

Poor Report for the German School System

*A lot has been written about PISA and a great deal interpreted into the results. MAXPLANCKRESEARCH gives a first-hand account of the background to this comprehensive international research project studying the educational performance of today's younger generation in 32 countries. The German team was headed by a national consortium working together with scientists from the **MAX PLANCK INSTITUTE FOR HUMAN DEVELOPMENT** in Berlin under **DIRECTOR PROF. JÜRGEN BAUMERT.***

Seneca once wrote, “*Non vitae sed scholae discimus*” – at a time when education was still a privilege of the elite. It is only in more recent times that the maxim has been turned around: schools should educate children for life and equip them to take an active part in the economic and social arena. But as PISA shows, schools in Germany are less successful in this domain than those in many other countries. Almost a quarter of Germany's youngsters can make sense of words and sentences, but are unable to cope with longer texts, tables, or other forms of information. A lamentable state of affairs after almost nine years at school and approximately 8,600 hours of lessons. Sadly, it is these youngsters who will probably lose out in society.

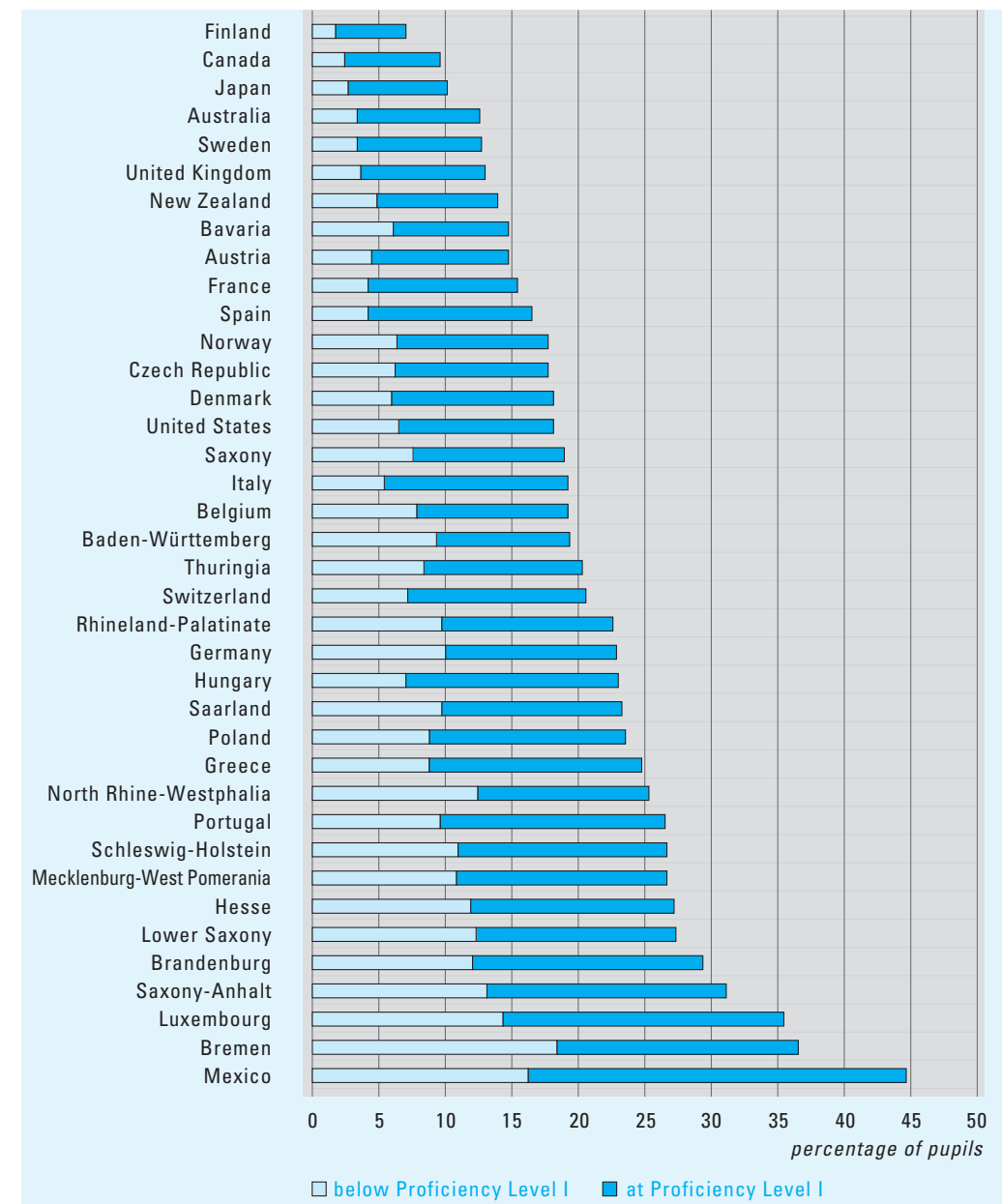
PISA is the acronym for “Programme for International Student Assessment” and is the largest international research project ever carried out into the educational performance of the up-and-coming generation. Thirty-two countries have participated in the study. The German team was headed by a national consortium working together with scientists from the Max Planck Institute for Human Development in Berlin under Director Prof. Jürgen

Baumert. German participation in the international part of the study is being co-ordinated by Dr. Petra Stanat, and Dr. Cordula Artelt is responsible for the PISA-E national extension.

The researchers involved in the study at the various institutions have accomplished a mammoth task over the past four years and made tremendous progress under intense time pressure. And then last year came the media onslaught and the inevitable public relations work: countless interviews, invitations to radio discussions, and television appearances as well as numerous requests for lectures and phone calls from interested parents or teachers wanting more information. The staff in the PISA offices were able to answer many of the queries themselves, but also had to pass a lot of letters on to the experts, including those in which the senders offered their own personal explanations for the PISA debacle. “Some of the letters were positively inspiring”, says Cordula Artelt.

The PISA researchers' experiences with this public interest have generally been rewarding. They had certainly never expected that the results of PISA and PISA-E would be cov-

Fig. 1: Proportion of pupils at or below Proficiency Level I on the reading literacy scale in 14 German *Länder* in comparison with 23 other countries.



ered by the media in such detail. In the wake of PISA, school education is no longer a minor topic on the family pages but is now front-page news. It even briefly became an important election issue. Leading personalities from the worlds of business and politics have also devoted their attention to PISA.

The PISA tasks do not so much test “curricular” knowledge acquired at school but what are known as core competencies: reading, mathematical and scientific literacy. Reading literacy is the basic prerequisite for acquiring skills in other areas, including those of a

mathematical or scientific nature. The test tasks were sourced from authentic material such as literary, descriptive or argumentative texts, as well as newspaper cuttings, timetables or user instructions from the participating countries. These were then translated and checked for cross-cultural equivalence. Typical reading literacy tasks are concerned with drawing information from a text, linking it with knowledge gained elsewhere, and processing it critically. The average score for reading literacy across the OECD countries was set at 500 points, corresponding to Profi-

TEST PROCEDURE

University Students with no personal connection to the school principals were appointed to administer the tests in the individual schools. Before the tests, they were trained and signed a confidentiality agreement. They used a scripted text to give the pupils neutral instructions on how to complete the tasks. The student responses, which consisted in part of etailed written arguments, were evaluated by trained "coders" using a detailed catalogue of criteria. The coded test results and the information from the other questionnaires were compiled in an electronic data set. The scientists used complex statistical methods to ensure that the test results were internationally comparable. All participants and the schools themselves were guaranteed anonymity. The school authorities and Ministries of Education and the Arts receive a report on the average performance of the individual types of school which does not allow individual schools to be identified. The schools themselves can request feedback on the results of their own Year 9 pupils. "Of course, the school-level results are not an evaluation of the school, but they can give principals and teachers an indication of potential problem areas", says Petra Stanat.

ciency Level III. At this level of literacy, the reader can deal with competing information and understand texts of moderate complexity. Pupils at the lowest level of reading literacy (Level I, 335 to 407 points), on the other hand, can only understand short, simple texts in which little information is clearly conveyed – for instance an article in the popular press. True "expert readers" (Literacy Level V, over 625 points) are capable of tackling completely unfamiliar texts of high complexity and understanding fine verbal nuances. Expert readers tend to enjoy reading and read a lot. But reading is not a widespread hobby among Germany's youth. Particularly boys from the lower social classes rarely read for pleasure and are overrepresented in the problem group capable of understanding only the simplest texts.

Scoring an average of 484 points, Germany's youngsters fall below the OECD average of 500 and lie between the second and third proficiency level. Of particular concern is the finding that many young people in the German *Länder* (23 percent across the whole country, 36 and 19 percent in Bremen and Bavaria respectively) perform at the lowest proficiency level or below, compared with Finnish or Canadian schools where fewer

than one-tenth of pupils fail to progress beyond this lowest level of proficiency.

In Germany, the ability to read with understanding is generally taken for granted at secondary level and is no longer deemed to merit specific attention. As a result, teachers often fail to notice which pupils still have difficulty with reading comprehension. When asked about the weakest readers among their students, teachers were only able to identify approximately one-tenth of the children who performed below Proficiency Level I on the PISA test.

Schools in Finland appear to be significantly better at supporting weaker pupils at the same time as educating many young learners to a very high standard: almost one-fifth of Finnish youngsters are classified as expert readers; in Germany only nine percent of pupils reach this level (fig. 1).

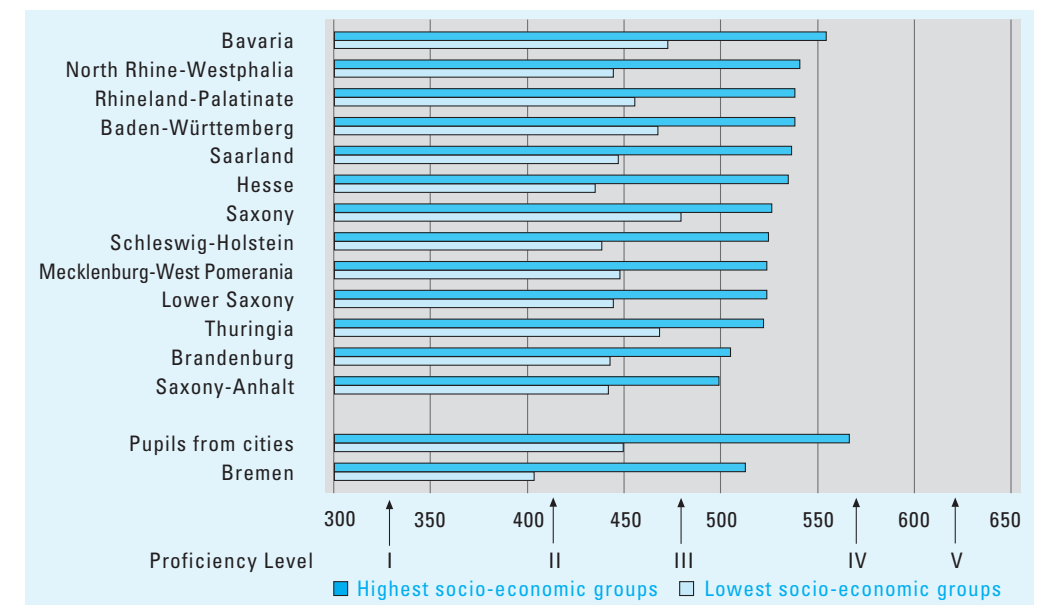
In addition to the PISA tasks, the pupils performed a standard test to measure their basic cognitive ability and completed a questionnaire in which they were asked about their background, opinions, and social environment. The students were also asked to state how happy they were at school, whether the teachers showed an interest in them, and

The level of proficiency depends on the social background.

how much interest their parents expressed in their school activities. This meant that the PISA study covered many different characteristics and abilities of young people, and that the information can be evaluated from various points of view. For example, scientists can assess the influence of cognitive ability or the parents' social standing from reading proficiency and estimate the degree to which individual factors influence pupil performance.

In Germany, the level of proficiency depends more on the social background of the pupils than in most other countries, including the USA. 40 percent of children of unskilled labourers remain on the lowest proficiency level in Germany and therefore have little opportunity to gain better qualifications. In all of the German *Länder*, the average reading literacy of young people from working

Fig. 2: Average reading literacy of 15-year-olds from the highest and lowest socio-economic groups.



class families is significantly lower than that of children from the highest socio-economic groups. Particularly in Bremen and the cities, the difference spans two proficiency levels (fig. 2). This is a much more dramatic gap than in any of the other participating OECD countries.

In Germany, a child's school career is closely linked to his or her social background. Every second child from the highest socio-economic groups attends the academic-track *Gymnasium* and only every tenth a vocationally oriented *Hauptschule*. In contrast, only one in ten children from the lowest socio-economic groups goes to a *Gymnasium*, while virtually half attend a *Hauptschule*. Even with the same basic cognitive ability, the advantage related to social background remains: the child of a skilled worker is three times less likely than a child from an academic family to attend a *Gymnasium* rather than an intermediate-track *Realschule*.

There is a performance gap between the north and the south of the republic.

The educational successes of the individual German *Länder* are very varied. There is a performance gap between the north and south of the republic, corresponding in the extreme case to one-and-a-half to two school years between Bavaria and Bremen or Bavaria and Brandenburg. But even front-runner Bavaria, which has an average reading score of 510 points, only just surpasses the OECD average,

and Baden-Württemberg only just draws level with the Canadian back-marker New Brunswick, one of the country's structurally weaker provinces (fig. 3).

Bremen and several of the former East German *Länder* fare relatively poorly: high unemployment in *Länder* such as Bremen or Saxony-Anhalt and the commonly associated insecurity at home go hand-in-hand with relatively low pupil performance. It appears that schools in Germany have difficulty compensating adequately for these and other unfavourable starting conditions. Remedial measures specifically geared towards individual pupils are not generally available to disadvantaged children to make up for these

PISA IN FIGURES

In spring 2000, approximately 180,000 fifteen-year-old pupils from 32 countries took part in the PISA international comparison study, including more than 5,000 pupils from 219 German schools (international sample). In total, however, almost 50,000 children from 1,479 schools participated in the German PISA assessment. This was in response to a resolution by the Conference of Ministers of Education and the Arts who initiated the PISA-E extension with the aim of gaining a first realistic picture of educational outcomes across Germany. Approximately 12.7 million children and young people currently attend German schools; one million of them are around 15 years old. The PISA sample is very large in order to cover adequately the variety of the seven different school types in Germany (*Hauptschule*, *Realschule*, *Gymnasium*, comprehensive school, vocational school, school offering several courses of education, and special school).

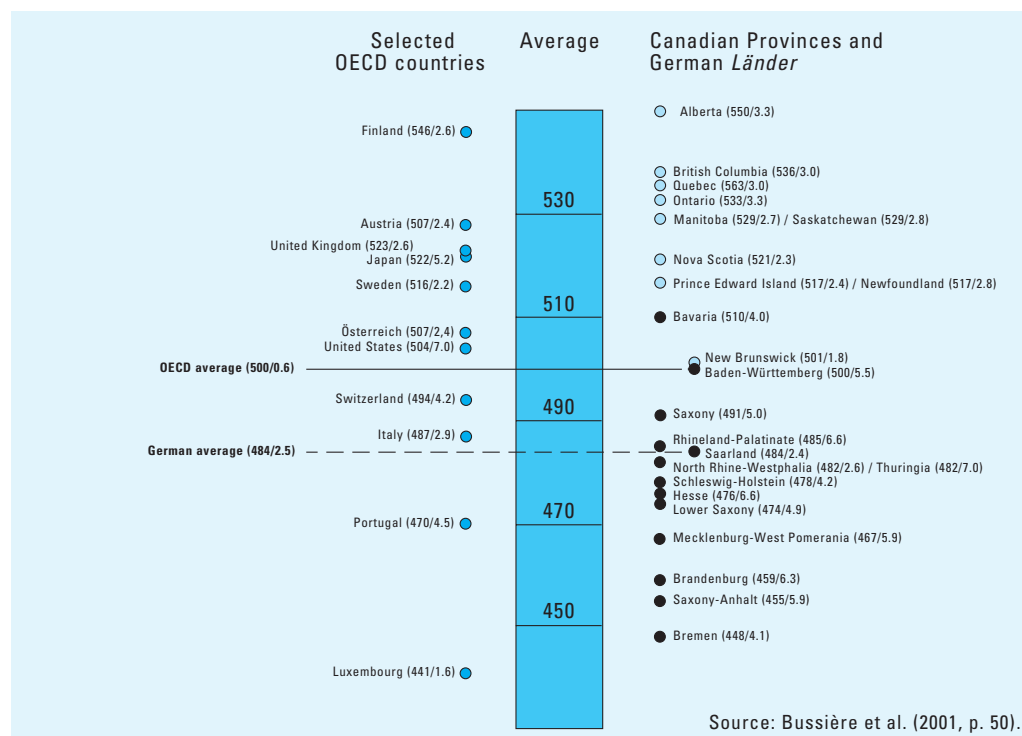


Fig. 3: Average reading literacy in 14 German Länder compared with eight Canadian provinces and selected OECD countries.

deficits (fig. 4). Comparing the German *Länder*, it becomes clear that a generally low standard deprives particularly the weaker pupils of opportunities in life; in Bremen, for example, approximately one-fifth of German youngsters and almost 45 percent of young people from other ethnic backgrounds are in the risk category of weak readers, while in the German *Länder* with higher average scores, students with an immigrant background also achieve significantly better results. Thus, weak pupils seem to benefit from a generally efficient system. The data also shows that lack of German language skills is the main obstacle preventing this group from flourishing at school. When pupils with a similar reading proficiency are compared, children from immigrant families are just as likely to attend a *Gymnasium* as their German counterparts (fig. 5).

In the model state of Bavaria, youngsters at *Hauptschulen* also acquire basic skills, while the *Hauptschulen* in the weaker states produce particularly high numbers of “risk children”. However, even in Bavaria the principle of achievement does not reign supreme – in fact, *Gymnasium* attendance is particularly dependent on social class here. Given identical cognitive ability, children from an academic background in Bavaria are six times more likely to attend a *Gymnasium* than the equally intelligent offspring of skilled work-

ers. “It is not acceptable that we release a quarter of our youngsters onto the employment market knowing that they are not adequately educated”, says Jürgen Baumert, Director at Berlin’s Max Planck Institute for Human Development.

The educational scientist sees the most important task of the impending education reforms to be guaranteeing key qualifications for everybody. Children from disadvantaged backgrounds in particular are reliant on early help from schools in developing the core skills needed to assert themselves better in life.

Parents and schools waste valuable time in the lives of Germany’s younger generation.

In Baumert’s view, parents and schools waste valuable time in the lives of Germany’s younger generation. Entry to primary school is frequently deferred, meaning that children begin their education later; weaker pupils are not moved up to the next class. Yet these children are rarely offered specific help, and the attitude is that time or repeating a class will rectify the problem – an illusion. One can imagine how motivated a 15-year-old might be who is forced to sit through Year 7 with 12-year-old classmates. Almost one-third of pupils in Germany are in a lower grade than would be expected on the basis of their age. “Our primary objective must be to

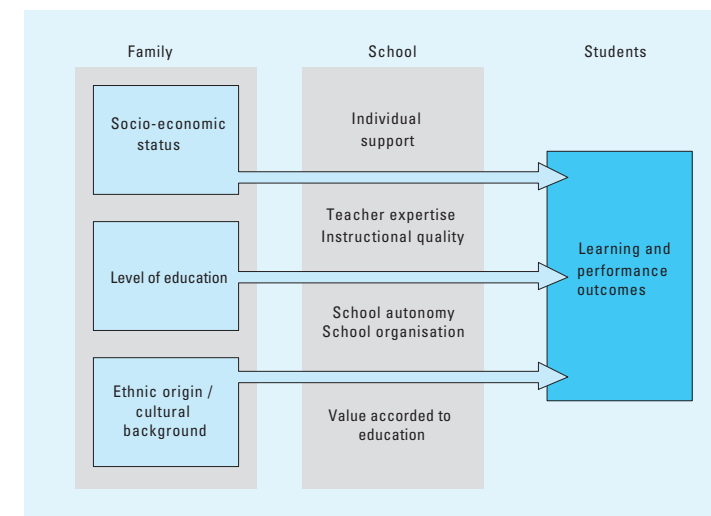


Fig. 4: In Germany, student performance is closely linked to family background. Despite the various influences that schools can exercise, listed above, they do not seem to compensate adequately for an unfavourable start and thus do not offset differences in social background.

learn how to handle heterogeneous groups of pupils again”, says Baumert. In days gone by, elementary school teachers looking after several age groups at once in a village school would have been masters of this art. However, the teacher-centred instructional style adopted by most German schools is not particularly well suited to this. The teacher relies on the pupils supplying the correct answers to achieve his/her teaching objective, and does not have time to go into incorrect an-

swers or find out the reason for any misunderstandings. Even particularly clever answers are disruptive in a lesson run along these lines because they move ahead too quickly. However, if the lesson is not going well, the teachers’ questions tend to get increasingly easy until it is almost embarrassing for pupils to put their hands up. Such observations of the choreography of instruction were gleaned from the TIMS video study, in which the Max Planck Institute for Human Development was also involved.

A reform of teacher training is already on the cards, and several measures are being discussed. However, Baumert maintains that it is an illusion to think that education policy can control everything at will. The social climate towards schools also needs to change in Germany. In Finland there is a general consensus regarding the importance of schools, particularly primary schools. Primary teachers are among the most respected professional groups in society. And they generally take a very personal interest in their pupils; “We need everybody and this is why we simply cannot afford to leave children behind”, says one Finnish teacher. The same applies to children in Germany.

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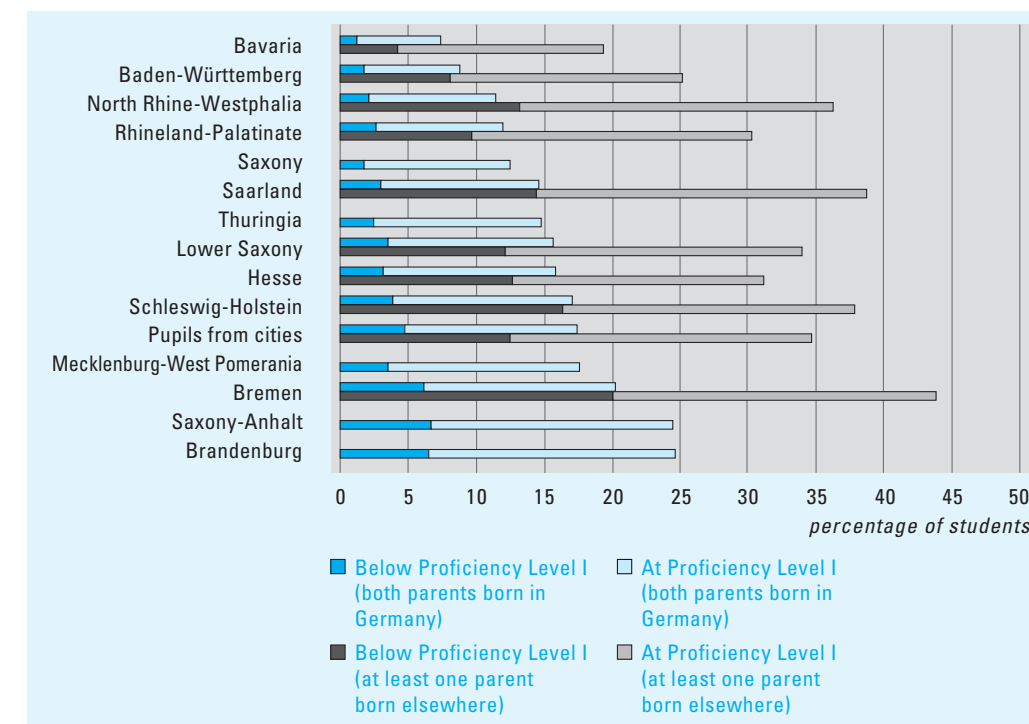


Fig. 5: Proportion of Year 9 pupils with and without an immigration background who perform at or below Proficiency Level I on the reading literacy scale in various German Länder.