIPF coordinates the Educational Research Data Alliance which has already become a hub for educational researchers to provide the diverse data in the field for open scientific re-usage. An extension of the respective network of relevant research data centre partners is projected. The institute will moreover participate in setting up a National Research Data Infrastructure and further develop the Educational Research Data Centre established at DIPF. The latter is a central part of the Educational Research Data Alliance and makes available qualitative data from research on school quality and instruction as well as quantitative assessment instruments from questionnaires and assessments of competencies. DIPF will also be more committed to supporting educational researchers in implementing digital technologies and data for the humanities and cultural science (eHumanities). Such perspectives are, for example, opened by digitised texts and images from BBF stock. DIPF moreover develops and tests technologies for collaborative research processes.

7.3 Strategic Priorities: Initiating Innovations

Systematic Reviews: Stakeholders in educational policy, educational administration and educational practice increasingly wish to base their decisions on empirical findings. To address this need, DIPF will continue working on systematic reviews. These overviews present a structured, application-oriented and significant thematic account of existing scientific knowledge that is available in many disciplines. The institute is mean-

To base decisions on empirical findings



while highly competent in this area, for example due to networking with national and international partners and the compilation of such a review on early language intervention. DIPF moreover possesses a large body of experience in working on aspects that are relevant to politics and practice, coordinating complex projects and linking knowledge from educational research and information. The institute thus intends to become established as a focal point in the area of systematic reviews in Germany.

Implementation research: DIPF intends to focus more intensively on researching in how far scientifically validated educational measures can successfully be integrated into everyday life at schools and child day-care institutions, and how far educational innovations can be established in practice. The institute is already active in different ways at the intersection of research, politics and practice in the field of education by scientifically monitoring reform processes and model projects. DIPF uses its method and concept knowledge and its infrastructures to transfer findings from science to pedagogical practice. A focus is placed on the question how the measures affect student achievement, instructional quality and transition decisions. DIPF now additionally takes factors into a systematic perspective that might support an efficient successful implementation of the innovative concepts and reforms. It is thus necessary to consider different logics and time horizons of participants and engage intensively with politics and practice.

To find out more about the institute, visit www.dipf.de/en or follow our Twitter account @DIPF en

2017 and 2018: **Facts and Figures**

201 publications in peer-reviewed **journals**



179 organised events

national

130 🛊 49 🚱 international

national

240 international 192



45 徽

38



counsellings of policymakers

counsellings of practitioners

109 Scientific advices

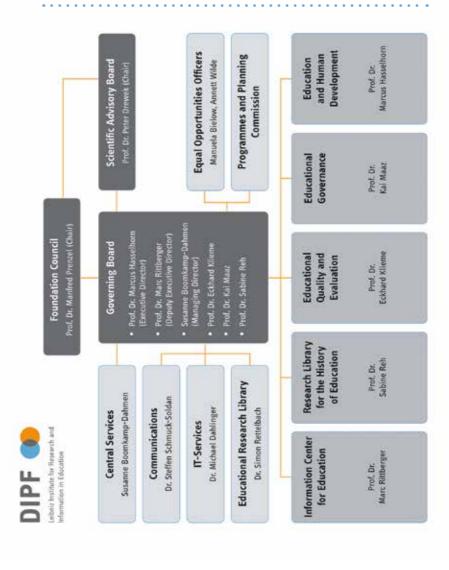
34 supervised completed doctoral projects

38,198,019
online visits
(robot-cleared sessions)



databases,
information systems
& portals
(as of end 2018)

Organization Chart



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