

## Article

# A Comparative Study of Basic Education Reform Paths from the Perspective of PISA: The Cases of Germany, England, Finland, and China

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**Abstract:** As an international student assessment programme administered by the OECD, PISA has moved beyond merely measuring academic performance to become a crucial reference point for basic education reform globally. Amidst intensifying global educational governance, PISA shapes national judgments regarding educational quality, equity, and reform priorities through its comprehensive literacy framework and policy interpretive functions. This article utilizes document, policy text, and comparative analyses to examine how Germany, England, Finland, and China have advanced basic education reforms under PISA's influence, comparing their distinct priorities, mechanisms, and trajectories. The findings indicate that PISA has shifted basic education reform from internal experience-based logic toward external benchmarking and evidence-driven adjustments. Specifically, Germany exhibits a problem-response path focusing on national standards and equity. England demonstrates a standards-and-accountability reconstruction path centered on curriculum review and school autonomy. Finland represents continuous improvement grounded in comprehensive schooling and curriculum flexibility. Meanwhile, China's approach involves quality diagnosis and structural optimization, leveraging high performance to address structural weaknesses and assessment reform. Ultimately, this study argues that while PISA does not directly dictate national policies, it significantly reshapes how countries redefine educational quality and identify systemic issues. The resulting reform paths reveal a shared global commitment to enhancing educational quality and equity, alongside substantial differences deeply rooted in unique institutional contexts, policy traditions, and national governance styles.

**Keywords:** pisa; education reform; comparative education; education policy; educational quality; educational equity

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## 1. Introduction

Since the beginning of the twenty-first century, international student assessment has evolved from a specialized instrument within the field of educational measurement into an important reference point for national basic education reform. The remarkable influence of PISA lies not only in its wide participation or advanced testing techniques, nor merely in the regular release of rankings and scores, but in the fact that it embodies a highly interpretable framework of educational quality. It assesses the fundamental literacies of 15-year-old students in reading, mathematics, and science, while also using student, family, and school background questionnaires to reveal institutional differences, resource distribution, and issues of equity behind educational outcomes. It is precisely this integrated mechanism of measurement, interpretation, and reference that has made PISA an important external force driving educational reflection and policy adjustment in many countries.

Existing studies suggest that PISA influences educational policy mainly for three reasons [1]. First, under conditions of globalization, countries have become increasingly

concerned with the quality of basic education, and educational success or failure is now more frequently interpreted within an international frame of reference. Second, PISA has gradually become an international platform for comparing both students' core competencies and the quality of education systems, and governments, the public, and the media all make judgments about national education on the basis of these results. Third, PISA does not simply provide scores; it connects students' performance with family background, school conditions, and institutional characteristics, thereby enhancing both policy interpretability and reform orientation. In other words, PISA is not merely a device for determining who performs better or worse. It is also a reform trigger that helps countries identify problems, learn from others, and reconstruct their understanding of educational quality.

In this context, basic education reform has increasingly become 'PISA-referenced.' On the one hand, many countries use PISA as a mirror through which to examine the quality, equity, and effectiveness of their own education systems. On the other hand, the emphases of PISA on literacy, application, problem solving, and real-life contexts have continuously filtered into national curriculum standards, curriculum content, pedagogical approaches, and assessment systems [2]. As previous studies have noted, the influence of PISA on curriculum reform around the world does not remain at the level of abstract ideas. It is concretely reflected in ongoing revisions of curriculum standards, adjustments to curriculum content, changes in curriculum implementation, and reforms of curriculum evaluation. Some studies even report that, among 37 economies surveyed by the OECD, over 90% indicated that they had adjusted national or local curriculum standards in line with the PISA framework or similar competency-based frameworks.

At the same time, countries do not respond to PISA in the same way. For some, PISA generates a strong sense of crisis and public pressure, which in turn prompts systemic reform. For others, PISA functions more as an international confirmation of an already successful model, thereby encouraging continuous improvement rather than dramatic change. In still other cases, relatively high performance provides the basis for using PISA as a diagnostic tool to identify structural weaknesses in equity, curriculum, assessment, or regional variation [3]. Therefore, the more meaningful research problem is not simply to state that PISA has influenced educational reform, but to analyse how countries enter basic education reform agendas through PISA under different institutional conditions, what kinds of reform paths they have formed, and what common patterns and differences these paths reveal.

Against this background, this article conducts a comparative study of Germany, England, Finland, and China. These four cases are selected for three main reasons. First, all four are clearly connected to PISA, yet they do not represent the same type of reform context. Second, they display distinct logics of basic education reform and thus possess strong comparative value. Third, although this study draws in part on research materials referring to the United Kingdom, the analysis focuses primarily on reforms led by England in relation to curriculum and schooling. The section on China is based mainly on the policy reflections and reform implications generated by Shanghai's participation and by the performance of B-S-J-G, treating them as a national reform reference grounded in participating jurisdictions rather than as a straightforward representation of the country as a whole.

This article addresses three questions. First, how has PISA entered the reform agendas of different basic education systems? Second, what kinds of reform paths have Germany, England, Finland, and China followed under the perspective of PISA? Third, what common trends and institutional differences do these reform paths reveal? By addressing these questions, the article aims to show that the real impact of PISA lies not in scores themselves, but in how it reshapes the ways in which countries understand educational quality, equity, and reform priorities [4].

## 2. Methods

This study adopts a research design that combines document analysis, policy text analysis, and comparative analysis [5]. Initially, representative studies on PISA-related themes, such as global educational governance, policy impact, curriculum reform, and policy adjustment, were reviewed to extract the basic logic through which PISA influences basic education reform. Subsequently, using Germany, England, Finland, and China as cases, the study analyzes reform priorities and directions from the perspective of PISA by drawing on existing discussions of policy background, reform measures, implementation priorities, and reform implications in each case. Finally, through cross-case comparison, the article identifies different types of reform paths that have emerged under the influence of PISA.

A comparative approach is particularly appropriate because existing studies show that PISA exerts both common and differentiated influences on educational reform. On one hand, educational quality, equity, curriculum standards, assessment mechanisms, and teacher professional development recur across many national responses to PISA. On the other hand, because educational systems differ in political tradition, governance mode, reform experience, and institutional structure, national responses to PISA also vary significantly. Some countries have responded to disappointing results by undertaking large-scale systemic restructuring; others have deepened reform through pre-existing trajectories; still others have used PISA as an external mirror to diagnose and optimize existing advantages. A purely case-descriptive approach would therefore be insufficient to reveal the underlying reform logic. Comparative analysis is necessary to identify distinct path types.

In terms of case selection, Germany is treated as a typical problem-response case because many studies argue that Germany experienced a significant "PISA shock" after the publication of PISA 2000 and rapidly launched a series of reforms centered on educational standards, assessment mechanisms, school structure, and educational equity. England is treated as a standards-and-accountability reconstruction case, as the literature suggests that, under the pressure of stagnating or declining PISA rankings, the focus of reform gradually shifted from the rhetoric of learning enjoyment toward the importance of teaching, curriculum review, and school accountability. Finland is treated as a continuous-improvement case because it was not compelled to reform by failure in PISA; rather, on the basis of long-standing comprehensive schooling, a strong commitment to equity, and high-quality teacher education, it has continued to consolidate its advantages through flexible curricula, low-stakes evaluation, and research-based teacher preparation. China is analyzed as a case of quality diagnosis and structural optimization under the reference of high performance. After Shanghai and B-S-J-G achieved internationally visible results, external recognition was accompanied by greater awareness of regional disparities, equity deficits, and curriculum and assessment issues, thereby encouraging a shift from performance display to problem diagnosis and structural improvement.

It should be noted that this study does not attempt to build a strict causal identification model, nor does it claim that PISA is the sole cause of basic education reform in these countries. Educational reform is always shaped by a combination of domestic political, economic, social, and cultural factors. The purpose of this article is to examine how, under different institutional conditions, PISA functions as an external benchmark, a policy discourse, and a diagnostic tool, and how it thereby influences the direction of basic education reform. The study therefore emphasizes comparative explanation rather than simple causal attribution [6].

## 3. Results

### *3.1. PISA has pushed basic education reform into a new stage characterized by external benchmarking, problem diagnosis, and policy adjustment*

Based on the literature reviewed, this article finds that PISA influences basic education reform not merely because international rankings generate public pressure, but

because PISA integrates educational quality, equity, and system performance within a single analytical framework [7]. This enables countries to identify key national educational issues through external benchmarks. The policy influence of PISA results arises not only from the sustained public attention to educational quality and the resulting pressure but also from the exemplary value of high-performing systems and, more importantly, from the enhanced interpretive power that PISA gains through background variables, school differences, and institutional comparisons. Consequently, countries increasingly look outward to international reference points to identify educational problems, rather than relying solely on internal experience.

More specifically, the influence of PISA on educational reform operates at multiple levels [8]. First, it changes the way problems are defined. Educational reform is no longer discussed merely in terms of curriculum difficulty, students' academic burden, or administrative management; it is redefined as a matter of educational quality, equity, efficiency, and competence development. Second, it changes the sources of reform reference. While many countries previously emphasized their own institutional traditions, PISA has led more systems to use high-performing international education systems as reference points for rethinking curriculum standards, assessment mechanisms, and school structures. Third, it changes the basis of reform legitimacy. Educational reform once relied primarily on political will or domestic expert opinion, but PISA has strengthened the legitimacy of reform discourse grounded in data, evidence, and international comparison.

In this context, PISA provides basic education reform not merely with a ranking of scores, but with a policy logic through which countries diagnose problems through international comparison, reconstruct quality standards through competency frameworks, and justify reform through evidence [3]. This helps explain why countries in very different situations have all, to varying degrees, moved onto reform paths that can be described as 'PISA-referenced.'

### *3.2. Germany: a problem-response path from 'PISA shock' to systemic reform*

Among the four cases, Germany most clearly demonstrates the capacity of PISA to trigger basic education reform through external shock. Existing research widely argues that, among all PISA-participating countries, Germany was one of the most strongly affected, most rapidly reactive, and most systematically reform-oriented after the publication of PISA 2000. German students ranked in the lower middle range of OECD participants in reading, mathematics, and science, and in all three domains their average performance fell below the OECD mean [9]. The results caused intense public concern and quickly came to be known as the 'PISA shock.' In response, German policymakers and education stakeholders undertook comprehensive reflection on the foundations of the national education system and launched large-scale reforms.

The first major direction of reform in Germany was the establishment of national educational standards and a quality monitoring system. Studies show that PISA 2000 exposed large performance gaps across Länder and pronounced achievement stratification. In order to reduce differences across states, the Länder gradually reached agreement on the introduction of common educational standards. National curriculum standards were introduced in 2003, followed by the development of a quality research and evaluation mechanism centered on the Institute for Educational Quality Improvement (IQB). Germany also advanced a broader strategy of educational monitoring, gradually creating a system in which educational standards, competency models, assessment instruments, and item banks supported one another. This indicates that Germany did not merely attempt to raise difficulty levels or intensify testing. Rather, it sought to reconstruct basic education quality through competency-oriented standards and a systematic assessment architecture.

The second direction of German reform involved institutional adjustment in curriculum and school organization. Existing studies show that after PISA, Germany reformed not only standards and evaluation, but also teaching organization, curriculum design, and school operation [3]. Curriculum standards took on both evaluative and

guiding functions, with greater emphasis on specifying teaching tasks in terms of competencies. At the same time, cross-disciplinary teaching, integrated curricula, and stronger links between curriculum and vocational domains were reinforced, while some states experimented with bottom-up instructional innovation and more flexible curriculum arrangements. PISA, therefore, did not trigger only a narrow reform of examinations; it also encouraged linked adjustments in curriculum, pedagogy, and school organization.

The third direction of German reform was the incorporation of educational equity and support for disadvantaged groups into the core of basic education reform. Studies have pointed out that PISA 2000 made visible Germany's educational 'blind spots,' especially the structural disadvantages faced by students from migrant backgrounds, working-class families, and those experiencing learning difficulties. Germany subsequently increased investment in free education, textbook lending, transport subsidies, support for special groups, migrant student education, and the articulation between preschool and primary education. Through the expansion of full-day schools, strengthened early transitions, and more targeted resource allocation, Germany attempted to mitigate the effects of early tracking and unequal opportunity. This experience demonstrates that the reforms triggered by PISA did not aim solely at raising average scores, but also at improving the performance of disadvantaged students in order to enhance overall educational quality.

For these reasons, Germany's reform path may be summarized as a problem-response model that began with a strong sense of crisis, took educational standards and monitoring systems as its main instruments, and emphasized institutional adjustment and compensatory equity policies [10]. Its distinguishing features were the speed of response, the systemic nature of the measures taken, and the breadth of reform across curriculum, assessment, teacher development, school organization, and fairness.

### *3.3. England: a performance-driven path centred on raising standards and restructuring accountability*

Compared with Germany, England did not experience a dramatic political crisis similar to the 'PISA shock.' Nevertheless, studies indicate that the stability or decline of PISA rankings still had a substantial influence on basic education reform [2]. Research shows that in PISA 2012, the performance of 15-year-old students in the United Kingdom remained around the OECD average, with no subject entering the top twenty, and with little significant improvement in mathematics, reading, or science since 2006. These results led policymakers and educators to conclude that long-standing reforms had not effectively enhanced international competitiveness, prompting basic education to enter a new phase of reflection and adjustment.

A notable direction of reform in England was the shift from a strong emphasis on 'learning enjoyment' toward renewed attention to the importance of teaching and the reconstruction of a rigorous academic core curriculum. Studies explicitly note that the PISA results prompted a reconsideration of the priorities of basic education reform. Whereas earlier reform discourse emphasized personalized learning and student experience, later reforms increasingly stressed academic core subjects, teacher professionalism, and the quality of foundational disciplines. Under pressure from international comparison and domestic concerns about educational quality, the government introduced the school white paper, which emphasized that teacher quality determines school quality and promoted reform through teacher professional development, leadership improvement, curriculum revision, and assessment change.

Another direction was the combination of expanded school autonomy with strengthened performance accountability [11]. Existing studies suggest that reforms under the influence of PISA did not simply amount to a return to central control. Rather, within a framework of higher standards, schools—especially academies—were granted greater autonomy over curriculum, management, and finance, while their performance was increasingly constrained by public information, published outcomes, and

accountability requirements. Academies expanded rapidly in England. Their defining features included freedom from local authority control, greater room for curriculum implementation, the ability to organize the school year and teacher pay more flexibly, and the expectation that autonomy would enable innovation and improved standards. Importantly, this autonomy was not *laissez-faire* in nature; it was tied to transparency and clear responsibility for school improvement.

A further direction was the use of external high-standard references to drive curriculum and teaching reform. Research notes that, after repeated declines in PISA rankings, England increasingly looked to high-performing systems such as those in Shanghai, Finland, and Singapore. International comparison was used to justify reform in teacher quality, curriculum review, teaching methods, and the strengthening of core subjects. In mathematics education, for example, England emphasized stronger mastery of foundational knowledge, introduced resources such as one lesson one exercise, and invested in mathematics teaching networks that drew on pedagogical practices associated with Shanghai. This suggests that the logic of reform in England was not simply one of internal optimization, but clearly one of international benchmarking, standard enhancement, and reinforced accountability.

England's reform path can therefore be described as a performance-driven model in which international ranking pressure provided the background, core curriculum and teacher quality became central priorities, and school autonomy was combined with stronger accountability. Compared with Germany, reform in England was less a matter of systemic reconstruction in response to crisis and more a matter of raising standards, reshaping performance governance, and tightening responsibility at the school level.

#### *3.4. Finland: a continuous-improvement path built on the coordination of equity and excellence*

Finland is the most distinctive of the four cases. Unlike Germany and England, Finland was not compelled to reform due to poor performance in PISA. On the contrary, Finland has long been regarded as a high-performing PISA country, and its reform logic is better understood as one of continuous optimization based on an already high-quality basic education system. Existing studies indicate that the core feature of Finnish basic education reform lies in its long-standing commitment to both equity and excellence: on one hand, equal educational opportunity has been safeguarded through the comprehensive school model; on the other hand, high performance has been sustained through high-quality teacher education, flexible curricula, and low-stakes evaluation. This combination has enabled Finland to achieve both strong average performance and low disparities, making it a reference point for many other countries [12].

A first key element of the Finnish path is the comprehensive school system and the underlying commitment to educational equity. Research suggests that post-war Finnish basic education reform was centered on the creation of a comprehensive school model whose purpose was to ensure that all students had access to high-quality basic education and that early tracking would not undermine equal opportunity. The establishment of comprehensive schools was not only a change in school structure; it also entailed coordinated changes in curriculum, teacher education, and governance. Importantly, Finnish conceptions of equity do not imply simple uniformity, but rather the provision of equal opportunities for all learners to realize their own potential and capabilities. In this sense, the Finnish commitment to equity already contains an aspiration toward excellence [13].

A second key element is curriculum flexibility and a developmental orientation toward students [14]. In Finnish curriculum reform, flexible curriculum arrangements and the absence of rigid grade-year structures at the upper level have been repeatedly emphasized. Studies suggest that Finland has used more flexible curriculum organization to allow schools and students to choose learning pathways better suited to individual needs. Such flexibility enhances students' autonomy, choice, and responsibility, thereby fostering personal development to the greatest possible degree. This structure indicates that Finland does not maintain educational quality by relying on intensive standardized

testing. Rather, curriculum flexibility and strong learning support enable curriculum to serve students' long-term development more effectively.

A third key element is the combination of high-quality, research-based teacher education with low-stakes assessment. Teacher quality is widely regarded as a central pillar of Finnish reform. Research shows that, with the establishment of the comprehensive school system and the advance of curriculum reform, Finland steadily raised entry requirements for teachers, requiring primary teachers to hold master's degrees and creating a model of teacher education that emphasized research methods, reflective capacity, and the identity of the teacher as a practitioner-researcher. At the same time, Finland did not rely on nationwide high-stakes examinations in the basic education stage, but placed greater emphasis on sample-based evaluation, descriptive assessment, and school-level evaluation oriented toward improvement. This combination of strong teachers and low external testing pressure stands in sharp contrast to the German and English paths.

Thus, Finland's reform trajectory can be summarized as a continuous-improvement path grounded in the comprehensive school model and a commitment to equity, supported by flexible curricula and research-based teacher education, and characterized by sustained improvement rather than crisis response. Its major implication is that high PISA performance does not necessarily depend on stronger testing and tighter accountability; basic education can also achieve excellence through equity, trust, and professionalism.

### *3.5. China: a path of quality diagnosis and structural optimization under the reference of high performance*

The Chinese case is distinctive in that it is neither a typical 'PISA shock' case nor a fully mature model comparable to Finland's long-established system. It is better understood as a path of quality diagnosis and structural optimization under the reference of internationally visible high performance. Existing materials show that Shanghai achieved outstanding results in PISA 2009 and 2012, and that B-S-J-G (Beijing, Shanghai, Jiangsu, and Guangdong) also performed strongly in PISA 2015. This high visibility in international comparison attracted substantial global attention to Chinese basic education. At the same time, it stimulated deeper reflection on regional disparities, educational equity, curriculum evaluation, and structural weaknesses.

The first characteristic of China's path is the use of PISA as a diagnostic instrument rather than a mere symbol of achievement. Relevant studies clearly state that the greatest value of PISA lies in using an international lens to examine the domestic system and identify problems, rather than simply displaying success. In relation to China's participating jurisdictions, scholars have argued that it is neither necessary nor helpful to avoid difficult issues through a cold treatment of the results. On the contrary, confronting both international rankings and internal disparities more directly can foster reflection, public discussion, and structural reform in basic education. Some researchers also note that Chinese educational reform has historically been driven more by internal needs than by external perspectives; active participation in international assessment and the use of external benchmarks therefore broaden the horizons and instruments of reform.

A second characteristic is the explicit combination of quality and equity. Both in studies drawing lessons from England and in discussions of worldwide curriculum reform under PISA, the materials repeatedly emphasize that the core issue of twenty-first-century basic education reform should no longer be mere expansion, but rather quality improvement together with equity protection. This is especially visible in the Chinese case. On the one hand, the strong performance of participating jurisdictions suggests that Chinese basic education possesses certain comparative strengths internationally. On the other hand, differences across regions, between urban and rural areas, and among students from different family backgrounds indicate that reform cannot pursue average performance alone; it must pay stronger attention to outcome equity, support for

disadvantaged learners, and the more universal provision of high-quality educational opportunities.

A third characteristic is the simultaneous optimization of curriculum standards, evaluation systems, and structural reform [14]. Some studies discussing the German experience note that Shanghai, after its strong PISA performance in 2009, 2012, and 2015, introduced a 'green indicators' system of academic quality evaluation informed in part by international quality monitoring methods. This suggests that, in the Chinese context, the influence of PISA is more likely to be expressed through the calibration of domestic quality concepts against international benchmarks, the use of evaluation reform to push curriculum reform forward, and the use of diagnostic results to identify subject weaknesses and structural problems. Some researchers further propose that China should establish a clearer competency-based assessment system and item bank, while implementing more targeted reforms in reading literacy, educational equity in remote areas, and support for children of migrant workers.

China's path can therefore be described as one of quality diagnosis and structural optimization under the reference of high performance. Its distinctive feature is not the triggering of dramatic crisis through PISA, but rather the simultaneous recognition of existing advantages and identification of hidden weaknesses through PISA results, with reform priorities directed toward curriculum standards, evaluation systems, reading ability, equity support, and structural improvement.

### 3.6. Four reform paths of basic education under the perspective of PISA

Taken together, Germany, England, Finland, and China differ not only in specific reform measures, but also in the underlying logic of their reform trajectories. For the sake of comparison, the four paths can be summarized as follows. Germany entered reform through underperformance, intense public debate, and systemic reflection, focusing on national educational standards, quality monitoring, school-structure adjustment, compensatory equity measures, and teacher education, thus representing a problem-response path [4, 12]. England entered reform through performance pressure, policy review, and benchmarking against others, emphasizing core academic curriculum, teacher professional development, school autonomy, and performance accountability, thus representing a standards-and-accountability reconstruction path. Finland proceeded on the basis of high performance and international confirmation, emphasizing comprehensive schooling, equity, curriculum flexibility, research-based teacher education, and low-stakes evaluation, thus representing a continuous-improvement path. China combined international visibility derived from high performance with deeper awareness of internal disparities, focusing on quality diagnosis, equity concerns, curriculum standards, assessment reform, and structural optimization, thus representing a quality-diagnosis and structural-optimization path. A comparison of four countries' basic education reform paths based on the PISA perspective is presented in Table 1.

**Table 1.** Four Reform Paths of Basic Education under the Perspective of PISA

<b>Country/Region</b>	<b>How PISA Entered Reform</b>	<b>Reform Priorities</b>	<b>Path Type</b>
Germany	Poor performance triggered strong public and policy reflection	National educational standards, quality monitoring, school-structure adjustment, equity compensation, teacher education	Problem-response
England	Performance pressure led to policy review	Core academic curriculum, teacher professional development,	Standards-and-

	and international benchmarking	school autonomy, performance accountability	accountability reconstruction
Finland	High performance reinforced international recognition and further optimization	Comprehensive schooling, equity-first principles, curriculum flexibility, research-based teacher education, low-stakes evaluation	Continuous improvement
China	International visibility of high performance combined with internal diagnosis of disparity	Quality diagnosis, equity concerns, curriculum standards, assessment reform, structural optimization	Quality diagnosis and structural optimization

This comparison shows that the influence of PISA on basic education reform has both common and differentiated dimensions. The commonality lies in the fact that all four countries or regions, to varying degrees, used PISA as an important reference point for educational quality, equity, and reform direction. The differences lie in the specific role that PISA played in different institutional contexts: it could act as a crisis trigger, a standards calibrator, an amplifier of continuous improvement, or a mirror for quality diagnosis.

#### 4. Discussion

The comparison presented in this article shows that PISA does not directly determine the content of basic education reform, but it substantially changes how countries identify problems, define educational quality, and choose reform priorities. In this sense, rather than understanding PISA simply as an international test, it is more accurate to regard it as a mediating mechanism that links international comparison, policy interpretation, and reform action. Through this mechanism, PISA has pushed basic education reform from a traditional model of internal experience-based adjustment toward a model of policy reflection driven by external benchmarks.

From the perspective of comparative education, the reform paths of the four cases reveal at least three common tendencies. First, the parallel pursuit of quality and equity has become a common theme in basic education reform. Whether in Germany's compensatory policies for migrant and disadvantaged students, England's concern for achievement gaps, Finland's long-standing commitment to equity and excellence, or China's emphasis on educational and outcome fairness, reforms in the PISA era can no longer treat quality and equity as separate agendas. Second, curriculum standards, evaluation mechanisms, and pedagogical reform are increasingly interconnected. The influence of PISA is visible not only at the level of goals through the language of literacy and competence, but also through the revision of standards, the reconstruction of evaluation, and the transformation of classroom teaching. Third, teachers and school governance have become central levers of reform. All four cases indicate that changes in curriculum goals alone are insufficient; teacher professional development, school autonomy, evaluation capacity, and governance adjustments are equally important.

At the same time, this article also finds that reforms under the reference of PISA do not necessarily move in the same direction. Germany emphasizes institutional reconstruction after crisis; England stresses standards and accountability; Finland relies on continuous improvement rooted in equity; and China places particular emphasis on diagnosis and structural optimization under the conditions of high international visibility. This suggests that PISA does not provide a universal reform blueprint. Rather, it activates

different reform logics in different institutional contexts. In other words, PISA is better understood as a reform catalyst than as a reform template.

This observation also leads to an important implication. In analyzing the relationship between international student assessment and basic education reform, it is too simplistic to apply a linear logic according to which poor results lead to major reform while high results remove the need for change. The Finnish case demonstrates that high performance does not exclude reform; it may in fact encourage sustained refinement. The Chinese case shows that high performance can coexist with problem diagnosis; the greater the international visibility, the greater the need to face internal disparities and structural shortcomings more rationally. Thus, the real value of PISA lies not in producing a uniform reform direction, but in enabling countries to redefine problems in more comparable and analytically transparent ways.

This study also has limitations. First, it relies mainly on the secondary literature and policy analyses, and has not yet been supplemented by direct examination of primary policy texts or original statistical data. Second, because educational policy differs considerably between England and other parts of the United Kingdom, while some of the uploaded literature uses the broader label of 'the UK,' this article has attempted to narrow its analysis as far as possible to England, but more precise handling of policy boundaries will still be necessary in a final journal submission. Third, the Chinese case is inherently complex, especially since PISA participating jurisdictions do not represent the country as a whole. The present analysis of China should therefore be understood as an interpretation of reform logic under the reference of PISA, rather than a simple overall judgment on national educational quality. Future research could deepen the analysis through more detailed use of original policy texts and implementation evidence in each case.

## **5. Conclusion**

This article has examined the differences and commonalities of basic education reform paths under the perspective of PISA through the cases of Germany, England, Finland, and China. The findings indicate that PISA has gradually evolved from an international student assessment instrument into an important reference point for basic education reform. Its influence is expressed not only in the comparison of student performance but also in the reconstruction of educational quality concepts, the expansion of policy problem awareness, the stimulation of curriculum and evaluation reform, and the strengthening of the parallel pursuit of quality and equity.

In comparative terms, Germany has followed a problem-response path marked by crisis management and systemic reconstruction; England has pursued a standards-and-accountability reconstruction path characterized by core curriculum reform, school autonomy, and performance control; Finland has developed a continuous-improvement path grounded in comprehensive schooling, equity-first principles, and professionalism; and China has followed a quality-diagnosis and structural-optimization path built upon internationally visible high performance. Together, these four paths show that the influence of PISA is not unidirectional. It may function as a crisis trigger, an amplifier of continuous improvement, or a mirror for structural diagnosis.

Accordingly, the role of PISA in basic education reform should not be understood at the superficial level of rankings alone. Its deeper significance lies in the more complex role it plays within global educational governance. For countries, the crucial issue is neither to imitate another nation's reform path nor to treat PISA results as the sole criterion of educational success, but to use the comparative perspective and diagnostic logic provided by PISA to identify more accurately the key issues of domestic basic education reform and to seek reform paths that are more contextually appropriate across the domains of quality, equity, curriculum, assessment, and governance.

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