Responsible Bodies

Early childhood education and care

Unlike the school sector, in pre-school education responsibility for the quality of a day-care centre for children lies with the maintaining body for that centre, which undertakes the Fachaufsicht (academic supervision of teaching and education activity) and the Dienstaufsicht (supervision of educational staff and head teachers) for its employees.

The maintaining bodies of day-care centres for children are obliged to explain how quality assurance and development are guaranteed in their concept. A number of methods are used in practice. A method of quality monitoring that is binding for the whole Land only exists at present in Berlin. This stipulates an annual internal evaluation as well as external evaluations every five years by certified agencies.

The youth welfare offices (Jugendämter) have the task of supporting the private-sector maintaining bodies (as well as regularly self-employed child-minders) through appropriate measures in exercising their promotional mission. This is less a matter of control, and more a matter of specialist support, for instance through practical or specialist advice, which have an important role in this context. Thus support on concept and team development issues and organisational development specific to the establishment, inter alia, count among the tasks of specialist support.

Within the scope of the needs-based and quality-oriented expansion of day care for children, the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth [1] (Bundesministerium für Familien, Senioren, Frauen und Jugend – BMFSFJ) is financing various programmes for the further development of quality in day care for children. Since 2018, the BMFSFJ and the German Children and Youth Foundation (Deutsche Kinder- und Jugendstiftung) have awarded the German Kita Prize for special commitment to child day care.

The Federal Ministry of Education and Research [2] (Bundesministerium für Bildung und Forschung – BMBF) has been supporting the professionalisation of elementary education as the basis of the education system and the further development of educational quality in day-care facilities since 2008 with the Further Training Initiative for Early Childhood Education Ex-perts (Weiterbildungsinitiative Frühpädagogische Fachkräfte – WiFF). Since 2014, the „Expert barometer for early childhood education“ (’Fachkräftebarometer Frühe Bildung’) has provided information on personnel, the labour market, the employment situation and the qualification of nursery staff over time.

In the Länder, there are manifold measures to ensure and develop the quality of day-care centres and day care for children. The Federal Government’s quality assurance initiative is being accompanied by the Working Party of the Highest Youth and Family Authorities of the Länder (Arbeitsgemeinschaft der

**Primary and secondary education**

School supervisory authorities exercise *Fachaufsicht* (academic supervision), *Rechtsaufsicht* (legal supervision) and *Dienstaufsicht* (staff supervision) within the school system. Special educational support and academic evaluation is provided in school pilot projects carried out by the school supervisory authorities and the institutes for school development (*Landesinstitute für Schulentwicklung*) of the Länder. Accompanying research examines the effectiveness of the reform measures and the framework that should be created if they are to be successfully implemented. The introduction of new curricula is often preceded by a test phase. In some Länder, for example, teachers are surveyed in order to establish whether the new guidelines have proved successful or require amendment.

By providing advice and assistance and recommending changes in schools and by reporting to higher-ranking education authorities, the school supervisory authorities and institutes for school development are to make a contribution to the evaluation and further development of the school system.

In almost all Länder, schools are evaluated by external quality or evaluation agencies and inspection procedures. In the Länder where there are legal provisions for external evaluation, as a rule, responsibility lies with the school supervisory authorities. In several Länder, responsibility lies with the institutes for school development.

The vocational training committees and the Land committees shall, within the framework of their duties, work towards a continuous improvement of the quality of vocational training.

In June 2004 the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder [4] set up the Institute for Educational Quality Improvement [5] (*Institut zur Qualitätsentwicklung im Bildungswesen* – IQB) at the Humboldt University in Berlin. Since then, the IQB has been entrusted with the supervision of the operationalisation of the educational standards, the coordination of the development of corresponding standard-oriented tasks and the review of their achievement. The so-called IQB Educational Trends study (formerly: IQB Länder Comparison Study) check the extent to which the competence requirements set out in the educational standards have been achieved on primary level and lower secondary level in the individual Länder before completion of the relevant educational stage. This makes a key contribution to the implementation of the Standing Conference’s comprehensive strategy for educational monitoring. More detailed information on the educational standards and the comprehensive strategy of the Standing Conference for educational monitoring can be found in the description of measures for quality assurance in the school sector below.

As part of the joint task “assessment of the performance of the German educational system in international comparison” in October 2010 the Standing Conference and the BMBF set up the Centre for International Large Scale Assessment [6] (*Zentrum für Internationale Bildungsvergleichsstudien* – ZIB). A network formed by the Technical University of Munich (TUM), the Leibniz Institute for Educational Research and Educational Information [7] (*Deutsches Institut für Internationale Pädagogische Forschung* – DIPF), and the DIPF | Leibniz Institute for Research and Information in Education [8] (DIPF | Leibniz Institut für Bildungsforschung und Bildungsinformation), the ZIB is responsible for implementing PISA studies in Germany, including drafting national reports. Other tasks of the ZIB are ensuring and coordinating continuous participation in international academic committees on educational comparative studies, research and the promotion of up-and-coming
academics in the field of empirical educational research and the preparation of syntheses that bring together research work and process these for education administration and practice. In addition, the data records from national and international school performance studies are archived and documented as well as provided for re- and secondary analysis in the Research Data Centre (Forschungsdatenzentrum – FDZ) at the IBQ.

In general, it is to contribute to securing the educational monitoring in an international comparison which is jointly funded by the Federation and the Länder, and to increasing the extent and presence of German educational research in the context of international educational comparative studies, and to provide the results of research within the scope of the range of tasks.

**Approaches and methods for quality assurance**

**Early childhood education and care**

On 1 January 2019, the law on the further development of quality and participation in child day care, the so-called Good Daycare Facilities Act (Gute-KiTa-Gesetz), came into force. With this law, the Federation will support the Länder until 2022 with a total of around Euro 5.5 billion in measures to further develop the quality of child day care and to relieve parents of their fees.

Measures are possible in ten fields of action, for example to create a needs-based offer, a good skilled worker-child key, to recruit and secure qualified skilled workers or to strengthen the management of child day care facilities. In addition to measures to further develop quality, participation can also be improved by reducing parents' fees. The Federation and the Länder conclude individual agreements which specify the action and financing concepts with which they intend to promote quality improvement and improved participation in child day care.

The legislative project was preceded by a dialogue process lasting several years. In November 2016, the BMFSFJ and JFMK presented the interim report "Further development of early education and ensuring its funding" ('Frühe Bildung weiterentwickeln und Finanzierung sicherstellen') which for the first time specified joint goal and development prospects for quality assurance. The interim report provided a framework for the development of quality in day care for children at all levels, estimated the costs of various quality assurance measures and illustrated concrete implementation routes for an involvement of the Federation. On this basis, in May 2017 the JFMK resolved common key points for the continued development of quality in day care for children and for further action on the part of the Federation, Länder and local authorities.

Furthermore, the BMFSFJ supports the development of quality in day care for children with several federal programmes.

The BMFSFJ’s Skilled Labour Initiative for Staff in Early Childhood Education and Care (Fachkräfteoffensive für Erzieherinnen und Erzieher) for the 2019/2020 training year is helping the Länder to attract more young people to the profession of child-care worker, to ensure good training practice and to open up opportunities for the professional development of experienced specialists. The following three measures are at the heart of the skilled labour initiative and are designed to make the profession more attractive:

- Additional remunerated, practice-integrated training for prospective child-care workers.
- Good practice guidance by subsidising the costs of qualifying as a skilled worker up to a maximum of Euro 1,000 each for the practice guidance and professional support of the students at Fachschulen.
- Specialists who carry out special activities in their institution can receive a promotion bonus of a
maximum of Euro 300.

The BMFSFJ is supporting low-threshold offers that prepare and support access to child day care with the federal programme Getting Started with Kita: Building Bridges in Early Education (Kita-Einstieg: Brücken bauen in frühe Bildung). At around 150 locations, initial insights are given into the system of child day care and families are informed about the possibilities of early education in Germany. In return, the locations will receive funding from 2017 to 2020 for a coordination and network office, skilled workers for implementing the offers and additional project funds.

Since the beginning of 2016, the BMFSFJ has been supporting families with the federal programme KitaPlus: Because Good Care Is Not a Question of the Time of Day (KitaPlus: Weil gute Betreuung keine Frage der Uhrzeit ist). This programme aims to create additional care offers in after-school and day-care facilities for children as well as in child-minding services that are tailored to the needs of the family from the very beginning of care through to the after-school care centre. The programme is aimed above all at parents, in particular single parents and shift workers, women returning to work, the self-employed and professional groups whose working hours are in the early hours of the morning and late hours of the evening, at weekends or on bank holidays. In principle, it should be easier for parents to return to or start work. The Federation provided a total of Euro 100 million for the programme between 2016 and the end of 2018. For the year 2019 a continuation of the promotion with the aim of the stabilization of the projects is guaranteed. In order to be able to achieve a sustainable anchoring of the extension of the opening hours for a demand-oriented child day care service beyond the end of the funding period in 2018, the KitaPlus federal programme has also been funding "KitaPlus network centres" with local public child and youth welfare organisations since the beginning of 2017. These network centres should enter into cooperation with associations, federations and players in the world of work, plan and implement new municipal strategies and support municipal child and youth welfare planning.

With the federal programme ProChildminding: Where Education for the Smallest Starts (ProKindertagespflege: Wo Bildung für die Kleinsten beginnt), the BMFSFJ supports the further development of childminding services from 2019 to 2021. Under the slogan “Qualified Acting and Caring”, the programme focuses on three areas:

- More qualification of child day care staff.
- Better working conditions by, among other things, developing practical replacement arrangements for sick leave and holidays.
- Good cooperation, by financing a coordination office at the respective youth welfare offices which is dedicated to networking and advising child day care workers.

A total of 48 projects in 14 Länder will receive funding of up to Euro 450,000 each. The funding total for the programme amounts to Euro 22.5 million.

The federal programme ProChildminding thus ties in with the federal programme Child Day Care: Because the Smallest Ones Need Closeness (Kindertagespflege: Weil die Kleinsten große Nähe brauchen) (2016-2018), which from 2016 to 2018 promoted the qualification of child minders according to the competence-oriented Qualification Manual Day Care for Children Kindertagespflege (Qualifizierungshandbuch Kindertagespflege – QHB) as well as innovative strategies for improving the framework conditions in child day care.

The further training initiative for early childhood teaching professionals (Weiterbildungsinitiative Frühpädagogische Fachkräfte – WiFF), launched by the BMBF in conjunction with the Robert Bosch Foundation [9] (Robert Bosch Stiftung), and implemented in collaboration with the DJI, aims to strengthen elementary education as the basis of the education system. The three partners advocate
establishing greater transparency in the early childhood further training system in Germany, securing the quality of the offers and enabling educational paths that can be built on. Thanks to its website, events and study groups, the WiFF offers a platform for an exchange between experts from the fields of practical work and education policy as well as researchers. Current topics of early childhood education and care are addressed and a discourse stimulated about the professionalisation of early childhood educators.

More detailed information on the federal programmes Language Day Care Centres for Children – Because Language Is the Key to the World (Sprach-Kitas: Weil Sprache der Schlüssel zur Welt ist) (2016–2019) and the joint research and development programme of the Federation and the Länder Education Through Language and Writing (Bildung durch Sprache und Schrift – BiSS) is available in the article on support measures for learners in early childhood and school education [10].

Primary and secondary education

School supervisory authorities

School supervisory authorities exercise Fachaufsicht (academic supervision), Rechtsaufsicht (legal supervision) and Dienstaufsicht (staff supervision) within the school system. Academic supervision concerns the teaching and educational work carried out by schools. The school inspectors support and foster the work of the school, ensure that curricula and other legal provisions are being adhered to and that teaching and education are being conducted professionally using appropriate methods and further improved wherever possible. Academic supervision is carried out by visiting schools, observing lessons and providing advice at school level. Legal supervision is a further element in school supervision. It involves monitoring the legality of management of what is called external school affairs (for example, the construction and maintenance of school buildings) by the Schulträger, the school's maintaining body. Finally, school supervisory authorities exercise staff supervision over teachers and head teachers at public-sector schools, thus ensuring that teaching staff are carrying out their duties. Civil service guidelines stipulate the need for the appraisal of teachers on specific occasions (end of probationary period, promotion, transfer) and in some cases at periodic intervals. This serves both to advance the career of the individual teacher and to maintain the efficiency of the school system. Teaching ability and aptitude are assessed, as are the teacher's professional competence. Assessment is based on visits to classes by the head teacher and school inspectors, performance reports by the head teacher on the teacher concerned, conversations with the teacher and inspection and assessment of pupils' work.

Evaluation measures in schools

In recent years, initiatives have been taken in all Länder in order to develop measures for assuring the quality of education at both the level of the school system and the level of the individual schools; this goes beyond the customary range of instruments of the school supervisory authority and project supervision. The Länder have taken a number of evaluation measures in which various quality assurance and quality development procedures interact. These procedures include

- the development or further development of framework curricula and quality tableux or reference frames for school quality,
- comparative tests across the Länder and schools in core subjects,
- the extension of external evaluation,
- the development of standards and their review,
- the development of quality management in schools,
- centralised final examinations (lower and upper secondary education).
These measures are embedded in the comprehensive strategy of the Standing Conference for educational monitoring as well as in strategies of individual Länder for quality evaluation and quality assurance which, amongst other measures, include the strengthening of the autonomy of the individual school, the development of school-specific profiles, the promotion of inter-school cooperation as well as the strengthening of the advisory functions of the school supervisory authority.

An external evaluation of schools is carried out on a regular basis in almost all Länder (Fremdevaluation, Schulvisitation, Schulinspektion). The Ministries of Education or the institutes for school development of the Land are usually responsible for the external evaluation. The goal is to monitor and improve the quality of school education. External evaluations are held every three to six years depending on the Land. Characteristic methods include the analysis of data and documents, observations (visits to classes, inspections), standardised questionnaires and interviews. The evaluation procedures for schools in the Länder are in line with the educational standards of the Standing Conference. These cross-Länder target criteria are in most Länder complemented by the provisions of the so-called frameworks for school quality or quality tableaux which by means of indicators of school and teaching practice quality provide schools with a frame of reference.

As part of these strategies, increasing weight is given to measures for the evaluation of individual schools. In the majority of Länder, the obligatory development of school-specific programmes plays a central role. In the school-specific programmes or school development programmes, the individual schools specify the main focuses and objectives of their work on the basis of Land regulations regarding the content and qualifications obtained after completing the courses. At the same time, the school-specific programmes determine internal evaluation methods and criteria based on the requirements specific to the Land (e.g. curricula, timetables). The areas to be evaluated are determined autonomously by the schools in the school-specific programmes. School-specific programmes should take account of the social and demographic requirements of the individual school. The frameworks for school quality referred to above are of central importance for the implementation of school-specific programmes.

The development and efficacy of all-day schools in Germany has been scientifically accompanied and evaluated since 2005 with the involvement of all Länder by the Study on the Development of All-Day Schools (Studie zur Entwicklung von Ganztagsschulen – StEG). The study, which was established within the framework of the investment programme Future, Educaton and Care (Zukunft Bildung und Betreuung – IZZB, is carried out by a research team and funded by the BMBF. The Federation and Länder support the continuation of the nationwide Study on the Development of All-Day Schools (third phase 2016–2019). Key topics are the nationwide monitoring of all-day schools with representative surveys on the development of all-day schools in Germany and studies on the quality and effects of the all-day offers.

The Vocational Training Act (Berufsbildungsgesetz – BBiG) puts great emphasis on quality assurance within the dual system of vocational training. This focus includes a flexibilisation of the training quality control instruments and their supplementation by a number of new quality assurance guidelines, amongst other measures. Moreover, procedures are to be drawn up for the external evaluation of quality assurance in continuing vocational training and education.

Comprehensive strategy for educational monitoring

In June 2015, the Standing Conference revised the overall strategy on educational monitoring from the year 2006. The various elements of the comprehensive strategy should not only describe developments in the education system but also create applicable knowledge. From the empirical data, the right conclusions should be drawn and put into action.
The overall strategy provides for the following methods and instruments:

- participation in international school performance studies (PIRLS/IGLU, TIMSS primary school, PISA)
- monitoring and implementation of educational standards for the primary sector, the lower secondary level and the Allgemeine Hochschulreife
- method to ensure quality at the level of schools
- the joint report on education of the Federation and Länder

The four pillars of the overall strategy on educational monitoring will be presented in more detail in the following and the considerations of the Standing Conference described as to how more application-oriented knowledge can be obtained for educational policy and pedagogical practice on the basis of the instruments and methods of the overall strategy on educational monitoring as well as further empirical data.

**Participation in international comparative studies of pupil achievement**

The joint task pursuant to Article 91b, Paragraph 2 of the *Basic Law* [12] (Grundgesetz) includes the cooperation of the Federation and the Länder for the assessment of the performance of educational systems in international comparison and drafting relevant reports and recommendations. A corresponding administrative agreement has entered into force in the beginning of 2007.

Germany is taking part in international comparative studies of pupil achievement such as the Trends in International Mathematics and Science Study (TIMSS), the Progress in International Reading Literacy Study (PIRLS) and the OECD project entitled Programme for International Student Assessment (PISA) as a means of determining the performance of the German education system in an international comparison and so as to be able to derive appropriate measures for quality assurance from the results.

After the publication of the results of the PISA 2000 OECD study in December 2001, the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder named seven areas in which the Länder and the Standing Conference of the Ministers of Education and Cultural Affairs will become active and are still active:

- measures to improve linguistic competence as early as early childhood education
- measures to strengthen the link between the early childhood sector and primary school with the aim of an early school entry
- measures for the improvement of primary education and the continuous improvement of reading literacy and basic understanding of mathematical and scientific concepts
- measures for efficient support of educationally disadvantaged children with particular regard to children and young people with a migrant background
- measures to thoroughly develop and assure the quality of teaching and schools on the basis of binding educational standards and result-oriented evaluation
- measures to improve professionalism in teaching with particular regard to diagnostic and methodical competence as an element of systematic school development
- measures to expand provision of all-day activities and care with the aim of increasing opportunities for education and support with particular regard to pupils with educational deficits and especially gifted pupils

The results of the 2015 PISA study, which was carried out nationally by the Center for International Large Scale Assessment (*Zentrum für Internationale Bildungsvergleichsstudien* - ZIB) and was computer-based for the first time, have confirmed the good ranking of Germany and thus the efficacy
of the measures initiated as a consequence of PISA 2000. The above-average level of performance in all competence areas that Germany achieved for the first time in PISA 2012 could be maintained. The close link between social background and reading competence has declined perceptibly since the year 2000 because the performance of pupils from socio-economically disadvantaged families has significantly improved. The differences due to immigration have also decreased considerably. But some challenges still remain. The Standing Conference and the Federal Ministry of Education and Research have drawn the following key conclusions from the results of PISA 2015:

- The potentials of high-achieving pupils in natural sciences and mathematics has to be exploited more systematically, without neglecting support for low-achieving pupils.
- Further efforts have to be made, particularly in the natural sciences and mathematics, to close the gap in performance between boys and girls.
- In view of a body of pupils that is becoming more heterogeneous, one major challenge that remains is the good integration of children and youths from migrant backgrounds into the school system. One of the keys to this remains learning German as the language of education.
- Digital media should be used more extensively in the classroom.

The results of the mathematics and natural sciences study TIMSS 2015, which had been commissioned from the Institute for School Development Research (Institut für Schulentwicklungsforschung – IfS) at the Technical University Dortmund, were presented in November 2016. They confirmed the level of competence that pupils in Germany had already achieved in the first investigation. Compared to TIMSS 2007, the disparities due to immigration have been reduced significantly. The Standing Conference and the BMBF have emphasised that it has been possible to maintain the level that was achieved despite the increasing heterogeneity of the body of pupils. At the same time, they pointed out the necessity of continued efforts so that all pupils, both high and low-achieving, receive the best possible individual support. The aspect of individual support should be paid greater attention within the context of the initial and continuing training of teachers.

The results of the primary school reading study PIRLS/IGLU 2016 were published in December 2017. On the one hand, they showed that the reading performance of the pupils was steadily above the international average and, on the other hand, they confirmed that the increasingly heterogeneous student body poses major challenges to primary schools in Germany. From the point of view of the Standing Conference, the results of the study once again underline the importance of language promotion measures in the school sector and the pre-school sector. The increasing heterogeneity of the student body calls for the best possible individual support for all pupils, whereby a targeted promotion of pupils with special difficulties in reading is required. The special didactic and diagnostic skills that teachers must have in order to deal with the increasing diversity in the classroom should be reinforced not only in teacher training but also in continuing professional development.

Within the framework of the joint tasks pursuant to Article 91b paragraph 2 of the Basic Law, the BMBF also supports the International Computer and Information Literacy Study (ICILS). The information and computer-related competences of grade 8 pupils are hereby tested in an international comparison. The University of Paderborn is in charge of the performance of the current study, the data collection has taken place in 2018. The Länder opened up field access to the schools for the study.

Monitoring and implementation of educational standards for the primary sector, the lower secondary level and the Allgemeine Hochschulreife

In order to provide a joint frame of reference for all Länder on the quality of school education, the Länder have defined certification-related educational standards for all school levels. The standards
are based upon the areas of competence of the individual subject and

- take up the basic principles of the respective subject
- determine the subject-specific competences including basic levels of knowledge that pupils should have achieved by a certain stage of their school career
- are aimed at systematic learning and learning in networks and thus follow the principle of cumulative acquisition of competence
- describe expected levels of performance as part of requirement profiles
- are related to the core area of the respective subject and provide scope for pedagogical measures taken by the schools
- relate to a medium level of requirements
- are illustrated by examples for test questions

The Länder have pledged to adopt the educational standards as a basis of their relevant subject-specific requirements. They want to support competence-oriented teaching and targeted individual support for all pupils by implementing the educational standards. At the same time, the Länder combine this with the claim of making school requirements on pupils more transparent, educational systems more mobile and qualifications more comparable.

There are nationwide applicable educational standards

- for the primary sector (grade 4) for the subjects German and mathematics,
- for the Hauptschulabschluss (grade 9) for the subjects German, mathematics and the first foreign language (English/French),
- for the Mittleren Schulabschluss (grade 10) for the subjects German, mathematics, the first foreign language (English/French), biology, chemistry and physics,
- for the Allgemeine Hochschulreife for the subjects German, mathematics and the continued foreign language (English/French).

Starting in 2017, educational standards are being developed for the Allgemeine Hochschulreife in the natural science subjects (biology, physics, chemistry).

The competence expectations set out in the educational standards of the Standing Conference are operationalised through test tasks to verify the achievement of the educational standards and exemplary tasks to implement the educational standards in school practice. These tasks are being continuously developed under the leadership of the IQB in cooperation with teaching staff and specialists for subject-related didactics. The Standing Conference has resolved to develop and use a pool of Abitur examination tasks for the effective implementation of the educational standards for the Allgemeine Hochschulreife. A special strategy has thus been adopted that should guarantee comparable and standard-oriented requirements in the Abitur examination of the Länder and which differs from the verification of the educational standards in the primary and lower secondary level.

The IQB Educational Trends studies to verify the achievement of the educational standards (formerly: IQB Länder Comparison Study), which are aligned more to school practice in Germany than international surveys, are carried out every five years at the primary level in grade 4 and every three years at the lower secondary level in grade 9 by means of representative random samples as well as on the basis of competence level models verified with regard to teaching methodology and learning psychology. The design of the test (test domains, instruments and test cycles), which aims for continuity, guarantees valid and long-term trend observations.

The language group of subjects (German and the first foreign language: English, French) alternate with mathematics and natural sciences as the subject matter of the investigation in grade 9. The
subjects German and mathematics are included in each Länder comparison in grade 4. The reports on the IQB Educational Trends study are published twelve to eighteen months after the data collection. They provide information on the extent to which the pupils have achieved the competence expectations of the educational standards.

In order to increase the information content and yield of the reports for educational policy and practice, and thus better reflect the strength of standard-based monitoring in reporting, the report format has been further developed and improved. The focus will be on changes to the results over time (so-called trend statements). Furthermore, greater attention than in earlier studies will be paid to the question of the extent to which the pupils have achieved the different competence levels. The results in the individual Länder will be shown in greater detail on the whole.

In the IQB Educational Trend study 2016, the IQB was commissioned by the Standing Conference for the second time to investigate the extent to which fourth-graders achieve the nationwide educational standards in German and mathematics for primary school. A comparison with the results of the IQB Länder Comparison study 2011 made it possible to examine the extent to which the competence level of pupils in the fourth grade in the individual Länder has changed over a period of five years. The results were published in October 2017 and showed that throughout Germany the reading literacy of primary school pupils remained stable compared to 2011, but that they were unable to maintain their performance in the competence areas of listening, spelling and mathematics. The study confirms that the increasingly heterogeneous student population presents primary schools with major challenges.

The educational standards for the Allgemeine Hochschulreife in the subjects German, mathematics and in the advanced foreign languages (English, French) are binding for all courses of education that lead to the Allgemeine Hochschulreife (on account of their particular profile, Berufsoberschulen have not been taken into account). They describe the competences the pupils should normally have at the end of the gymnasiale Oberstufe in key subjects. Furthermore, the specifications on the design of Abitur examinations that are binding for all Länder have been further developed for the relevant subjects. These specify the formats of tasks that can be used in the Abitur examination, define guidelines for evaluating the pupils' performance and describe framework conditions for the examinations that have to be observed.

The educational standards for the Allgemeine Hochschulreife apply since the school year 2016/2017 as a binding basis for the Abitur examinations. General criteria are available for the design, correction and assessment of standard-based Abitur examination tasks and suitable written Abitur examination tasks including the necessary evaluation sheets will be provided in a pool of Abitur examination tasks at the IQB. This pool has been made available to the Länder as of the school year 2016/2017 for possible use in the Abitur. This goes hand in hand with the goals of

- aligning the tasks to the educational standards,
- guaranteeing the comparability of the requirements level of Abitur tasks,
- to ensure the overall quality of the Abitur examination tasks through the normative effect.

The Länder and IQB work closely together in the ongoing work on the pool of Abitur examination tasks. The Länder have pledged to provide Abitur examination tasks each year for possible inclusion in the pool. A catalogue of criteria that has been developed in agreement with the Länder serves as a basis for the decision on inclusion. The nationwide specialist exchange on the design of the pool of Abitur examination tasks also supports the implementation of the educational standards in the own structures of the Länder in preparation for the Abitur examinations and contributes to a further assimilation of the Abitur tasks and examinations in the Länder.

As a basis for the implementation of the educational standards, in particular for the primary sector
and lower secondary sector, the Standing Conference resolved the concept on the use of educational standards for the development of teaching (Konzeption zur Nutzung der Bildungsstandards für die Unterrichtsentwicklung) in December 2009, that describes the central areas of action for the implementation of the educational standards.

The "Concept on the implementation of educational standards for the Allgemeine Hochschulreife" (Konzeption zur Implementation der Bildungsstandards für die Allgemeine Hochschulreife) resolved by the Standing Conference in 2013, which serves as a common basis for the implementation process in the Länder and the nationwide cooperation, is available for areas of educational standards for the Allgemeine Hochschulreife. It includes, amongst other things, a systematic exchange on necessary changes to the Unterrichtsvorgaben (teaching specifications) and Prüfungsordnungen (examination regulations) of the Länder as well as on measures to support the teaching staff.

Quality assurance measures at school level

The Länder conduct Land-specific as well as cross-Länder tests, in addition to national and international performance comparisons. This includes for example measurement of language proficiency for different age groups, surveys on learning levels, or comparative studies in different grades as well as Land-specific performance comparisons. Contrary to international studies and to Educational Trends study (formerly: Länder Comparison Studies) conducted by the IQB through representative samples, comparative studies (VERA, in some Länder also called performance level study or competence test) serve to investigate the performance levels of pupils at school and class level and aim at school development and the improvement of teaching. Comparison tests are conducted in all Länder for grades 3 and 8 (VERA 3 and VERA 8) on the basis of a agreed upon by all Länder. Appropriate supporting and continuing education offers will be provided for the teaching staff.

The key function of the comparative work lies in support for the development of teaching and schools for every single school through feedback oriented on the educational standards as an assessment of its current position with reference to the results in the Länder. At the same time, comparative studies have an important mediating function for the introduction of the specialist and teaching methodology concepts of the educational standards.

In March 2018, the Länder decided to continue the modernised comparison test (VERA) throughout Germany. The new version of the "Agreement on the further development of comparative tests (VERA)" (Vereinbarung zur Weiterentwicklung von VERA) is intended to align the definition of objectives, the test instruments, the principles of implementation and the support measures for the implementation of VERA in the Länder even more consistently with the function of teaching and school development.

Comparative studies are part of a bundle of measures with which the Länder guarantee evidence-based quality development and assurance on the level of the individual schools. These include in almost all Länder methods for an external evaluation of the individual school, within the framework of which schools receive regular and systematic feedback on strengths and weaknesses, in particular on the quality of teaching processes. Complementary to this, the Länder support the internal evaluation of schools by providing corresponding methods and counselling. So-called reference frameworks for school quality and/or quality tableaus are available in the Länder as points of reference for this; these are based on both the findings of empirical educational research and Länder-specific normative specifications.

Joint education reporting by the Federation and the Länder

Education reporting is a key part of the joint tasks pursuant to Art. 91b Paragraph 2 of the German
Basic Law along with participation in international school performance comparisons. The report *Bildung in Deutschland* (education in Germany) is prepared every two years under the responsibility of an academically independent group of authors under the leadership of the DIPF | Leibniz Institute for Research and Information in Education (*DIPF | Leibniz Institut für Bildungsforschung und Bildungsinformation* [7]).

Under the guiding principle of "*Bildung im Lebenslauf*" (education in the CV) the education report systematically presents developments in the various fields of the educational system, from the elementary via the school sector, vocational education and training and university education right through to continuing education in adulthood. In this way, reliable information is provided on framework conditions as well as the progress and results and/or yields of educational processes. The particular importance of the education report lies in the fact that it shows the interaction between the different educational areas and identifies overriding challenges in the German educational system. Since 2006, the education report has thus served as an important basis for decisions on education policy and ensures transparency on the situation in the educational system as a whole.

The core of education reporting is a certain set of indicators, each of which reflects a key aspect of an educational area in its various manifestations. The performance indicators on which this is based are primarily drawn from official statistics, though also scientific surveys. Continuing the performance indicators over time allows a systematic report on the development of the educational system as a whole as well as its respective areas over time.

In order to allow a comparison with developments in member states of the European Union and OECD (e.g. *Education at a Glance* of the OECD), certain indicators are aligned to international reports. Furthermore, the contents of the report are differentiated according to various Länder depending on the data situation.

Each education report contains a feature chapter on a topic of special significance for educational policy that is dealt with in more depth and presented across all educational areas. The education report has focused on the following key topics since 2006:

- Education and migration (2006),
- Perspectives for the educational system in demographic change (2010),
- Cultural/musical-aesthetic education in a CV (2012),
- People with disabilities in the educational system (2014),
- Education and migration (2016),
- Effects and benefits from education (2018),
- Education in a digitalised world (2020),
- Education staff: structure, development, quality and professionalisation (2022).

Apart from the report *Bildung in Deutschland* there are now also a number of Länder-specific and regional education reports that are based on the *Bildung in Deutschland* report in terms of their conceptual orientation, choice of indicators and even the structure of their chapters.

The comprehensive strategy as a basis for application-related knowledge for educational policy and pedagogical practice

The comprehensive strategy of the Standing Conference for educational monitoring creates important premises for an even greater use of instruments to monitor the results and yields of educational processes so as to provide application-related knowledge for educational policy and practice. The key
question here is how developments in the educational system can not only be described but also explained with the help of test methods and further empirical data. This should be linked to concrete tips on what has to be done to solve the problems that have been identified wherever possible.

The Standing Conference has agreed on subjects for research of key importance for educational policy that are regularly updated and which relate to key practical questions for the development of schools and teaching:

- Dealing with heterogeneity: individual support in heterogeneous learning groups including inclusion and support for gifted students,
- Development of teaching: effects of teaching methods and didactic concepts,
- Use of the results of quality-assuring methods for the development of teaching and schools,
- The importance of teacher training and teacher commitment for the development of pupils' competences,
- The effects of school quality assurance methods,
- All-day: effects on the learning success and
- Effects and strategies of school development: differences between schools in a comparable situation.

In the year 2018, the KMK has concretized its research topics. The current topics are of particular relevance:

- Development of teaching in the context of digitisation
- Speaking, writing, reading, listening
- Dealing with the heterogeneity of individual learning prerequisites
- Gender-specific disparities
- Data-supported teaching development

The subjects for research of the Länder related to these thematic areas are taken into account as far as possible within the framework of the IQB programme of work as well as the ZIB. In addition, available scientific results and findings should be used more in future to answer questions of key importance for educational policy. In this context, the task of the Land institutes and quality institutions of the Länder lies in processing and distributing research knowledge in cooperation with academic and scientific institutions for schools, education administration and educational policy in a manner that is appropriate for the addressees.

The BMBF supports efforts to ensure the performance of the educational system and the quality of education within the framework of general institutional research support, e.g. the German Research Foundation [13] (Deutsche Forschungsgemeinschaft – DFG), the Max-Planck Society [14] (Max-Planck-Gesellschaft – MPG) or the Leibniz Association [15] (Wissenschaftsgemeinschaft Gottfried Wilhelm Leibniz – WGL), in the context of departmental research, e.g. the Federal Institute for Vocational Education and Training [16] (Bundesinstitut für Berufsbildung - BIBB) and through support for projects. The Framework Programme for Empirical Educational Research (Rahmenprogramm empirische Bildungsforschung) funds research projects that can make important contributions to overcoming challenges in the field of education – for example with regard to improving educational equity, dealing with diversity or actively shaping digitisation in the field of education. Current research programmes include inclusive education, early education, language education, the dismantling of educational barriers and digitisation in the field of education. The funded research programmes include all stages and areas of education, including non-formal and informal learning opportunities. The effect of all-day offers on the development of competences and the learning success of pupils is investigated in the Study on the Development of All-Day Schools (Studie zur Entwicklung von Ganztagsschulen – StEG) (third phase 2016–2019).