# Germany: Standardization of Teacher Education as a Trap

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## Abstract

In this article, I analyze the experience of Germany - a country that, facing the "PISA shock" of 2000, went down the path of standardizing teacher education as the main means of improving school quality. In 2004, the Standing Conference of the Ministers of Education and Cultural Affairs (KMK) adopted the "Standards for Teacher Education: Educational Sciences" - a document that was supposed to ensure the comparability and quality of teacher training across the country [1], [6]. Relying on the research of German scholars, including the critical works of Terhart [3], Herzog [4], and Oelkers [5], as well as on international comparative studies by Lindqvist [2], I show that the standardization of teacher education has become a classic example of how good intentions can lead to unintended consequences. The standards, which were supposed to improve quality, "acquired their own dynamics" and became an end in themselves, narrowing the space for academic reflection and creativity [2]. Instead of becoming a tool for the professional development of teachers, they turned into an instrument of bureaucratic control, and their implementation in university programs remains extremely uneven [7], [8]. I also show that the German model of standardization, despite its external attractiveness to supporters of "quality management," fundamentally diverges from the communicative-cognitive framework of personality (CCFP) model: it replaces the development of thinking with a formal list of competencies, narrows the understanding of professionalism to a set of measurable behavioral manifestations, and leaves no room for individualization and creativity [12].

**Keywords:** Germany, standardization of teacher education, KMK 2004, PISA shock, competency-based approach, bureaucratic control, academic autonomy, theory-practice, communicative-cognitive framework of personality.

## Introduction: Why Germany

Germany is a country that has always evoked mixed feelings in me when it comes to education. On the one hand, it is the birthplace of some of the greatest educators and psychologists in history: from Herbart to Diesterweg, from Wundt to modern researchers of teacher education. On the other hand, the German education system is known for its bureaucracy, fragmentation (due to its federal structure), and conservatism. It is precisely this duality that makes the German experience particularly instructive. Germany is a country that, in response to the "PISA shock" of 2000, decided to reform teacher education through standardization. And this choice, as I will show, became a classic example of how good intentions can lead to unintended consequences.

Here it is appropriate to recall the old Jewish legend about the Golem - a clay man created by the Prague Rabbi Loew to protect the Jewish community. The Golem was strong and obedient, but he had no soul. He followed orders, but could not speak and did not understand the subtleties of human life. In the end, he went out of control and had to be stopped. The 2004 German teacher education standards remind me of this Golem. They were created to protect the quality of education - a noble goal. They were supposed to ensure comparability and order. But, like the Golem, they turned out to be a soulless mechanism that does not hear the living word of university lecturers, does not understand the context, and ultimately begins to dictate its own rules instead of serving people.

As noted in Lindqvist's research, "some of these tensions stem from top-down rules and prescriptions - for example, the political decision to introduce teacher education standards in Germany in 2004." These standards, according to researchers, "have acquired their own dynamics, gained increasing importance and, as a consequence, reduced the opportunities for open discussion and reflection, which university lecturers in pedagogical sciences consider the foundation of academic work" [2]. This is a key observation. The standards, which were supposed to become a tool for improving quality, became an end in themselves. They did not stimulate reflection and innovation, but rather

suppressed them. And it is precisely in this, in my view, that the main lesson of the German experience lies: standardization without a clear understanding of goals and without respect for the professional autonomy of teachers turns into a trap.

**Historical Context and Reasons for Reforms**

As in many other countries, the catalyst for educational reforms in Germany was the "PISA shock" of 2000. As researchers note, "the poor performance of the German school system in international comparisons of achievement" became a "decisive factor" for reforms [3]. The results of PISA 2000 were shocking for Germany. A country that was accustomed to considering itself a world leader in education found itself below the OECD average in reading and significantly lagged behind the leaders. This sparked a powerful public discussion and led to a series of reforms aimed at improving the quality of education. As the study notes, "the PISA earthquake, whose shock waves were supposed to spread only to the general education system, now also shakes vocational education." Education policy "reacts not only with structural reforms, but now, after consultations with - who knows how selected - consultants, intervenes with substantive prescriptions in teacher education" [5].

In response to the PISA shock and growing criticism of teacher education, the Standing Conference of the Ministers of Education and Cultural Affairs (KMK) established a commission headed by Professor Terhart in 1999. As the study notes, the Terhart commission "in its final report in 1999 made it clear that it is extremely necessary to modernize teacher training" [3]. In 2002, Terhart presented an expert opinion on "Standards for Teacher Education," which became the basis for subsequent decisions. As the study notes, "at first nothing happened. After discussions at the end of 2003, a working group was finally formed" [5]. However, as researchers emphasize, the composition of the working group was problematic. "The working group was clearly determined by the administration in its composition (13 people). The group of scientists numbered seven people, two of whom were simultaneously classified as administration." This group "developed the 'Standards' based on templates in four meetings from January to the end of May 2004." "At the final stage of the work, 'responsibility for the text' passed completely to the administrative side (three more meetings), which then submitted the draft resolution to the Conference of Ministers of Education and Culture" [5]. This is an important observation: the standards were developed in a hurry (over four months), with the dominance of the administrative rather than the academic voice.

**Content of the Reforms: "Standards for Teacher Education: Educational Sciences" (2004)**

In December 2004, the KMK adopted the "Standards for Teacher Education: Educational Sciences" [1]. As the official description notes, "the presented standards for teacher education formulate competencies in the field of educational sciences that are of particular importance for professional education and daily professional practice" [6]. The standards covered four areas of competence: teaching (the ability to plan, conduct, and analyze lessons), upbringing (the ability to support the development of students and create a favorable learning environment), assessment (the ability to diagnose and evaluate students' learning achievements and development), and innovation (the ability to participate in school development and innovation). A total of 48 standards were formulated in these four areas. As the study notes, "the standards for educational sciences, together with the requirements for subject sciences and didactics, form the basis for the accreditation and evaluation of study programs in pedagogical specialties" [6]. This was an important step: the standards were becoming not just recommendations, but mandatory requirements for accreditation.

The 2004 standards were part of a broader movement towards competency-oriented teacher education [7]. As the study notes, "the research discourse on teacher education in Germany is strongly influenced by the idea of competency-oriented teacher education." This approach promised "a strong focus on the individual needs of students and a connection with practice." However, as I will show below, these promises remained largely unfulfilled [8]. For the CCFP model, the German experience is important precisely because of its one-sidedness. The 2004 standards defined competencies - but competencies remain general, behaviorally oriented abilities that do not have an operational definition and are not diagnosed as separate units. The mental mechanisms discussed in my model are specific tools of thinking, each of which can be diagnosed, evaluated in dynamics, and purposefully developed [12]. Germany took a step from "subject training" to "competencies," but did not take the next step - from "competencies" to "mental mechanisms." Moreover, the standards were introduced from above, without empirical justification and without taking into account the professional autonomy of university lecturers.

**Positive Experience and Achievements**

The German teacher education standards had some positive aspects that deserve mention. The first and perhaps the main achievement is the increased comparability of teacher education across the country. As the study notes, the standards were adopted "with the claim to ensure quality and with the goal of (substantive and administrative) comparability of teacher education" [1]. In a federal system where each of the 16 federal states has its own education policy, this was an important step forward. Researchers also note that "teacher education in Germany has been significantly improved and developed over the past two decades, partly thanks to national programs such as the Quality Campaign for Teacher Education" [2].

The second achievement is the systematization of requirements for future teachers. As the study notes, the standards "describe what knowledge and skills teachers must possess in order to act competently in teaching and other school situations" [6]. This created clear guidelines for the development of curricula. In addition, as noted in the study, "important in the sense of the above-mentioned result-oriented concept of competence is the fact that no prescriptions are given here as to exactly how this competence should be created didactically. There is flexibility here and the possibility to adapt the promotion of the highlighted competencies to the framework of the current situation in the respective university." Theoretically, this left room for academic freedom. For the CCFP model, these achievements are not just "positive experience," but conditions of possibility. Increased comparability, systematization of requirements, flexibility in didactic implementation - all this creates an environment in which the formation of mental mechanisms becomes possible [12]. But a condition of possibility is not the same as a sufficient cause. Germany created guidelines and requirements, but did not create a system for diagnosing and developing specific mechanisms. Moreover, the standards, which were supposed to become a tool for development, became a tool for control. It is precisely why Germany's achievements remain fragile: they are held together by systematization and comparability, but are not supported by the technology of forming a cognitive apparatus.

**Negative Consequences and Challenges**

However, the positive effects of standardization turned out to be modest, while the negative ones were massive and profound. The most serious problem, in my view, is that the standards "acquired their own dynamics" and became an end in themselves. As Lindqvist's research notes, "these standards are described as having acquired their own dynamics, gaining increasing importance and, as a consequence, reducing the opportunities for open discussion and reflection, which university lecturers in pedagogical sciences consider the foundation of academic work" [2]. In other words, the standards, which were supposed to become a tool for improving quality, turned into a bureaucratic ritual. Instead of stimulating reflection and innovation, they suppressed them. As another study notes, "critics speak out against tendencies in which standards would be useful. Standardization is, according to Herzog, the 'flip side of liberalization in education', 'an addition to the transition from input control to output control'" [5].

The second serious problem was the process of developing the standards. As the study notes, "in educational sciences, the published reaction in specialized journals was very critical: the standards were considered too ambitious, too complex, too simple... too..." [5]. The standards were developed in a hurry, with the dominance of the administrative voice over the academic one. This led to them being met with criticism from the pedagogical community. The third problem is the extremely uneven implementation of the standards in universities. A study conducted in North Rhine-Westphalia showed that "universities in North Rhine-Westphalia continue to implement the standards extremely heterogeneously, and some competencies have not found or have only found partial reflection in the curricula" [7]. Moreover, "individual bachelor's and master's programs show significant differences in the implementation of competencies." Another study comes to a similar conclusion: "the majority of pedagogical standards introduced by the Standing Conference (KMK 2004a) are not taken into account in the curricula of many universities" [8]. As the study notes, "the differences in German universities are great, and the standards 'have not yet been implemented everywhere'." Researchers also note "university-specific receptivity of the standards regarding the reorganization of the content of educational sciences." This means that the standards, which were supposed to ensure uniform quality across the country, in practice led to even greater fragmentation.

The fourth problem is the threat to academic freedom. As the study notes, Herzog criticizes "extreme normalization" and believes that "academic freedom is under threat" [4]. Proponents of the standards, on the contrary, argued that standards are necessary to overcome "arbitrariness" in teacher education. As Oelkers notes, "they have almost complete agreement on one central point: education, with its high formal regulation, is substantively arbitrary."

"Under the cover of 'freedom of teaching and research', one can offer whatever is dear to lecturers in pedagogical education, for whatever reasons" [5]. However, as practice shows, standardization did not lead to an increase in quality, but merely replaced one type of arbitrariness with another - bureaucratic.

The fifth problem is the intensification of the tension between academic knowledge and school practice. As Lindqvist's research notes, "a recurring and fundamental problem of politically driven reforms in teacher education has been to balance these two aspects of teacher education, and this has spawned conflictual relationships that create tension in the balance between academic knowledge and school practice knowledge in teacher education" [2]. In Germany, as in Sweden, teacher education is an "academic professional education and therefore requires a combination of academic research knowledge and professional practical skills." However, standardization apparently shifted the balance towards practical skills at the expense of academic knowledge. As the study notes, "widespread demands for more school-related experience put pressure on the scientific nature of teacher education. In contrast to school practice, scientific practice and scientific literacy of future teachers receive little attention and recognition" [2].

Here I am reminded of the famous phrase from Goethe's "Faust": "Dry, my friend, is all theory, and green the golden tree of life." The 2004 German standards are that very "dry theory" that tries to organize the "tree of life" of pedagogical practice. But life does not fit into 48 standards. It requires improvisation, intuition, and living contact between the teacher and the student. And the more the standards try to control this life, the more "dry" and lifeless pedagogical practice becomes.

The sixth problem is the lack of an empirical basis for standardization. As the study notes, "reforms are prescribed without any prior empirical justification and even without empirical accompanying research." "Thus, we have no idea what the new treatment gives, and in the end we will not be able to say whether it gives more than the previous one" [5]. This is a fundamental problem: the standards were introduced without evidence of their effectiveness [9], [10]. As the study notes, "even if the PISA results (or the not yet existing PISA-B results) ultimately improve, this cannot be causally attributed to the introduction of standards" [5].

For the CCFP model, these negative consequences are not just "problems of the German school." They are symptoms of a deeper phenomenon: a reform that changes declarations and structures, but does not change the cognitive apparatus of the participants, inevitably reproduces the old paradigm [11], [12]. Standards as an end in themselves, criticism of the development process, uneven implementation, threat to academic freedom, tension between theory and practice, lack of an empirical basis - all these are consequences of the fact that the German reform did not place the diagnosis and development of specific mental mechanisms at the center. It changed the "what" and "how" of education, but did not change the "with what" - the cognitive tool used by both the lecturer and the student. Moreover, the standards, which were supposed to become a tool for development, became a tool for control, actively reproducing a cognitive apparatus inadequate for solving "hard problems" [12].

**Contradictions with the CCFP Model**

Now I want to move on to what is most important to me: the fundamental differences between the German model of standardization and the communicative-cognitive framework of personality (CCFP) model [12]. The first and most fundamental difference: the German model operates with the concept of "competencies," while mine operates with the concept of "mental mechanisms" [1], [12]. At first glance, these concepts may seem similar. Both are abilities that should be developed in future teachers. However, there is a fundamental difference between them. Competencies in the German model are general, behaviorally oriented abilities: "to teach," "to educate," "to assess," "to innovate." They describe what a teacher should be able to do, but do not describe how they should think. They are oriented towards external manifestation, not towards internal mechanisms of thinking [12]. The mental mechanisms that I propose are specific, operationally defined tools of thinking: establishing cause-and-effect relationships, critical thinking, Socratic dialogue, spatial imagination, forecasting, and others. Each of these mechanisms can be diagnosed, evaluated in dynamics, and purposefully developed [12]. The German model does not answer the question: which specific thinking mechanisms should a teacher develop in order to be able to develop them in students?

The second difference: the German model is built on standardization, while mine is built on individualization [1], [12]. The 2004 standards offer a uniform set of competencies for all teachers, regardless of their individual characteristics, work context, and unique abilities. This is a model of unification. My model, on the contrary, is built

on individualization [12]. Each teacher is unique, and their unique abilities should become the "entry point" for the development of all other mental mechanisms. The school should not unify, but identify and develop what makes each teacher (and each student) special.

The third difference: the German model enhances bureaucratic control, while mine enhances professional autonomy [2], [12]. The 2004 standards were a tool for "top-down" control. As the study notes, they "acquired their own dynamics" and became an end in themselves, "reducing the opportunities for open discussion and reflection." University lecturers "consider these opportunities as the foundation of academic work" [2]. My model, on the contrary, implies trust in the professionalism of teachers [12]. Instead of controlling and checking, teachers should be given space for creativity and decision-making. As the experience of Finland and Kyrgyzstan shows, it is trust, not control, that is the basis of sustainable changes.

The fourth difference: the German model evaluates formal competencies, while mine evaluates the dynamic diagnostics of development [1], [12]. The 2004 standards describe what competencies a teacher should possess at the end of their education. This is a static model: there is a list of requirements, and it is necessary to check whether the graduate meets them. My model proposes dynamic diagnostics: not a static level is evaluated, but progress - the dynamics of the development of each of the mental mechanisms. This allows us to see not only "what the teacher can do," but also "how they are changing" and "how they can develop further" [12].

And finally, the most important difference. The German model of standardization, like most other educational models, does not realize the epistemological significance of developing thinking [11]. As I substantiated in the article "Epistemological Recursion in Cognitive Science," modern neuroscience is stuck in the "trap of correlations": we record the results of brain activity, but we do not understand the mechanism of its self-organization. The way out of this dead end lies not in the plane of creating even more powerful scanners, but in the plane of the evolution of the knowing subject itself. The German model does not set itself this task [1]. It does not understand that the development of mental mechanisms in future teachers is not just "improving their competencies," but the preparation of the very cognitive apparatus that tomorrow will be able to deconstruct the logic of its own brain. It remains within the framework of pedagogy, without reaching the level of epistemology [12].

It is precisely here that the German experience leads us to the key distinction that I discuss in detail in the article on epistemological recursion [11]. The hard problem is not a problem of missing data, but a problem of an exhausted conceptual framework. Germany tried to solve the problem of education within the existing framework - through standardization and competencies. But the framework remained the same: the school still prepares thinkers with linear, reductionist thinking, rather than subjects capable of an act of re-conceptualization [12]. For the CCFP model, this means: the German experience shows the boundaries of reforms that do not reach the epistemological level.

**Conclusions and Lessons**

What can we take away from the German experience? The first lesson: standardization without a clear understanding of goals and without respect for professional autonomy becomes a trap [2], [4]. The 2004 German standards, which were supposed to improve the quality of teacher education, "acquired their own dynamics" and became an end in themselves, suppressing reflection and innovation. The second lesson: educational reforms cannot be hasty and unprepared [3], [5]. The German standards were developed in a hurry (over four months), with the dominance of the administrative voice over the academic one. This led to the standards being met with criticism from the pedagogical community. The third lesson: standardization does not guarantee quality [7], [8]. Studies show that the implementation of the standards in university programs remains extremely uneven. The standards exist on paper, but are not always implemented in practice.

The fourth, and most important lesson for me: the competency-based approach cannot replace the development of thinking [12]. The German model replaces the development of thinking with a formal list of behavioral competencies. It describes what a teacher should be able to do, but does not describe how they should think. The German experience shows that reforms in teacher education are not just the introduction of standards and competencies. It is a change in the culture of education. And this change requires not standardization, but trust; not control, but autonomy; not formal competencies, but the development of thinking.

The CCFP model offers this path. It does not deny the importance of professional standards - but it supplements them with the understanding that true professionalism begins with the development of thinking. It does not deny the

importance of assessment - but it proposes dynamic diagnostics instead of static standards. It does not deny the importance of systematization - but it proposes a systematization based on individualization, not unification. It is precisely this combination - professional autonomy and the development of thinking - that could, in my view, become the basis for a truly sustainable transformation of teacher education [12].

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