



OVERVIEW

for a clearer picture

No. 9

Digital education

A way out of the education crisis?



Overview No. 9

Digital education - a way out of the education crisis?

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As of: 2 October 2025

Summary

The diagnose:funk publication series *"OVERVIEW for a clearer picture"* reports on the state of research into various aspects of digitalisation. In 2017, Germany's federal government adopted the Digital Pact for Schools. Tablets, smartphones and Wi-Fi were to digitalise teaching. Yet schools are now banning smartphones! At the same time, the CDU/CSU/SPD federal government's 2025 coalition agreement seeks a *"digital only"* society and Digital Pact 2.0 for schools, with a compulsory student ID. Its goal: autonomous learning controlled by algorithms. This Overview analyses the neoliberal, industry-led roots of *"digital education"*. It redefines Humboldt's ideal of education for its own sake and humane personal development as training to serve capitalist society's commercial interests. Marginalising humanities and general-education subjects such as German, art, music and sport, and narrowing the focus to STEM subjects, set the education crisis in motion. Digitalisation accelerated it. Today, however, there is fierce criticism and a call for a change of course in education.

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The Trojan horse of “digital education”: towards a conditioning institution in a school without teachers?

“Digital education will take us out of the education crisis!” That was the message of the Digital Pact for Schools, launched by the federal government in 2017 with €5 billion in funding. Media scholar Ralf Lankau's book title, *“No One Learns Digitally”*, captured the criticism of many experts in education, medicine and psychology who organised in the Alliance for Humane Education. The critics' predictions came true. Digitalisation over the past ten years brought no progress; learning performance went into free fall. Looking back, Bonn's General-Anzeiger writes:

*“At any rate, the media ridicule directed just a few years ago at neuroscientist and psychologist Manfred Spitzer and his books (*Digital Dementia*) has grown noticeably quieter. Professor Spitzer is no longer alone in warning of negative consequences such as poor concentration, attention deficits, eye problems, sleep disorders, underdeveloped motor skills, obesity, social isolation or declining frustration tolerance; the local paediatrician is now doing so too.”* (22 August 2025)

Now the federal government and the states also want to regulate smartphone and social media use in nurseries and schools. Politicians responded too late to scientific warnings about the disastrous effects of digital media use on children. Yet it was an entire generation of children, rather than the politicians, who paid for this failure. Through the Digital Pact and promotion of giving children smartphones as early as possible - smartphones entered the market in 2007 - on the grounds that they were essential for bright children in a digital world, politicians across all parties bear responsibility for what they now lament: massive psychosocial harm. Professor Alexander Markowetz warned of this in his 2015 book *“Digital Burnout”*: *“The central challenge of the 21st century is to save the human psyche in its dealings with digital devices.”* Jonathan Haidt writes in *“The Anxious Generation”* (2023): *“Around 2012, young people's mental health fell off a cliff.”* This was no natural event. Since 2012, diagnose:funk and experts in the Alliance for Humane Education had predicted what these media would do and called for regulation and education towards media autonomy.

In response to the smartphone epidemic, eleven German professional associations drew up the *“Guideline on Dysfunctional Screen Use in Children and Adolescents”* (2023). It documented consequences of smartphone use that had already emerged: obesity, sleep disorders, eye disease, developmental disorders, attachment disorders, behavioural disorders, internet addiction, bullying and sexual harassment, gambling, radiation exposure, and prenatal and postnatal effects of use during pregnancy. The guideline sets out protective measures. Parent initiatives such as *“A Smarter Start at 14”* emerged, demanding immediate rules. Media increasingly reported why more than 70 countries, many far ahead of Germany in digitalisation, such as Sweden, Denmark and Australia, had pulled the emergency brake.

The criticism ignored for years was not in vain. A paradigm shift is now taking place: smartphone and social media bans and the alternatives are finally part of public debate. Federal Education Minister Karin Prien promises rules. On Deutschlandfunk, she said: *"If we do not manage to let children, especially smaller, younger children, grow up without excessive screen use, society as a whole has failed and abandoned its children ... I think we must realise that we are talking about massive mental health disorders and dangers for children and adolescents."* Prien therefore supports legally mandated age verification: *"For comparable issues such as alcohol or drugs, you would not say that if children aged eight, ten or twelve cannot handle them responsibly, there is no need to ban them and it is simply a matter of responsible use."* Germany's National Academy of Sciences Leopoldina concludes in its 2025 report: *"We recommend prohibiting smartphone use in nurseries and schools up to and including Year 10."* The federal government plans to appoint an expert commission to consider the recommendations. Which experts? And how long will that take? Caution and scepticism are warranted.

The coalition agreement calls for more digitalisation

At the same time, the federal government's 2025 coalition agreement commits to accelerating the digitalisation of educational institutions. It calls for Digital Pact 2.0, a digital educational-history register, and a student ID that becomes a citizen ID: from the fully exposed student to the fully exposed citizen. The goal is autonomous teaching controlled by algorithms. This requires learning on digital devices that transmit data. Another proposed curriculum change is revealing: instead of broad education, it specifies a one-sided STEM focus. The departure from Humboldt's educational ideal is to begin. Education for its own sake and all-round personal development is redefined as commercially useful training. Baden-Württemberg's Education Minister Theresa Schopper (Greens) thus declares that, given the problems, *"Humboldt's educational ideal no longer holds without qualification"* (Stuttgarter Zeitung, 8 September 2024). Experts, by contrast, have long called for priority to be given to expanding German, sport, art and music, subjects central to learning and intellectual development.

We need a change of course in education

Following the many decisions by state education ministries to ban smartphones, schools now have authority to set rules. Teaching staff and parents can take action. Bans alone, however, will not achieve the goal. They are a correct first step and must then be embedded in a school-wide approach to education towards media autonomy. Even that is not enough. More is at stake. Wrong turns in school policy must be corrected. As the coalition agreement shows, empirical pedagogy still dominates interpretations. It reduces learning to statistically measurable, observable behaviours. This obscures the essence of education: the free development of personality, its ethical and intellectual dimensions. Education becomes a problem of planning and control; the person becomes

a digitally recorded object to be optimised through conditioning, a dataset. Behaviourist patterns of thought shape these concepts. If education is determined solely by measurability, tests and efficiency, the humanist idea of personal development, emancipation and self-determination falls behind. This fundamentally mistaken direction in school policy must be corrected. A change of course in education is needed. Understanding the history and interests behind digital education is a prerequisite for making that change.

Part I of this Overview addresses industry's role in the Digital Pact for Schools and the debate within educational science. Part II examines the history of education's commercialisation and the provisions of Berlin's coalition agreement. Part III considers alternatives. The author is active in Stuttgart local politics and links the analysis to local forms of school digitalisation.

1 Schools as a business sector: reform to create a market

Stuttgart's municipal gazette of 17 April 2025 proudly announces: *"The Digital Pact for Schools reaches classrooms: investments of €39 million."* €31 million comes from the federal government's €5 billion digital-education fund. The money is primarily intended to buy tablets, laptops, learning robots and Wi-Fi infrastructure. This is a *"wave of innovation in digital media"*, the gazette says. The city is opening classrooms to IT corporations. Emeritus Professor Heinz Niesyto (Ludwigsburg University of Education) writes: *"Digital education becomes an entry route for the IT industry"* (Niesyto 2021). Renowned school sociologist Professor Tim Engartner (University of Cologne) concludes in his analysis for the Rosa Luxemburg Foundation *"that the federal and state governments have created exceptionally lucrative markets for digital corporations through the ... 'Digital Pact for Schools'. It is clear that Google, Apple, Microsoft and Samsung faced relatively little resistance on their way into classrooms"* (Engartner 2020).



In 2017: some of the Federal Education Minister's advisers for the Digital Pact for Schools.

1.1 Digital Pact for Schools - a creation of industry

The federal government adopted the Digital Pact for Schools in 2017. It was drawn up by industry, rather than educational scientists, developmental psychologists or paediatricians. The federal Digital Pact committee, chaired by Education Minister Johanna Wanka, included representatives of Scheer Group GmbH, the business association Bitkom, Leibniz Institute for Information Infrastructure GmbH (FIZ KA), the Institute for Telecommunications Systems / Internet Network Architectures, Telekom AG, Volkswagen AG, the managing director of the Hasso Plattner Institute for Digital Engineering (HPI), Microsoft's director, the president of the German Association for Small and Medium-sized Businesses (BVMW), the president of the Association of German Chambers of Industry and Commerce (DIHK), and SAP (BMBF 2016).

In 2016, the Standing Conference of Education Ministers decided that teaching and learning processes should adapt to the spread of digital media (Assmussen 2017, Kübler 2025). A technical aid thus became the central, compulsory medium determining learning and instructional content. The 2025 coalition agreement shows the consequences. Autonomous tablet-based learning that replaces the teacher is defined as the new government's educational-policy goal (see Part II). The Digital Pact was equated with modernising teaching for so long that converting schools to suit tablets and smartphones became seemingly self-evident. Likewise, in the 1960s, cities were routinely rebuilt and disfigured to suit cars. Adapting to a product, then the car, became unquestioned progress that promoted sales and admitted no alternative. Stuttgart is now also implementing what was decided in 2017 through IT-industry lobbying: the digitalisation of education.



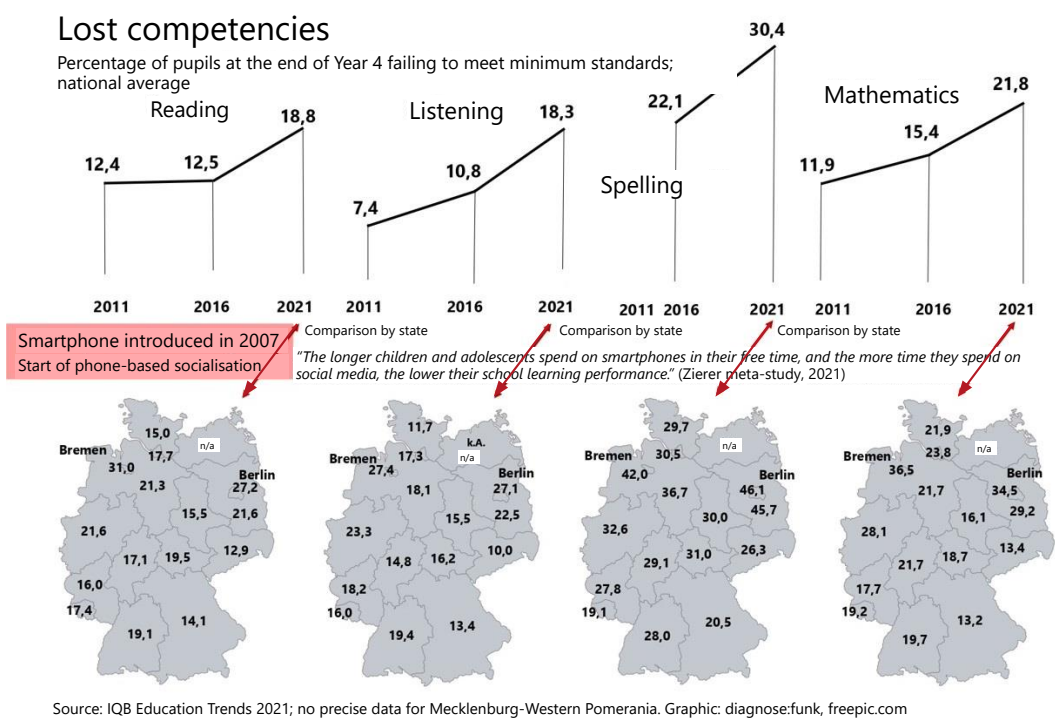
Authors of the expert report for Stuttgart: Prof. Paula Bleckmann (media educator), Prof. Gertraud Teuchert-Noodt (neurobiologist), Peter Hensinger, M.A. (educator), Prof. Ralf Lankau (media educator), Prof. Manfred Spitzer (psychiatrist).

1.2 Despite expert advice: Stuttgart refuses to listen!

The city announced digitalisation of nurseries and schools in 2023 and presented a nursery media concept based entirely on industry narratives. Children were to receive tablets early and practise digital techniques to prepare for working life. The then SÖS Linke Plus council group responded by submitting a report on this concept by renowned educational scientists, media educators and neurobiologists. They urged the city to examine the research evidence (Expert report 2023). The report, over 40 pages long, argued that digitalisation

was a wrong turn because it hinders learning in nurseries and primary schools, causes psychosocial and physical harm and, above all, negatively affects brain development (see also Teuchert-Noodt 2025). It is a major factor in declining reading, writing, listening and language development, phone addiction, alienation from nature, lack of exercise, obesity and early myopia. Children are not yet mature enough to control digital media. Basic skills and impulse control are fully developed no earlier than age 16. German youth protection rules specify the age at which children may watch particular films, buy alcohol, smoke or drive, always asking: when is the child ready? Why should this not apply to smartphones, which give children access through the internet and social media to all the world's depths, from pornography and violence to far-right extremism? And give IT corporations direct access to their thinking! And are programmed to be addictive!

The five experts proposed that the city hold a conference to support decision-making, and also offered personal advice. The SÖS Linke Plus council group submitted an inquiry with 15 questions about tablets' benefits in nurseries and primary schools (SÖS inquiry 2023). The city's officials replied to the experts: *"In a different context, your scientific approaches may well have merit, but not in connection with the use of media within our institutions"* (Youth Welfare Office, 14 July 2023). End of discussion.



Declining school performance: digitalisation's contribution is scientifically established!

1.3 Worldwide: bans on smartphones, tablets and social media

Ignoring developmental psychology and pedagogy, municipalities across Germany, not only Stuttgart, are now squandering millions of euros. Reality confirmed the warnings in the Stuttgart report. It began in 2022 in Sweden. Following a Karolinska University study, the government decided to replace screen media with books in nurseries and primary schools. In Denmark, where over 70% of nurseries had been digitalised, Social Democratic Education Minister Mattis Tesfaye apologised in 2023, saying digitalisation had caused children massive harm. They had been made *"guinea pigs in a digital experiment" "whose scope and consequences we cannot grasp"*. The classroom is simply not an *"extension of the teenage bedroom, where people stream, play games and shop"*. Schools had submitted to big tech corporations for too long; society had been too *"in love with the wonders of the digital world"*. Schools must *"reclaim the classroom as a space for education"* (Denmark 2023).

Events then followed rapidly. Austria, Italy, France, Finland, the Netherlands, Britain, Australia - a total of 69 education jurisdictions / countries worldwide - pulled the emergency brake, set age limits and introduced smartphone and social media bans. And Germany?



The future of school? Learning alone on a tablet, supervised by Google algorithms?
Photo: pexels / Werner Pfennig

1.4 "Digitalisation is the problem, not the solution" (Engartner)

UNESCO's latest education report confirms that no study shows digitalisation leads to better learning; rather, the opposite is true. Education professor Tim Engartner writes:

"According to an evaluation of international meta-studies, no positive effect on learners' subject-specific performance can be established for the use of digital media in schools" (Engartner 2024, p. 113). *"Digitalisation is the problem, not the solution,"* he states. Meta-studies found that digital media contribute to the collapse in performance. Thomas Thiel, head of the FAZ's *"Research & Teaching"* section, writes that *"digital media harm pupils rather than benefiting them"* (19 July 2023). Professor Klaus Zierer, Chair of School Pedagogy at the University of Augsburg, concluded from his 2021 meta-study: *"The longer children and adolescents spend on smartphones in their free time and the more time they spend on social media, the lower their school learning performance"* (Zierer 2021). In 2024, another meta-study by Zierer showed that smartphone bans accompanied by supporting measures have immediate positive effects in schools (Böttger 2024).

A new representative study in British schools confirms this (Mainsfield 2024). It found an improvement of one to two grades when smartphones are banned from school. Most recently, science presenter Harald Lesch and Klaus Zierer went public in response to the education crisis with their joint book *"Good Education Looks Different: What Schools Our Children Need Now"*. In the *Süddeutsche Zeitung*, Zierer explains his criticism of the *"tablet craze"*: *"Impulse control takes place in the prefrontal cortex, which is not yet fully developed in children and adolescents ... A smartphone in the schoolbag therefore places excessive demands on children even at a purely neurobiological level"* (17 April 2025). Even PISA coordinator Andreas Schleicher, who supported digitalisation two years earlier at Stuttgart's *"Digital School Forum"* (*Stuttgarter Zeitung*, 11 November 2023), now says of tablets in nurseries: *"There are no benefits; at this age, it is about developing social and emotional skills."* He therefore gives *"a clear yes"* to a mobile-phone ban (*Süddeutsche Zeitung*, 17 April 2025).

In March 2025, 75 experts in education, medicine and neurobiology submitted an appeal to the coalition negotiations calling for an immediate halt to digitalisation and proposing extensive alternatives. Eleven German professional associations, including the Federal Centre for Health Education (BZgA), had already done the same in 2023 through their screen-media guideline (Guideline 2023, Hensinger 2023).



2 The education crisis and commercialisation of education - from true education to education as a commodity

2.1 How digital education was conceived: the neoliberal output model for compliant narrow specialists

Smartphone bans in educational institutions are being debated worldwide, largely prompted by a major study in the United States, Britain and New Zealand whose findings Professor Jonathan Haidt published in *"The Anxious Generation"* (2024). He demonstrates that, following the smartphone's introduction in 2007, the shift from a play-based to a phone-based childhood led to a collapse in intelligence from 2012. German media are now responding too. Journalist Annika Ross writes in EMMA magazine:

"For a long time, the belief was: the more digitalised, the better. That is progress; that is the future. German schools with dusty chalkboards were mocked. During the pandemic, children everywhere were given phones and tablets so they would not be left behind. Yet that seems to be exactly what happened as a result. Teachers observe constant fatigue and apathetic emptiness in children. Performance levels are in free fall. Since the pandemic, studies have regularly appeared showing how greatly social media harm adolescents' mental and physical health. One in five German children demonstrably suffers from mental disorders." (EMMA 2025)

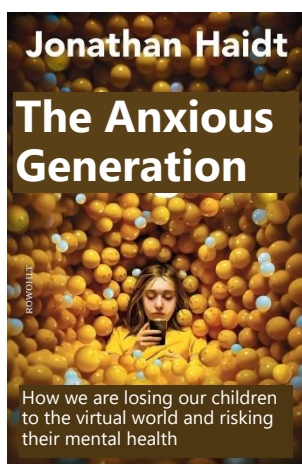


The New York Times, 2019: how Google occupied classrooms!

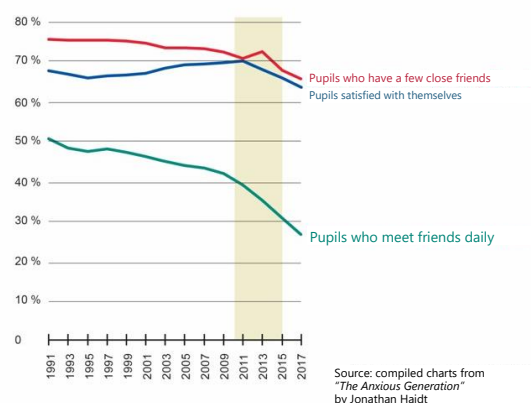
2.2 From the Sputnik shock to digital education

How did this development, which became Germany's education crisis, arise? How did the initially unquestioned digitalisation of nurseries and schools come about? After the Sputnik shock of 1957, OECD education conferences set a new course (Stederoth 2025). To avoid falling technologically behind the Eastern Bloc, education should be aligned with industry's needs and Humboldt's humanist educational ideal overcome. Under neoliberal ideas, educational

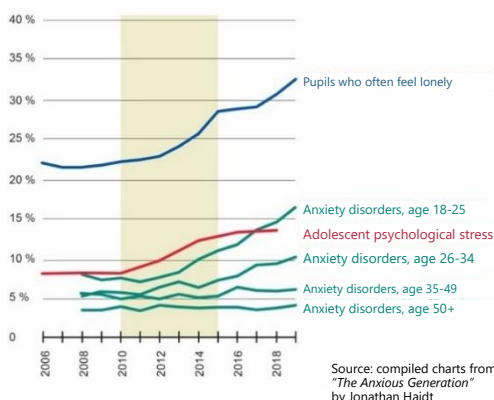
institutions were to be restructured. People then spoke of human capital, pupils as raw material, teachers as a production factor and commercially useful output: pupils' competencies should adapt to the labour market from nursery onwards (Krautz 2007). Education, however, serves individuals' development and humanisation, rather than conditioning towards a predetermined purpose. Educational ideals and values; emotional, social, democratic and creative abilities; free thinking, ethics, empathy and reflection, which are "formed" through engagement with culture, literature, music, sport and philosophy, were declared obsolete. There was a positive side: "Send your child to higher education" was intended to achieve equal opportunity, and universities of applied sciences were founded. Technicians were needed who would not question what they constructed: ultimately compliant narrow specialists. These requirements shaped the neoliberal educational plans of the OECD, PISA and McKinsey. In "The Education-Industrial Complex" (2018), sociologist Richard Münch describes industry's work towards a paradigm shift: transforming schools and universities from places of all-round personal development into places for pragmatic training of commercially useful human capital. More rigid schooling, standard study periods, Bologna reforms, and STEM and competency orientation followed. The door to the education crisis was opened.



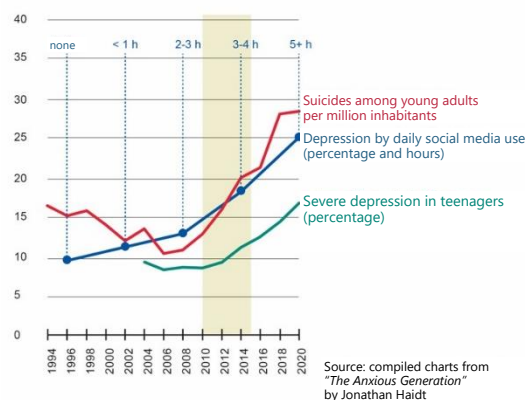
Meeting friends, close friends, satisfaction with oneself



Loneliness, anxiety and stress



Suicide, depression and social media



Jonathan Haidt: the 2012 tipping point - smartphone use and its disastrous effects on children and adolescents. His research into phone-based socialisation led to corrections in the digitalisation of educational institutions worldwide.

2.3 Engartner: employability instead of autonomy and reflection

Through digitalisation, industry sought not only an inexhaustible market for its products in the school sector, but also easy access to the most valuable raw material of the 21st century: data. Data mining cannot begin early enough (Hensinger 2018, 2019, 2020). Education was therefore to become measurable. Rapidly developing IT now makes this possible. Professor Niesyto writes: *"This measurement, however, has a hard capitalist core: opening up new markets and commercialising ever more areas of life through comprehensive collection of personal data."* Children's product loyalty and their data as future consumers are important guarantees of revenue and growth (Niesyto 2021). In Germany, Bertelsmann pushed education's commercialisation and digital measurability, especially through its executives' book *"The Digital Education Revolution: The Radical Transformation of Learning and How We Can Shape It"* (Dräger 2015).

Critical educational science rejected this neoliberal education policy from the outset; its contributions fill bookshelves (Krautz 2007, Burchardt 2012, Kraus 2017, Münch 2009, 2018, 2024). Educational scientists criticised the trimming of curricula to fit industry under the banners of competency orientation, empirical pedagogy and stronger STEM subjects (science, technology, engineering and mathematics) (Kübler 2025, Dammer 2025). German, sport, art, ethics and music, central to education, learning and intellectual development, were scaled back. For example, in Baden-Württemberg in 2016, civics was repurposed into the new compulsory subject *"Economics / Career and Study Orientation"* (WBS). In *"Escaping the Education Trap"* (2024), Professor Tim Engartner describes the wrong turn:

"Education policy and administration are currently dominated by an understanding of education geared towards economic usefulness, thereby giving it the character of a commodity. Educational institutions are to supply what the labour market demands: employability instead of autonomy and reflection is the credo." (Engartner 2024, p. 34)

Engartner contrasts this with schools' task. He calls for a return to education:

"But is there not agreement that education should enable learners to discover what is within them - all of it, an entire world, not just the world of work? This tried-and-tested idea contradicts the more recent developments in our education system." (p. 35)



His master's voices: the "digital only" society was agreed in the coalition agreement, just as industry wants.

2.4 Coalition agreement: digital education as a process of rationalisation, measurement and control in nurseries and schools

Industry's interests again prevailed in the CDU, CSU and SPD's 2025 coalition agreement. The new federal government reinforces the STEM focus:

- *"STEM, entrepreneurship education and ESD. We will expand early STEM education and the 'Jugend forscht' competition, support the establishment of student businesses and 'Education for Sustainable Development' (ESD)" (p. 73).*

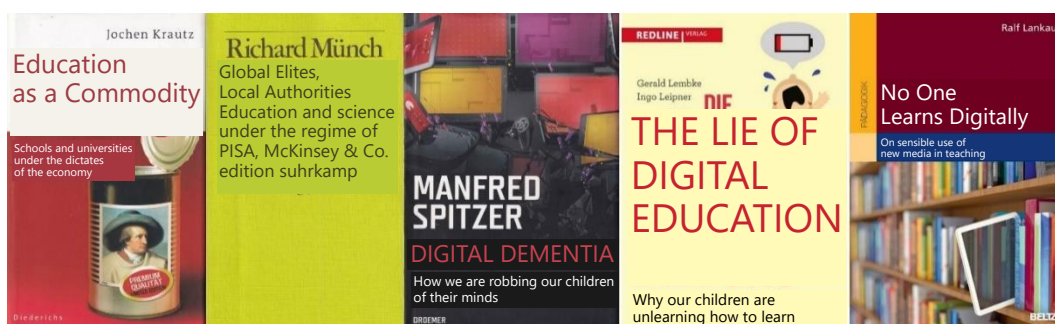
The coalition agreement takes measurement of the fully exposed student to its extreme by specifying complete digitalisation for autonomous teaching. Two formulations are particularly significant:

- *"With the new Digital Pact, we will expand digital infrastructure and reliable administration. We will advance practice-oriented teacher education, digitalisation-related school and teaching development, self-adaptive AI-supported learning systems and digitally supported substitute-teaching concepts ... We will reliably provide disadvantaged children with devices." (p. 72)*
- *"Respecting the relevant responsibilities, we intend to agree with the states on relevant and measurable educational goals for the next decade, and create data-supported school development and an educational-history register. We support introducing a student ID that is compatible across states and complies with data protection, and will enable its linkage to the citizen ID." (p. 72)*

"Self-adaptive AI-supported learning systems" mean autonomous learning without teachers, using AI programs that automatically adjust to pupils' progress, report errors and offer learning activities. An algorithm controls learning; the teacher becomes superfluous. Perfect dehumanisation. Media scholar Professor Ralf Lankau comments on the coalition agreement: "Automation, digitalisation and turning learning biographies into data are the guiding metaphors of the coalition agreement for educational institutions. For this purpose, every child receives a student ID at birth

(student identification number), which they retain for life. To ensure no child slips through the data-collection and surveillance net, 'disadvantaged children' receive free tablets. A new understanding of equal opportunity ... This is a rejection both of educational work and of the educational mission, because neither pedagogical work nor educational processes can be quantified or standardised through mathematical and statistical parameters" (Lankau 2025). Education professor Fritz Breithaupt had already formulated the goal of this reform, with its *"data-supported school development"*, *"educational-history register"* and *"student ID"*, in 2016:

"In 2036, parents will subscribe to a virtual teacher for their children as young as five. The computer's voice will accompany us through life. From nursery through school and university to continuing professional education. The computer recognises what a pupil can already do, where they need to catch up and how to spark their learning. We will reinvent ourselves as learners. The material to be mastered will be tailored entirely to the individual." (Breithaupt 2016)



For over 20 years: educational literature criticising education's commercialisation

The pupil alone before a screen, controlled by IT corporations' algorithms, without socialisation through motivating teachers and classmates: this fits behaviourist conditioning models for the compliant subject (Kissling 2025). The Hasso Plattner Institute has already developed the school cloud in which an avatar is to be created for every pupil (Meinel 2017). Technical tools are to replace the educational relationship, and learning software the teachers. This is individualisation instead of democratic socialisation. The digitally supported replacement of teachers is not unintended, given teacher shortages and empty coffers. Incidentally, the whole scheme is a municipal debt trap. Do municipalities have the money for specialists to administer digital infrastructure, and to renew software and hardware after two to four years at the latest?

Continuous collection of pupils' data for the student ID agreed in the coalition agreement is a surveillance structure (Zuboff 2018). Every pupil therefore needs a tablet, because their data are wanted. A digital twin is to be created through the return channel: the student ID, which should seamlessly become a citizen ID. Anyone without a tablet or smartphone would not supply data. Hence the coalition agreement has discovered its heart for the *"disadvantaged pupil"*, who will certainly receive a free tablet. Knowing in real time where a citizen is, what they think, consume and do, and above all

what they will do, is the DNA of the digitally controlled society (Hensinger 2019). The Chaos Computer Club warns of still more surveillance capitalism: *"As a result, the [coalition] document supplies a dictatorship toolkit, turnkey and tailor-made. The next government is already licking its repression-loving claws"* (CCC 2025). Greetings from China! The coalition agreement proudly announces departure from the analogue age through a *"digital only"* society! Cui bono - who benefits?



3 Alternatives for education towards media autonomy!

The first two chapters demonstrated that digitalising education will deepen, rather than solve, the education crisis. Which problems in educational institutions need urgent solutions? Nurseries lack educators; schools lack teachers. Given the exploding number of children with mental illness, nurseries and schools need social workers and psychologists. To counter children's and adolescents' retreat into smartphones and virtual worlds, alternatives are needed: playgrounds, spaces to experience nature, cultural, play and sports activities, and support for art and music clubs. To overcome the education crisis, especially the free fall in basic reading, writing, arithmetic, listening and speaking skills, the one-sided STEM focus must be corrected and special programmes introduced. All these problems are intensified by digital media use; policy exacerbates them instead of solving them. Klaus Zierer, Professor of School Pedagogy at the University of Augsburg, states in the *Süddeutsche Zeitung*: *"People in decision-making positions have no idea about practical realities in schools"* (17 April 2025).

Given the force with which digitalisation is overturning every area of life, solutions are not simple. Public debate is necessary. How can children develop

media autonomy and master digital media after leaving school without becoming dependent or even addicted? Educational science has presented comprehensive media-education concepts for linking the analogue and digital productively and appropriately for each age (Bleckmann 2019, 2023, Möller 2023, Lankau 2021, 2022, 2023, Hensinger 2023, Teuchert-Noodt 2025, Lesch 2024, Engartner 2024). Under industry-lobby influence, however, policymakers do not engage with them.



Teaching professions must receive greater social recognition, including better pay!
(Photo: GEW NRW)

3.1 Connecting the analogue and the digital

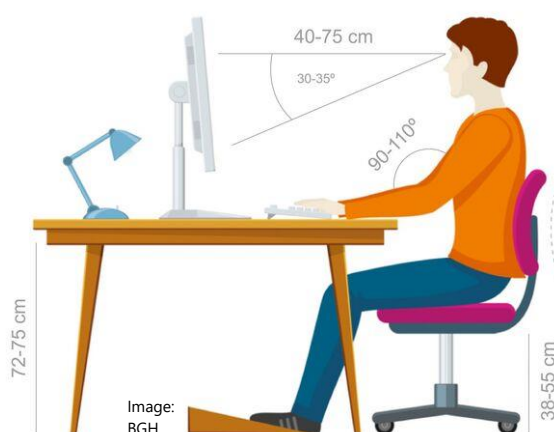
Today's pupils grow up in a digitalised environment. They need guidance. Schools need cross-curricular media studies covering all media. Children should learn the benefits and risks of digitalisation in age-appropriate ways. Youth protection and addiction prevention must be implemented. No smartphone is needed for this: after all, drug, alcohol and smoking prevention does not involve consuming the addictive substance. The risks of poor nutrition are not taught by eating junk food. Educational concepts call for age-appropriate media education that remains screen-free until age 16. Until then, children must acquire all the basic skills enabling self-determined use of digital media. This requires impulse control and reflection, abilities that develop only from about age 16. Municipalities can make sensible use of the millions available through the Digital Pact, even within its funding restrictions:

- Direct training in digital media can begin from age 16. This requires well-equipped, wired computer rooms.
- Every school should have a digital audio and film studio where analogue learning is put into practice through, for example, podcasts, slow-motion videos or films.

- In science, clubs and advanced courses should be supported that build robots, for example, applying knowledge of computing, physics and mathematics.
- A cross-curricular smartphone licence should also be introduced, covering knowledge of the risks.
- Wi-Fi is regarded as a technology harmful to health (Wi-Fi research review 2025). Even Telekom recommends not installing Wi-Fi close to people (Telekom 2017). A better alternative is ready for the market: LiFi, data transmission through light. It should be installed wherever mobile communication is indispensable in schools.

3.2 Tablets as work devices: breaching health guidelines!

By introducing tablets, schools breach the principles of workplace ergonomics. Screen-based learning must follow ergonomic rules and use large screens. Businesses have strict rules for ergonomic office workstations (BGHM, undated). The “S2k Guideline for Preventing Dysregulated Screen Media Use in Childhood and Adolescence”, drawn up by eleven German professional associations,



identifies the breach of rules caused by introducing tablets into nurseries and schools:

“There are good reasons to assume that digital teaching causes the same symptoms as conventional office or screen work: headaches, nervousness, irritability, musculoskeletal disorders and eye diseases. Many children have no access to fully equipped PC workstations and therefore follow digital lessons on mobile devices. Not least because many schools, to ensure digital teaching, have started buying large quantities of tablets or accepting them as gifts from industry and lending them to pupils. This development is worrying, since the Federal Institute for Occupational Safety and Health advises using tablets and smartphones only briefly because of increased risks of physical strain.” (Guideline 2023, p. 17)

As learning and work devices, however, tablets and smartphones are not used briefly. Ergonomically equipped screen workstations are therefore compulsory to protect against subsequent harm. Early myopia, in particular, with a high risk of early blindness, is a consequence of small screens. Professor Manfred Spitzer thoroughly documented these health consequences in a review (Spitzer 2022) that formed part of the report submitted to Stuttgart

city. Disregarding them borders on knowingly causing bodily harm, Spitzer said in a lecture.

3.3 75 experts call for a change of course in education



Initiators of the 75 experts' appeal to halt digitalisation: Dr Uwe Büsching, Dr Mario Gerwig, Peter Hensinger, M.A., Prof. Ralf Lankau, Prof. Manfred Spitzer, Prof. Klaus Zierer.

An unbiased debate is needed about age-appropriate digital media use, based on contributions from critical educational science. On 12 March, the Alliance for Humane Education submitted to the coalition negotiators the concept *"Humane and Emancipatory Education Policy versus Digital Transformation"*, a way out of the education crisis signed by 75 experts. Science evidently received no hearing in the coalition agreement. The appeal's main demands are therefore listed here:

- **Screen-free basic education:** nurseries, kindergartens and primary schools remain screen-free in their educational work. Negative experiences with early digitalisation in Scandinavian countries, its lack of benefits, distraction potential and even negative effects of digital classroom devices on learning, attention and concentration justify analogue and manual media and techniques (books, writing on paper, drawing). The Digital Pact for Schools is suspended for nurseries and primary schools.
- **Smartphone and social media regulation:** a nationwide ban on private digital devices (especially smartphones, tablets, wearables / smartwatches) is introduced in nurseries and schools. Classroom media use in higher years is restricted according to age. See also the screen-media recommendations for children and adolescents from their earliest years through upper secondary education, published in 2024 in *"Kinder- und Jugendarzt"*, the journal of Germany's Professional Association of Paediatricians.
- **More teachers instead of more technology:** nurseries, kindergartens and schools need more educators and qualified teachers, psychologists and school social workers.
- **Providing alternatives:** analogue play and experiences of nature, expanded sport, practical craft learning, music and theatre must be embedded in the curriculum from primary school onwards and expanded as a counterbalance to the digitalised world.

- **Independence from tech corporations:** where digital devices are needed in lessons, only school-provided devices are used, and web access is limited to teaching-relevant sites (a "whitelist"). Schools use open-source software and IT compliant with data protection. The IT industry must not have seats on educational-policy advisory bodies.



Alternatives for a way out of the education crisis are available. So far, policymakers listen to industry's whispers.

The 75 signatories of the appeal call on the federal government to change direction in education policy towards media autonomy. Initial measures to protect children and adolescents should include halting digitalisation, cancelling Digital Pact 2.0, and banning smartphones and social media until age 16. Digital media must not replace teachers and educators; this core of digital education must be rejected. Digital media as tools must be used according to an educational concept.

More information: <https://die-pädagogische-wende.de/aufruf-bildungspolitik-2025/>

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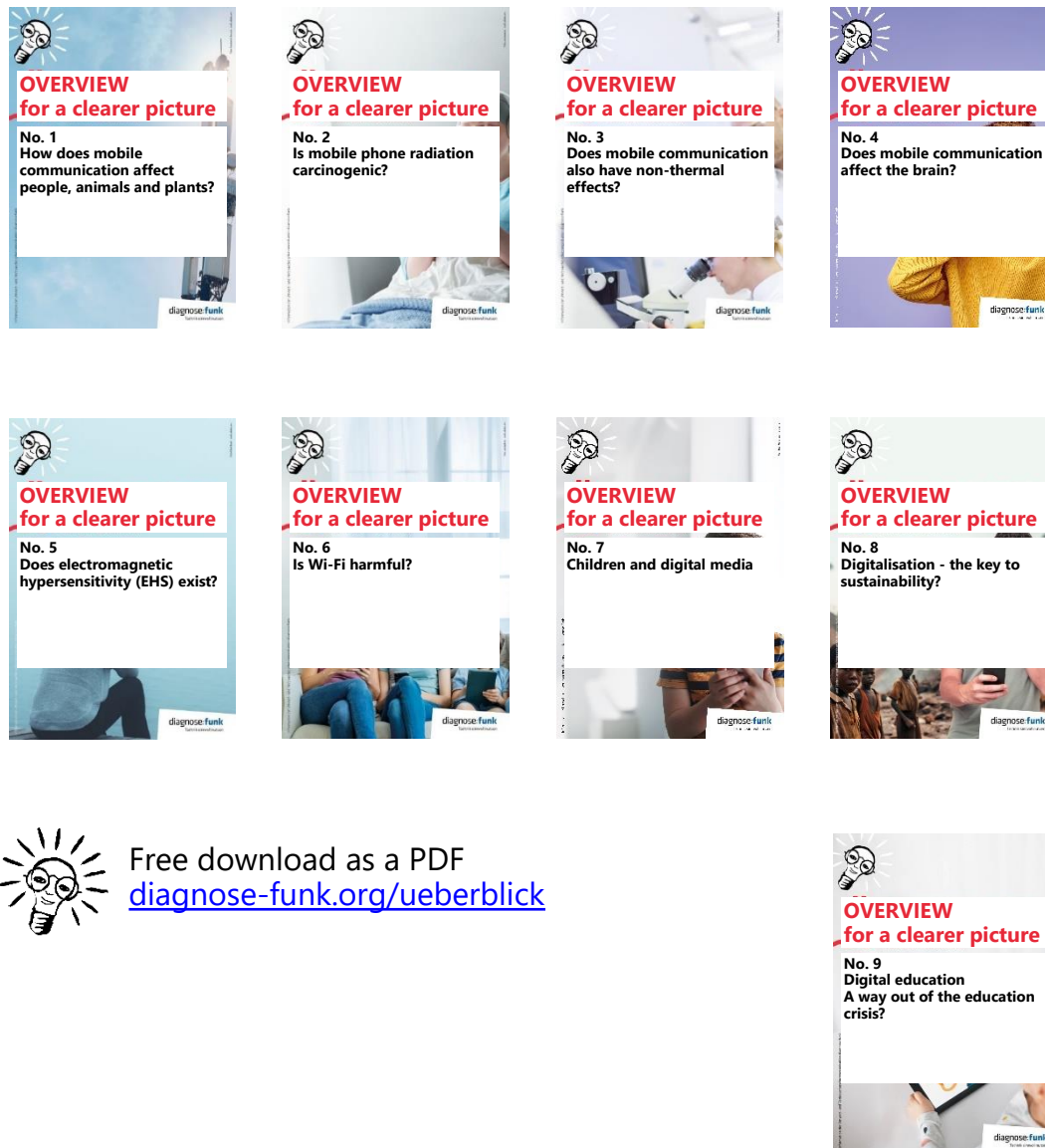
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