

## Pedagogical codes of sustainable PISA success: a comparative analysis of selected Asian Curricula through Schiro's ideologies

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A curriculum is not merely technical documents listing content and objectives; rather, they are ideological texts that reflect the future vision of societies and the ideal human type. In this context, it is crucial to understand the ideological foundations upon which the curricula of countries demonstrating sustainable success in PISA results are built. The aim of this study is to comparatively examine the curricula of Singapore, China, and Japan within the framework of Schiro's curriculum ideologies. Employing a comparative case study design—a qualitative research method—data were collected through document analysis of the respective countries' national curricula, policy documents, and OECD reports. The selected documents were subjected to content analysis using a deductive approach based on Schiro's four fundamental ideologies. The research findings revealed that Singapore possesses a flexible curriculum where all four ideologies coexist in a dynamic balance; in China, the Social Efficiency and Scholar Academic ideologies maintain their dominance; whereas in Japan, the Scholar Academic perspective has been integrated with Learner-Centered and Social Reconstruction ideologies through recent reforms. Consequently, the study suggests that the sustainable PISA success of the examined countries is not rooted in a single ideology, but appears to be supported by a mixed and flexible curriculum structure shaped by economic goals, cultural values, and social needs.

### Introduction

It is widely acknowledged that curricula play a major role in shaping countries' levels of welfare and development (Çevik, 2023). Through curricula designed at the national level, countries can further enhance their levels of prosperity. Each curriculum that is designed or implemented is not merely an activity of determining content, organization, and objectives; rather, it is the concrete manifestation of a particular conception of knowledge, learning, and society grounded in specific theoretical and ideological assumptions (Demirel, 2024).

Although curriculum theorists classify their ideologies and theories under different forms and labels, these theories are often built upon overlapping principles and assumptions (Coşkun-Yaşar, 2025; Gündüz, 2023; Singleton, 2013). The theoretical framework developed by Schiro



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(2013) conceptualizes curricula on the basis of four main ideologies: Academic Disciplines, Social Efficiency, Learner-Centered, and Social Reconstruction ideologies. This classification shapes the aims, content, instruction, and assessment dimensions of curriculum designs.

### **Academic Disciplines Ideology**

The Academic Disciplines Ideology is one of the oldest and most fundamental orientations in the field of curriculum. This ideology defines the primary responsibility of the school as ensuring students' intellectual development in the most valuable domains of knowledge (Coşkun-Yaşar, 2025). Accordingly, art and science curricula should include the most distinguished bodies of knowledge produced by humanity in these disciplines; the use of the works of Darwin, Picasso, and Marx represents a typical example of this understanding (Shelton, 2004). The historical roots of this ideology extend to Ancient Greek philosophy, which centers on the supremacy of reason, and to the Christian educational tradition (Kridel, 2010; Null, 2011). Following the line of Plato's *The Republic*, proponents of the academic disciplines argue that through the power of reason, individuals can approach the eternal standards of truth, goodness, and formal beauty. Traces of this process can be historically observed from Ancient Greece to classical Rome, through medieval church schools, and to the widespread dissemination of the idea of the liberal curriculum (Kridel, 2010).

The ideology, which maintained its influence throughout the nineteenth century, was repositioned within the context of new educational debates in the 1890s with the contributions of Charles Eliot and William Torrey Harris. Its traces later became evident in the work of the Committee of Ten and, toward the end of the twentieth century, in E. D. Hirsch's cultural literacy movement (Schiro, 2013).

Within this ideology, knowledge is regarded as objective and absolute. The teaching and testing of content are perceived as relatively straightforward (Null, 2011). Teachers function as subject-matter experts or scholars with deep disciplinary knowledge, assuming the role of transmitting knowledge and fostering understanding. Students, on the other hand, occupy a passive position, and their primary task is to acquire predefined knowledge. Assessment is conducted in a knowledge-based manner at the end of the process (Coşkun-Yaşar, 2025).

### **Social Efficiency Ideology**

The Social Efficiency Ideology emerged in the early twentieth century as a response to the need for a practical and utilitarian form of education that could address the changing demands of society (Cubberley, 1919). This ideology exerted significant influence, particularly in the early decades of the century (Kridel, 2010).

The theoretical foundations of this ideology are grouped around four main streams: social reform, utilitarian education, behaviorist psychology, and scientific management (Schiro, 2013). The structural nature of the ideology was shaped by the principles of Franklin Bobbitt, Ralph Tyler, and the *No Child Left Behind* movement (Schiro, 2013).

The Social Efficiency Ideology conceptualizes education as a planned process aimed at preparing young people as adults who will actively contribute to social life and, in doing so, meet the needs of society. Within this ideology, priority is given not to individual interests or the internal logic of academic disciplines, but rather to maximum sensitivity to social demands and the maintenance of the continuity of the existing social order.

The scientific principles that Taylor applied to work processes in 1911 were soon adapted to education; consequently, the curriculum was defined as a mechanism for raising citizens who are economically and socially productive (Pinar et al., 1995). The idea of efficiency also profoundly influenced Bobbitt and Charters (Ornstein & Hunkins, 2016). Taylor's scientific management,

Thorndike's behaviorist psychology, and the No Child Left Behind (NCLB) Act enacted in the United States in 2002 constitute the core ideas underlying this theory. Along this axis of fundamental ideas, the book *The Curriculum*, written by Franklin Bobbitt in 1918, provided the ideology with theoretical legitimacy (Schiro, 2013).

The aim of education is to harmonize the individual with society, to foster individual development while enabling meaningful contributions to society, and to serve societal needs (Marulcu & Akbıyık, 2014). Knowledge, within this ideology, consists of information whose effectiveness has been proven through experimentation; it should provide individuals with skills that will be useful in society and offer opportunities for action. The purpose of the instructional process is to transmit content to students in an effective and efficient manner. Instruction is guided by behavioral objectives and reinforcement mechanisms (Null, 2011). The teacher assumes the role of a facilitator or manager who maximizes learning; their task is to supervise learning activities and to ensure that students strive to achieve predetermined objectives (Coşkun-Yaşar, 2025).

The Social Efficiency Ideology likens education to a factory production process. Within this metaphor, the aim is to produce qualified individuals who possess the attributes demanded by society and who are socially useful. Teachers assume the role of foremen within the process and work to ensure that the required qualifications are acquired, while students are responsible for attaining the skills that have been predetermined in accordance with societal needs. The instructional process should be analyzed through scientific methods, and the outcomes obtained should be systematically evaluated by means of objective criteria, checklists, and standardized tests.

### **Learner-Centered Ideology**

Although it has persisted through various phases—child study in the 1890s, progressive education in the 1910s, open education in the 1960s, developmentalism in the 1970s, and constructivism in the 1990s—the Learner-Centered Ideology has exerted a long-lasting influence on the history of American education (Schiro, 2013). Although it was initially referred to as the child study ideology, it later came to be known as the Learner-Centered Ideology. Grounded in Gardner's theory of multiple intelligences, progressive education, Piagetian psychology, and constructivism, this ideology has been sustained over time through contributions from various fields and has consistently placed the learner at the center of its focus (Pinar et al., 1995).

It prioritizes students' interests and needs over the needs of society and focuses directly on the learner. Its historical foundations include Comenius' emphasis on the developmental progression of learning from the concrete to the abstract; Rousseau's *Émile*; Pestalozzi's efforts to translate this theory into practice; Froebel's kindergarten initiatives; Stanley Hall's child study movement; Parker's child-development-oriented curriculum approach; and Dewey's "Laboratory Schools" (Pratt, 1994; Schiro, 2013).

It is difficult to discuss the progressive era without acknowledging Dewey's influence. Rather than anchoring himself to a single curriculum theory, Dewey positioned his principles primarily along the axes of the child study/learner-centered and social reconstructionist traditions. His practices at the "Laboratory School" at the University of Chicago and his theoretical contributions to the educational problems of the early twentieth century can be said to have shaped the direction of the century's first half (Tahirsylaj, 2017).

Dewey's 1902 work *The Child and the Curriculum* is regarded as a foundational and guiding text that established progressive education within the field of curriculum; this study holds a pioneering position in the theoretical development of the field (Çobanoğlu & Yıldırım, 2021). In his 1916 book *Democracy and Education*, Dewey criticized the narrow focus of the Social

Efficiency Ideology on the grounds that it could overshadow broad educational aims such as the individual's holistic development and critical thinking, and he advocated a more comprehensive approach to education (Schiro, 2013). The year 1918 thus represents a critical turning point in this context: while Bobbitt's book *The Curriculum* provided the Social Efficiency movement with a theoretical identity, Kilpatrick's *Project Method* gained widespread recognition in the same year. As a result, the 1920s became a period in which the Learner-Centered and Social Efficiency ideologies appeared together on the educational stage (Pinar et al., 1995).

The Great Depression, World War II, and the political climate of the McCarthy era in the subsequent years largely hindered the development of the Learner-Centered Ideology. However, this approach experienced a notable revival in 1965 as a reaction to the resurgence of the Academic Disciplines Ideology (Coşkun-Yaşar, 2025). On the other hand, the *No Child Left Behind* (NCLB) movement that emerged in the late twentieth and early twenty-first centuries, with its distanced stance toward child-centered education, led to a decline in the importance attributed to learner-centered initiatives (Schiro, 2013).

Within this ideology, knowledge and the teaching–learning process are structured according to students' interests and needs. The process is carried out through the active participation of the learner, while the teacher assumes the role of a guide and facilitator throughout this process. The learner is assessed continuously during the learning process (Edwards, 2002).

### **Social Reconstruction Ideology**

Among the leading advocates of the Social Reconstruction Ideology are Lester Frank Ward, John Dewey, Harold Rugg, and George S. Counts. The ideology's first strong emergence began with Ward's critiques of social Darwinism in the 1880s; in opposition to the assumption of the survival of the fittest, it was argued that the social order could be transformed through conscious intervention and education. Ward's publications during the 1880s and 1890s initiated this debate, while Dewey's works *Reconstruction in Philosophy* (1920) and *Democracy and Education* (1916) further strengthened the theoretical foundations of this ideology (Schiro, 2013).

The Great Depression constituted the historical context that increased the visibility of this ideology (Null, 2011). The economic, social, and political collapse revealed the unsustainability of existing systems and accelerated the search for a new social order. The figure who most forcefully articulated the view that schools should serve as active agents of social transformation was Counts. He first presented these ideas in his book *Dare the Schools Create a New Social Order?* (1932); furthermore, his speech delivered at the general assembly of the Progressive Education Association in the same year may be regarded as the formal emergence of the ideology (Pratt, 1994; Null, 2011).

Although the influence of the ideology weakened during World War II, the postwar period, marked by the civil rights movement, the women's movement, and anti–Vietnam War protests, led to a renewed strengthening of its impact (Schiro, 2013).

In the 1980s, some scholars emphasized that educators should take an active role in the reform of society and proposed that teachers assume an advocacy function for young people confronting problems such as poverty, malnutrition, homelessness, crime, violence, alienation, and addiction (Pratt, 1994). Within this framework, although Paulo Freire did not propose a distinct conceptual system for curriculum, he became a central reference in the social reconstructionist literature (Null, 2011).

Freire's analyses of the teaching–learning process, curriculum content, and the relationships between the oppressed and the oppressors can be regarded as constituting one of the foundational elements of this ideology (Bilir & Mızıkacı, 2023). The concept of *conscientization*

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conceptualized by Freire aims at the liberation of individuals through developing awareness of the political, cultural, historical, and social assumptions of their societies (Pratt, 1994).

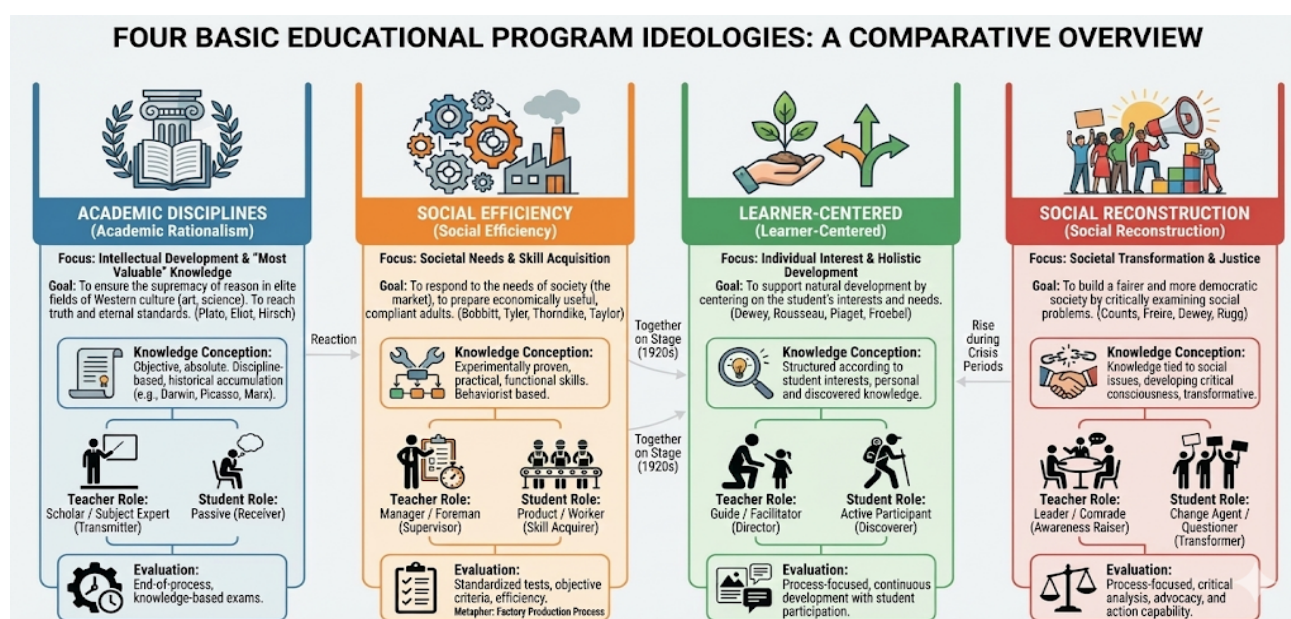
Within this ideology, knowledge is positioned in relation to social issues and commitment to these issues (Schiro, 2013). Knowledge should entail responsibility for constructing a more just, egalitarian, and democratic social order. While the teaching and learning process aims to cultivate individuals who are capable of critically analyzing complex social problems, making defensible decisions, and taking action to create the envisioned society, discussion, dialogue, and communication are placed at the forefront of the instructional process (Coşkun-Yaşar, 2025).

Within the Social Reconstruction Ideology, students are expected to be sensitive to social problems and to possess an inquisitive and critical perspective. They should be educated as transformative individuals who are aware of social problems and injustices and who possess a strong sense of social justice. Teachers, on the other hand, are not transmitters of knowledge but guides in the learning process. The student is assessed continuously throughout the process (Pinar et al., 1995).

Schiro's four fundamental curriculum ideologies discussed above are presented in figure 1.

**Figure 1**

Schiro's four basic curriculum ideologies



*Note: Generative AI tools were used to assist in the visualization of this figure for illustrative purposes.*

As a result of the literature review conducted, it is observed that designed curricula are built upon one or more educational ideologies. Although the ideology underlying nationally developed curricula is not the sole factor leading a program to success, it is acknowledged as one of the dominant determinants. In today's world, countries' educational performance is revealed through international large-scale assessments (such as PISA, TIMSS, and PIRLS), and a scale of achievement is established. In light of these evaluations, countries are able to identify the strengths, shortcomings, and areas in need of improvement within their own curricula. Accordingly, this study aims to contribute to the literature by examining and comparing the curriculum ideologies that form the foundation of the curricula of countries such as Singapore, Japan, and China, which consistently achieve successful results and rank highly in international

examinations.

Since its inception in 2000, the Programme for International Student Assessment (PISA) has served as a critical global benchmark for evaluating the quality, equity, and efficiency of school systems. By assessing the knowledge and skills of 15-year-old students, PISA not only provides comparative data but also significantly influences national education policies and curriculum reforms worldwide (Organisation for Economic Co-operation and Development [OECD], 2023). Within this context, understanding the factors behind the sustainable high performance of East Asian countries has become a central theme in comparative education research.

In this study, a targeted literature review was conducted to identify the pedagogical and structural determinants of this success. The review specifically focused on research published after 2000-aligning with the PISA timeline-that examines the education systems of Singapore, China, and Japan. These studies were selected based on their relevance to curriculum reforms, policy implementation, and structural inputs that directly or indirectly contribute to PISA outcomes.

A synthesis of the existing literature reveals that explanations for PISA success are predominantly clustered around structural and administrative variables. One major strand of research attributes high performance to school management, leadership styles, and governance structures (Bayirli, 2020; Levent & Yazıcı, 2015; Soh, 2014; Tucker, 2014). Another significant body of work emphasizes the critical role of teacher quality, professional development policies, and educational inputs (Boman, 2020; Tonga et al., 2022).

Furthermore, scholars have extensively analyzed the impact of time use, study culture, and reform discourses (Tan, 2019; Zhou & Wang, 2016), as well as the alignment between student competencies and PISA assessment frameworks (Yang & Fan, 2023). In the specific context of Japan, the literature highlights how PISA results have triggered an "achievement crisis" discourse, leading to significant curriculum and assessment reforms aimed at revitalizing the education system (Cave, 2024; Ninomiya, 2019; Sato, 2017; Takayama, 2008; Tanaka et al., 2017; Tasaki, 2017). While recent studies have begun to touch upon the ideological dimensions of curriculum and their political implications (Cantoni et al., 2023), there remains a notable gap in research that systematically analyzes these high-performing curricula through a comparative ideological framework, specifically using Schiro's model.

The originality of the study stems from its attempt to explain the success of Japan, Singapore, and China, countries that rank highly in international assessments such as PISA, not merely through measurement results, instructional methods, or exam-oriented policies, but through an analysis of the curriculum ideologies that underpin their national curricula.

Although there are numerous studies in the literature aimed at explaining the PISA performance of the countries in question, a significant portion of these studies associate success with technical and instrumental components such as student selection, examination systems, teacher quality, and school types; however, they fail to systematically reveal the theoretical-ideological assumptions underlying national curricula. Based on Schiro's four-ideology framework, the present study comparatively examines the curricula of Japan, Singapore, and China in terms of the ideologies of Academic Disciplines, Social Efficiency, Learner-Centered, and Social Reconstruction. In doing so, it discusses the path to success through the deep ideological patterns that extend beyond the visible goals and content of curricula.

The main purpose of the study is to comparatively analyze the curricula of Singapore, China, and Japan, countries that demonstrate sustainable success in PISA, within the framework of Schiro's four fundamental curriculum ideologies.

While the vast majority of studies in the literature focus on explaining PISA success through structural variables such as student–teacher ratios or educational expenditures, the present study examines a deeper layer—namely, curriculum ideologies—that underlies the pedagogical decisions behind this success. In this way, by revealing the ideological foundations upon which curriculum goals, content organization, and assessment approaches are constructed, the study aims to make a theoretical and descriptive contribution to the literature regarding the relationship between curriculum ideologies and PISA success, which has remained underexplored.

In line with this purpose, the study seeks to answer the following questions: *Within the framework of Schiro's four fundamental curriculum ideologies, which educational ideologies are reflected in the official curricula of Singapore, China, and Japan, and are these ideological orientations related to the sustainable success demonstrated by these countries in PISA 2022?*

## Methodology

This study aims to examine the ideological orientations of the curricula of three high-performing East Asian education systems. In this research, a comparative case study design, one of the qualitative research methods, was employed. A case study seeks to conduct an in-depth investigation of a particular event, program, or individual, and this approach analyzes a bounded system in detail (Creswell, 2007).

A case study is a research method that examines a phenomenon or event in depth within a real-world context (Yin, 2018). In determining the study group, criterion sampling, one of the purposive sampling methods, was used. The criteria for country selection were PISA success, the currency of curriculum reforms, inclusion in OECD reports, and the availability of comprehensive English-language documentation.

The selection of Singapore, China, and Japan as the units of analysis in this study is based not only on their sustainable success in PISA but also on the rationale that they represent different stages of cultural, political, and economic development, thereby enhancing the comparative strength of the findings. In this study, each country was treated as a separate case, and documents related to their curricula were systematically examined through a comparative approach.

## Data Collection Instruments

Within the scope of the study, document analysis was employed as the data collection method. Document analysis refers to the examination of written materials that contain information about the phenomena intended to be investigated (Yıldırım & Şimşek, 2021).

The documents were selected using purposive sampling. National curriculum texts, education policy guidelines, laws and regulations, and data obtained from OECD reports for each country constituted the data set of this study. The selection criteria for the documents were that they be current, official, and suitable for analysis. The data were analyzed through the method of content analysis, and the similarities and differences in the ideological orientations of the curricula of these countries were evaluated in a comprehensive manner. The documents examined and their types are presented in Table 1.

**Table 1**

Types of documents examined

Country	Title of the Document Examined	Year of Publication	Type of Document
China	Basic education curriculum reform	2001	Education Policy Document



Country	Title of the Document Examined	Year of Publication	Type of Document	
China	Curriculum reform in China	2006	Education Document	Policy
China	Shanghai curriculum reform	2001	Education Document	Policy
China	Education development in Shanghai	2012	Education Document	Policy
Singapore	Singapore government press statement	1966	Education Document	Policy
Singapore	Education in Singapore	1972	Education Document	Policy
Singapore	Learning to think, thinking to learn	1998	Education Document	Policy
Singapore	Information technology in Singapore schools: Past trends and future directions	2000	Education Document	Policy
Singapore	Teach Less, Learn More	2004	Education Document	Policy
Singapore	Mathematics Education in Singapore	2012	Curriculum	
Singapore	Learn For Life – Remaking Pathways: Greater Flexibility With Full Subject-Based Banding	2019	Education Document	Policy
Singapore	Full Subject-Based Banding to replace streaming in Singapore schools	2024	Education Document	Policy
Singapore	Impact of Full Subject-Based Banding on Social Mixing	2025	Education Document	Policy
Japan	Good Examples From Japan Education System To Turkish Education System	2010	Secondary Sources	
Japan	Education in contemporary Japan: Inequality and diversity.	1999	Secondary Sources	
Japan	The history of Japan's educational development: What implications can be drawn for developing countries today.	2004	Education Report	
Japan	Moral education in Japan: Values in a changing society	2019	Secondary Sources	

### ***Data Analysis***

The data obtained from the documents in this study were analyzed using a deductive approach. Prior to data analysis, a list of codes and themes was developed in accordance with the conceptual framework. During the coding process, Schiro's (2013) four main ideology categories, Academic Disciplines, Social Efficiency, Learner-Centered, and Social Reconstruction, were used as the thematic framework. Data from the documents were selected according to concepts and codes and were classified based on these codes. Data deemed



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irrelevant and not included in the coding list were excluded from the analysis. The coded data were described, and the described data were then interpreted. Finally, the findings were explained, associated with one another, and visualized.

To ensure external reliability, the boundaries of the theoretical framework were clearly and comprehensively defined. To establish internal reliability, multiple researchers were involved in the data analysis process, and researcher triangulation was applied. Cross-checking was conducted through the analyses of different researchers. The results were verified, and biased interpretations were avoided. The consistency of the findings was examined through comparison. In addition, the findings were presented to a field expert, and the results were confirmed.

## **Findings**

### ***Singapore***

Following its independence in 1965, Singapore's educational trajectory was heavily influenced by the survivalist necessity of building a literate workforce and a cohesive nation. In this foundational period, the curriculum was structurally shaped around the Academic Disciplines Ideology. The primary objective was to cultivate literacy and numeracy through a rigorous focus on core subjects such as mathematics, science, and language (Ministry of Education [MOE], 1966).

This ideological orientation was institutionalized through the implementation of the 6-4-2 education system and a series of high-stakes, centralized examinations, including the Primary School Leaving Examination (PSLE) and GCE O/A-Levels (MOE, 1972; Wong, 2018). These standardized assessments and the strict compartmentalization of subjects reflected the core assumption of the Academic Disciplines Ideology: that the primary function of schooling is the transmission of objective, disciplined knowledge to ensure intellectual development (Schiro, 2013).

By 1976, however, it was observed that achievement levels in these examinations were extremely low (Goh, 1979), indicating that the strict academic focus was insufficient for the entire student population. Concurrently, with increasing industrialization, a growing need for a skilled workforce emerged. To meet this labor demand, vocational high schools were established (Technical Education Department [TED], 1973). This shift toward vocational training aimed at addressing societal workforce needs signifies that the foundations of the Social Efficiency Ideology were also being laid during this period.

By 1979, a commission was formed under the leadership of Goh Keng Swee (then Deputy Prime Minister) to identify the major problems in education, and a report was prepared. According to this report, known as the "Goh Report," three fundamental problems required urgent attention in the education system: a high rate of educational wastage, low levels of literacy, and an ineffective bilingual education policy.

It is known that there were dropout rates of up to 30% at the primary level and 40% at the secondary level, as well as examination failure rates reaching approximately 40%. In addition, as a result of increasing industrialization and the widespread use of English as the dominant language, enrollment in mother-tongue schools declined, and student achievement in these schools also decreased (Goh, 1979). In order to address these problems, the ability-based New Education System (NES) was introduced. With this system, a practice known as Streaming (ability-based tracking) was implemented. The streaming system placed students into tiers labeled Special, Express, and Normal based on their abilities and learning pace. Rather than establishing separate schools for these tracks, different forms of instruction and corresponding curricula were implemented within the same school (Cheong, 1990).

Based on the results of the PSLE examination administered after primary school, the most successful students were placed into the Special track, while placement into the Express and Normal tracks was carried out according to students' rank order of achievement (Cheong, 1990; Goh, 1979). The educational reforms implemented during this period clearly reflect the foundations of the Social Efficiency Ideology, which aims to cultivate efficient individuals and enhance economic productivity.

With the reform of the New Education System, the aim was to cultivate efficient individuals and thereby promote economic development. Despite all these innovations, the presence of centralized examinations continued. In education, priority continued to be given primarily to numerical and scientific disciplines. Within the centralized system, student assessment, examination evaluation, and observation-based guidance for university placement also continued. All of these indicate that the Academic Disciplines Ideology was not abandoned in education; on the contrary, it remained strong during this period.

By the 1990s, the concept of Information Technology (IT) came to the forefront (Choo, 2008). With this shift, merely possessing knowledge was no longer considered sufficient; instead, the ability to apply knowledge, think critically, be creative, and think innovatively became essential. In 1997, Singapore's education vision was articulated as "Thinking Schools, Learning Nation" (MOE, 1998). This vision emphasized that academic achievement alone was not sufficient and highlighted the importance of character development, lifelong learning, and leadership (Ng, 2023). It is observed that curricula were streamlined and greater emphasis was placed on new skills (MOE, 2000). From this period onward, it became evident that the Academic Disciplines Ideology was no longer prioritized. These newly emphasized skills are characteristic of both the Social Efficiency Ideology and the Learner-Centered Ideology. The Social Efficiency Ideology, which had become visible with the 1979 education reform, continued during this period, while the Learner-Centered Ideology also began to manifest itself more clearly.

Following the introduction of the "Teach Less, Learn More" approach in 2004 (MOE, 2004), it is observed that the Academic Disciplines Ideology, characterized by rote learning and repetitive practices, receded into the background, while the Learner-Centered Ideology, which emphasizes deeper learning and problem-based learning, came to be adopted.

In 2014, the "Subject-Based Banding" approach was launched with the aim of introducing flexibility into the previously rigid ability-based tracking system (Chan, 2019). Through this flexibility, students placed in lower tracks were given opportunities to take advanced-level courses in subjects such as mathematics and science, thereby supporting their individual development and enabling them to better recognize and enhance their own potential (MOE, 2019). These developments further demonstrate the adoption of the Learner-Centered Ideology in education.

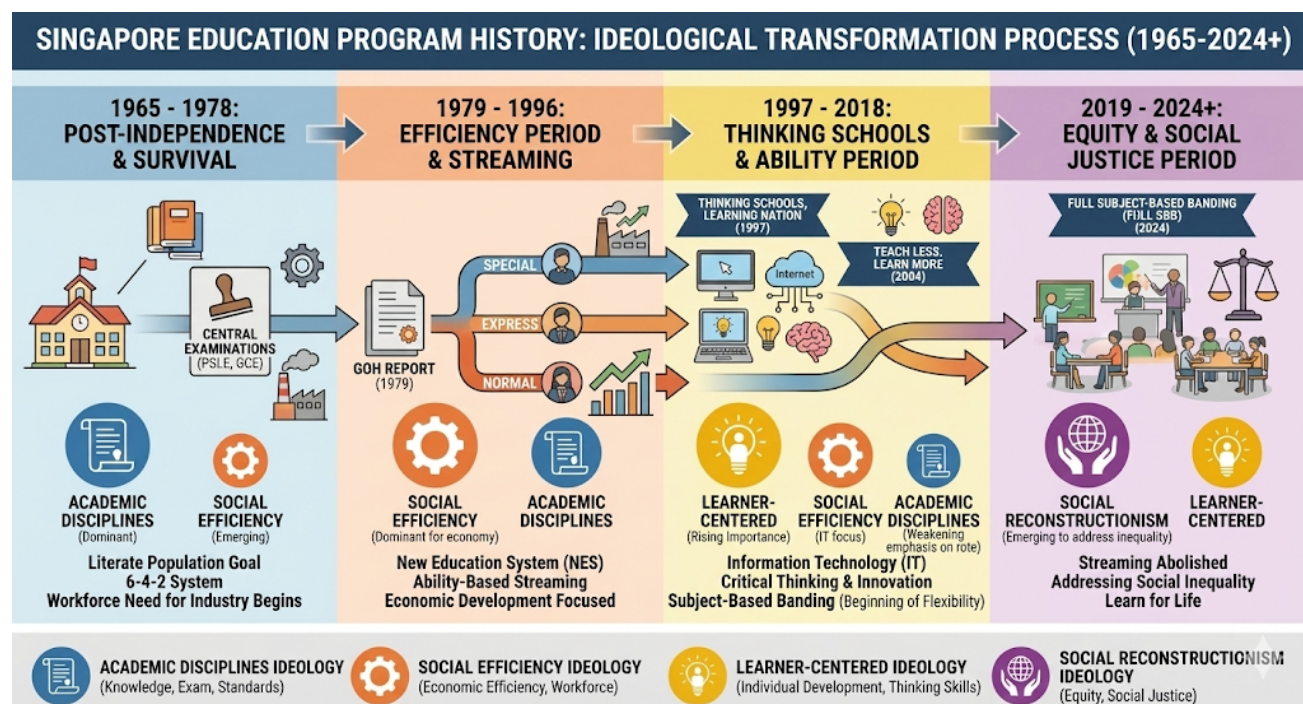
From 2018 onward, the "Learn for Life" movement marked a shift away from the excessive emphasis placed on academic achievement. This movement emphasizes that students should receive an education aligned with changing life conditions and global circumstances (MOE, 2019).

In 2024, Singapore completely abolished ability-based grouping through a reform aimed at ensuring equity in education. In its place, the country implemented "Full Subject-Based Banding" (MOE, 2024). Although different groupings continue to exist under this model, each student is now given the opportunity to take the academic subjects of their choice under conditions appropriate to their own level. This reform seeks to eliminate social problems such as inequality and injustice that emerged under the traditional grouping system (MOE, 2025). The influence of the Social Reconstruction Ideology is clearly evident in this reform.

In conclusion, since gaining independence in 1965, Singapore has continuously implemented improvements in education in response to educational outcomes, the evolving global order, and the needs of society. In the early period, the influence of the Academic Disciplines Ideology was clearly dominant in the curricula. Although the emphasis placed on this ideology decreased over time, it cannot be said that it was completely abandoned. This ideology has been preserved in order to maintain cultural continuity and to sustain the improvements and achievements attained in education. The Social Efficiency Ideology has been reflected in the curricula from the country's founding to the present day, particularly during the periods of industrialization and information technology, in order to meet the demand for a qualified workforce. Since the early 2000s, the Learner-Centered Ideology has gained increasing importance in the curricula, along with a growing emphasis on the value attributed to students. In recent years, efforts to address inequality and injustice emerging within the educational process have led to the growing presence of the Social Reconstruction Ideology in the curricula as well. The entire process related to Singapore is presented in figure 2.

**Figure 2**

Singapore curriculum history



Note: Generative AI tools were used to assist in the visualization of this figure for illustrative purposes.

## China

The Chinese education system has evolved through the complementary development of a learning conception rooted in Confucian cultural heritage and contemporary curriculum ideologies. This dynamic does not regard learning solely as a cognitive process; it also fosters individuals' sense of social responsibility and their capacity for moral self-regulation. Students' attitudes toward learning are shaped by Confucian values such as diligence, persistent effort, the high value placed on academic achievement, and the significant role attributed to education in moral development (Watkins & Biggs, 1996). These cultural values, manifested through disciplined work habits and the systematic structuring of knowledge, are naturally aligned with the Academic Disciplines Ideology (Schiro, 2013).

While these foundational values have provided continuity, China's curriculum has historically oscillated between political imperatives and academic standards. Between 1949 and the late 1990s, reforms largely reflected political movements, shifting from Soviet-based utilitarian models—reflecting a Social Efficiency perspective—to centralized, examination-oriented systems aimed at revitalization (Ministry of Education of the People's Republic of China [MOE-China], 2001b). However, the critical turning point relevant to contemporary PISA success occurred at the turn of the century.

Beginning in the early 2000s, the Basic Education Curriculum Reform was launched in 2001, followed by the National Medium- and Long-Term Education Reforms. These initiatives marked a departure from the strictly centralized approach, moving towards a governance model where national, regional, and school-based levels share responsibility (MOE- China, 2001a). The General Framework of the Basic Education Curriculum Reform (2001) identified six major objectives that signaled a clear ideological shift:"

1. **Change in the instructional approach:** A shift from mere knowledge transmission to a *learning-to-learn* process.
2. **Change in curriculum structure:** A transition from a subject-centered structure to an elective-based structure.
3. **Change in content:** A shift from abstract content to knowledge and skills appropriate for lifelong learning.
4. **Change in learning approach:** A transition from rote learning to active and problem-solving-based learning.
5. **Change in the function of assessment:** A shift from a selection-oriented function to functions that support student and teacher development.
6. **Change in control:** A transition from centralization to a collaborative effort involving local authorities and schools.

During this process, innovative teacher development programs such as the “Big Name Teacher Studio” were implemented, greater priority was given to local curricula, and positive transformations were observed in teacher–student relationships (Feng, 2006). The Eighth Reform marked a transition to quality-oriented education and represented a radical break from previous periods. Following the social and economic paradigm shifts, the central government of China initiated reforms in curriculum and instructional material development (Li, 2001).

In 1985, through the Compulsory Education Law, China-particularly Shanghai-secured a position among the leading cities worldwide in primary and secondary education (Xu, 2012). These paradigms clearly demonstrated China's expanding influence on education (Xu, 2012). Examples of these effects include:

1. Students' developmental levels were taken into account.
2. Teachers' awareness of instructional methods increased, and lesson content was enriched.
3. Improvements were observed in students' academic achievement, and progress was recorded in practical skills.

In the Chinese education system, teachers are held accountable not only for fulfilling their instructional duties but also to their colleagues, school administration, and society at large. In order to ensure teacher accountability, scientific approaches have been adopted in which performance is evaluated from a comprehensive perspective by authorities. At the international level, formal evaluations are used to measure teacher accountability, and these mechanisms are generally regulated by law (OECD, 2016).

This multi-layered culture of accountability demonstrates that education is positioned not only as a mechanism ensuring individual success but also as one that safeguards social benefit. The systematic monitoring of the performance of teachers and schools strengthens the alignment between educational outcomes and societal expectations, thereby emphasizing the social service function of education. At this point, the relationship between education's function of responding to social needs and accountability becomes particularly evident. The very existence of accountability enables education to be viewed as a production system operating on behalf of society. This perspective aligns closely with the fundamental assumption of the Social Efficiency Ideology. According to this ideology, education is a planned process that prepares individuals for social roles, produces measurable outcomes, and systematically meets the needs of the social order (Schiro, 2013). This approach, based on the observable definition of behaviors, the determination of objectives according to social requirements, and the measurement of performance, renders accountability an integral component of education.

Accordingly, accountability practices in the Chinese education system reflect not merely an administrative requirement but rather a broader intellectual legacy that situates education within an ideological framework prioritizing social utility.

At the institutional level, a high-quality teaching workforce, a well-balanced relationship between autonomy and accountability, and a strong culture of continuous professional development are among the factors that support China's success in PISA (Ho, 2009).

According to the OECD's 2022 PISA results, students in the Macau (China) region performed well above the global average. The country's academic performance, particularly in terms of top-level achievement rates, is significantly higher than the OECD average. Based on the OECD's 2022 PISA data, Macau (China) ranked well above the OECD average in all three domains. In mathematics, 29% of students; in reading, 9%; and in science, 15% reached the highest proficiency levels, Levels 5–6. All of these proportions are substantially higher than the corresponding OECD averages (9%, 7%, and 7%, respectively). The proportions of students reaching the baseline proficiency level, Level 2 and above, also clearly exceed OECD averages, reaching 92% in mathematics, 87% in reading, and 93% in science. These findings demonstrate that students in Macau display remarkable international performance in advanced problem-solving and analytical skills (OECD, 2022).

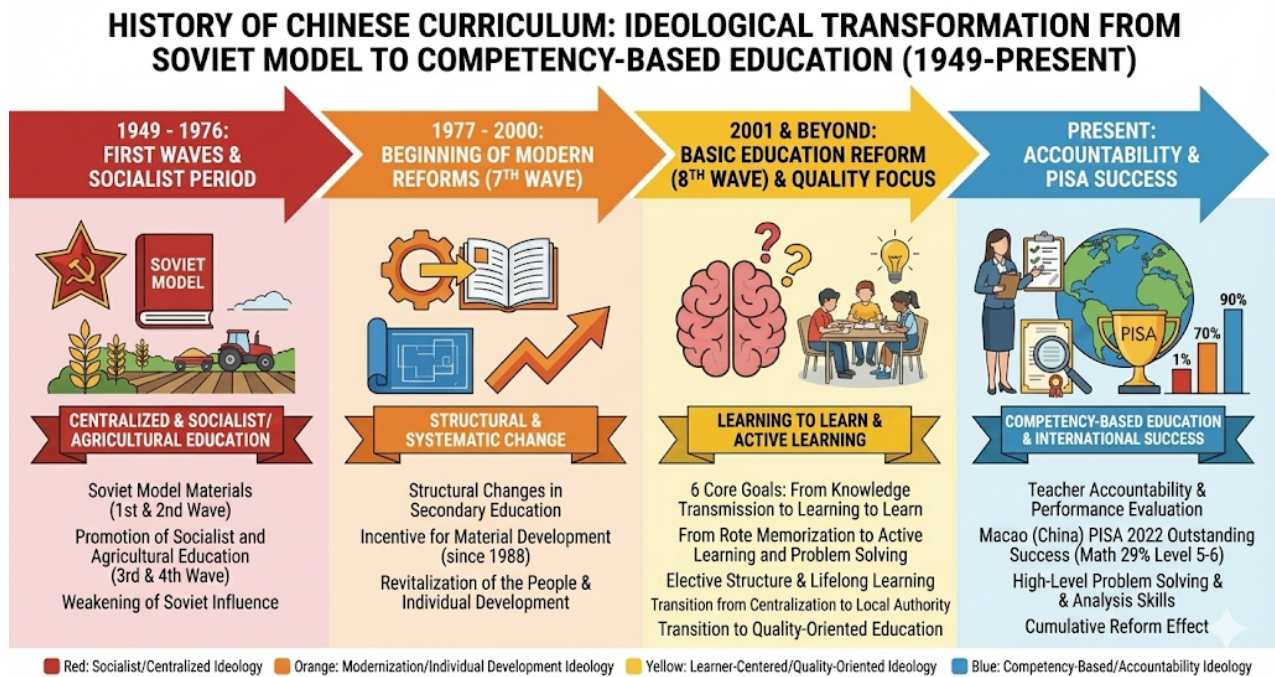
Especially since 2001, competency-based curricula have reshaped learning processes and contributed to the development of students' cognitive skills. This transformation is among the factors that have made China's success in international assessments sustainable.

China's outstanding performance in international examinations is not solely the result of the cumulative effects of curriculum reforms over the historical process; rather, it is the combined outcome of the strong cultural influence of Confucian learning values, the structure of discipline-based curricula, and the successive curriculum regulations that have been added upon these foundations over the years. In addition to these elements, the Social Efficiency Ideology, which prioritizes meeting societal needs through education, and the accountability mechanisms applied to teachers and schools also make significant contributions to the effective functioning of the system. This holistic structure—formed by the interaction of cultural values, curriculum ideology, reforms, social utility orientation, and accountability—constitutes the fundamental factor explaining both the continuity of China's education system and its high performance in international assessments. All of these processes related to China are presented in figure 3.



**Figure 3**

Chinese education program history



### Japan

Throughout its historical trajectory, the Japanese education system has evolved as a unique synthesis of traditional cultural values and modern Western influences. Historically, the system began with Terakoya schools rooted in literacy instruction and later underwent comprehensive reforms during the Meiji Period to align with Westernization efforts. Despite these shifts, a discipline-based, knowledge-centered structure has remained the backbone of the curriculum, demonstrating a strong alignment with the Academic Disciplines Ideology (Schiro, 2013).

This ideology is institutionally reinforced by the Ministry of Education, Culture, Sports, Science and Technology (MEXT), which rigorously supervises curriculum standards and textbook authorization to ensure the transmission of 'correct knowledge' (Takayama, 2011). The centralization of quality assurance serves to maintain high academic standards, reflecting the core assumption of this ideology that education must transmit objective disciplinary content through expert-driven structures.

Parallel to this academic focus, the Japanese system has long adopted a philosophy centered on social cohesion and productivity, reflecting the Social Efficiency Ideology. The explicit orientation of school objectives toward educating individuals who contribute to the national economy aligns with Schiro's (2013) functionalist perspective. This is operationally visible in the high-stakes entrance examination systems, which utilize standardized measurement to ensure students achieve specific behavioral outcomes and workforce readiness (Okano & Tsuchiya, 1999).

A significant ideological shift occurred with the reforms of 1998 and the early 2000s, specifically the 'Yutori' (Relaxed) Education policy. These reforms marked a pivot toward the Learner-Centered Ideology, aiming to foster individual creativity, critical thinking, and lifelong learning by reducing instructional hours and rigid content (IFIC & JICA, 2004; Kariya, 2012). Although recent initiatives like the '21st Century Competencies Reform' (2018–2024) continue to promote active learning, the academic backlash against 'Yutori' suggests that this learner-

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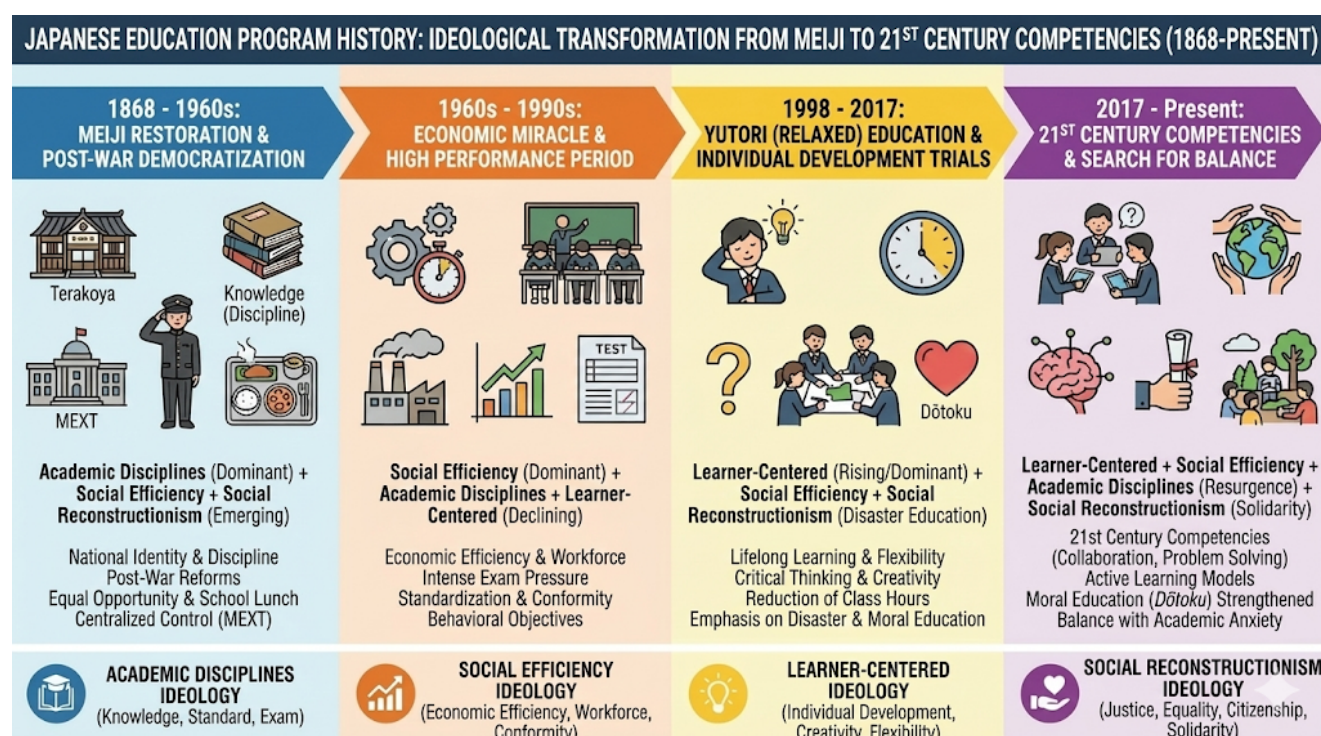
centered approach is implemented in a controlled manner, balanced against traditional academic demands (Bjork, 2016).

Finally, while less dominant, traces of the Social Reconstruction Ideology are evident in specific curriculum areas. Post-war reforms emphasizing democratization and equal opportunity laid the initial groundwork. More recently, the strengthening of 'Moral Education' (Dōtoku) and the integration of disaster education and community solidarity projects reflect a reconstructionist aim to cultivate active citizens capable of addressing social challenges and fostering justice (Bamkin, 2019; Yamamoto, 2015).

In conclusion, Japan's education system possesses a multidimensional ideological structure shaped by the interaction of historical continuity, cultural values, and modern reforms. While the Academic Disciplines Ideology constitutes the fundamental backbone of the system, the Social Efficiency Ideology supports its social functionality. The Learner-Centered Ideology introduces flexibility and innovation in response to contemporary needs. The contributions of the Social Reconstruction Ideology are more visibly reflected in the themes of ethics, responsibility, and social cohesion. This integrated structure demonstrates that Japan's sustainable success in international assessments such as PISA is grounded in both cultural and structural foundations. The historical process of Japan in this regard is presented in figure 4.

**Figure 4**

Japanese curriculum history



*Note: Generative AI tools were used to assist in the visualization of this figure for illustrative purposes.*

## Discussion

In this study, the curricula of Singapore, China, and Japan were examined according to Schiro's (2013) four fundamental curriculum ideologies. The findings indicate that distinct yet clearly identifiable ideological orientations underlie the sustainable success demonstrated by these countries in PISA. When the overall results are considered, it becomes evident that the curricula



of all three countries are not shaped by a single ideology. Rather, they reflect a hybrid ideological structure formed in accordance with historical, cultural, and social conditions.

In Singapore, the findings indicate that the Social Efficiency and Academic Disciplines Ideologies were particularly dominant in the post-1965 period. This situation is consistent with Singapore's post-independence policies that placed economic development at the center (Menon, 2015; MOE, 1966). Curriculum reforms aimed at meeting the country's workforce needs are also in line with the strategic relationship established between industrial development and education in Singapore as documented in the literature (Choo, 2008).

Moreover, the growing strength of the Learner-Centered educational approach, especially since the 2000s, corresponds to Schiro's (2013) emphasis on the Learner-Centered Ideology. In Singapore, the Full Subject-Based Banding reform reflects a social reconstructionist approach developed with the aim of promoting equity and social justice in education (MOE, 2024). This finding runs parallel to the efforts highlighted in OECD reports regarding Singapore's attempts to enhance social integration and equality of opportunity (OECD, 2023).

The findings regarding China indicate that curriculum reforms have progressed largely in parallel with political and social transformations. This result is consistent with the literature suggesting that the Chinese education system has been shaped to a significant extent by political ideology. The reforms appear to have been influenced primarily by the Social Efficiency and Academic Disciplines Ideologies. The strengthening of learner-centered and competency-based learning approaches in China's 2001 and 2012 reforms also demonstrates, in line with the findings of this study, that the Learner-Centered Ideology has become more visible in recent years (MOE-China, 2001b; OECD, 2019). Nevertheless, it can be argued that reforms in China are still nourished by a centralized structure and that Social Reconstruction features remain limited. This conclusion is consistent with studies in the literature that associate the Chinese education system with an emphasis on social harmony and national unity (Dello-Iacovo, 2009).

The findings regarding Japan indicate that the country has historically reflected the Academic Disciplines Ideology in a strong manner. However, the reforms implemented after 1998 and 2017 show that Learner-Centered and Social Reconstruction features have been increasingly integrated into the curriculum. The literature frequently emphasizes that the Japanese education system is nourished by both Confucian values and modern learning approaches (Yamamoto, 2015), and the findings of the present study likewise confirm this dual structure. Moral education (*dōtoku*) and activities that enhance community solidarity following disasters are consistent with Japan's goals of strengthening social responsibility and democratic participation (Bamkin, 2019). Nevertheless, the findings also indicate that Japan's reconstructionist orientation remains more limited when compared with China and Singapore. This situation can be explained by the long-standing influence of Japan's centralized structure and deeply rooted cultural norms.

When the three countries are evaluated together, it becomes evident that curriculum ideologies are influenced not only by pedagogical choices but also strongly shaped by factors such as cultural heritage, economic objectives, political context, and societal expectations. This finding is consistent with the literature, as various studies emphasize that curriculum ideologies cannot be considered independently of their social context (Demirel, 2024; Schiro, 2013).

## Conclusion

This study examined the ideological orientations of the curricula in Singapore, China, and Japan, revealing the underlying curriculum philosophies behind these countries' sustainable success in PISA. In summary:

- Singapore possesses a flexible and dynamic curriculum in which all four ideologies are visible at different periods. In particular, the Social Efficiency, Academic Disciplines, and, in recent years, the Learner-Centered and Social Reconstruction ideologies are prominent.
- China conducts its reforms largely in parallel with political transformations, with the Social Efficiency and Academic Disciplines ideologies being dominant. Although the Learner-Centered Ideology is developing, the Social Reconstruction Ideology remains limited.
- Japan, while historically grounded in the Academic Disciplines Ideology, has seen the Learner-Centered and, to a certain extent, Social Reconstruction features gain strength following the 1998 and 2017 reforms.

Overall, the curricula of these three countries exhibit a hybrid ideological structure, shaped not by a single ideology but by economic development goals, cultural values, and societal needs. This finding implies that PISA success may be associated with curriculum structures supported by ideological coherence and social alignment. Specifically, while the 'Academic Disciplines' ideology ensures the acquisition of deep subject knowledge, the integration of 'Learner-Centered' and 'Social Efficiency' perspectives likely fosters the adaptive problem-solving skills required in international assessments.

Implications and Suggestions Based on these findings, this study offers critical implications for curriculum policymakers. First, attempts to emulate high-performing education systems should move beyond merely adopting instructional techniques to understanding the ideological ecosystems that sustain them. Second, sustainable educational success appears to require a dynamic balance where academic rigor is complemented by student-centered flexibility. Therefore, it is suggested that curriculum developers avoid rigid adherence to a single ideology and instead cultivate a hybrid curriculum structure that is responsive to both global standards and local cultural contexts.

### Limitations of the Study

This study is limited to examining the ideological orientations of the curricula in Singapore, China (Macau), and Japan within the framework of Schiro's (2013) four curriculum ideologies. The data set of the study is restricted to official curricula and policy documents published by the ministries of education of the respective countries. Consequently, the study reflects the "official curriculum" rather than the "implemented curriculum". Classroom practices, teacher perspectives, and student experiences are beyond the scope of this research.

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## References

- Bamkin, S. (2019). *Moral education in Japan: Values in a changing society*. Routledge.
- Bayirli, A. (2020). Comparison of the Singapore education system and the Turkish education system and implications for Turkey. *International Journal of Social Sciences Academy*, 2(4), 1104–1132. <https://doi.org/10.47994/usbad.830544>
- Bilir, G., & Mızıkacı, F. (2023). Theoretical foundations of curriculum: Radical curriculum. *The Journal of Research in Education and Teaching*, 12(1), 71–79. [http://www.jret.org/FileUpload/ks281142/File/12.01\\_2023\\_makale\\_6.pdf](http://www.jret.org/FileUpload/ks281142/File/12.01_2023_makale_6.pdf)
- Bjork, C. (2016). *High-stakes schooling: What we can learn from Japan's experiences with testing, accountability, and education reform*. University of Chicago Press.
- Boman, B. (2020). What makes Estonia and Singapore so good? *Globalisation, Societies and Education*, 18(2), 181–193. <https://doi.org/10.1080/14767724.2019.1701420>
- Cantoni, D., Yang, D. Y., & Yuchtman, N. (2023). Curriculum and ideology: Evidence from China. In D. Rohner & E. Zhuravskaya (Eds.), *Nation building: Big lessons from successes and failures* (pp. 131–140). CEPR Press.
- Cave, P. (2024). School curriculum reform in contemporary Japan: Competencies, subjects, and the ambiguities of PISA. *Comparative Education*, 60(2), 278–295. <https://doi.org/10.1080/03050068.2023.2268808>
- Chan, D. (2019). The “Seven S” approach to subject-based banding in schools. *SMU Research Collection: School of Social Sciences* (Paper 2848). [https://ink.library.smu.edu.sg/soss\\_research/2848](https://ink.library.smu.edu.sg/soss_research/2848)
- Cheong, A. C. S. (1990). *Streaming and learning behavior*. National Institute of Education.
- Choo, L. S. (2008). *Information communication technology in education: Singapore's ICT masterplans 1997–2008*. World Scientific.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches* (2nd ed.). Sage.
- Cubberley, E. P. (1919). *Public education in the United States: A study and interpretation of American educational history*. Houghton Mifflin.
- Çevik, Ö. C. (2023). “Education” as a right and the relationship between education and welfare. *İnsan Hakları Yılığ*, 40, 115–149.
- Coşkun-Yaşar, G. (2025). *Orientations to curriculum theories in teacher education* (Thesis No. 926671) [Doctoral dissertation, Ankara University]. Council of Higher Education National Thesis Center.
- Çobanoğlu, R., & Yıldırım, A. (2021). Curriculum development studies in Turkey: A historical analysis from the declaration of the republic to the present. *The Journal of Turkish Educational Sciences*, 19(2), 810–830. <https://doi.org/10.37217/tebd.912329>
- Dello-Iacovo, B. (2009). Curriculum reform and “quality education” in China: An overview. *International Journal of Educational Development*, 29(3), 241–249. <https://doi.org/10.1016/j.ijedudev.2008.02.008>
- Demirel, Ö. (2024). *Eğitimde program geliştirme: Kuramdan uygulamaya* (32. bs.). Pegem Akademi.
- Edwards, C. P. (2002). Three approaches from Europe: Waldorf, Montessori, and Reggio Emilia. *Early Childhood Research & Practice*, 4(1), 2–14. <https://files.eric.ed.gov/fulltext/ED464766.pdf>
- Feng, D. (2006). *Curriculum reform in China*. Ministry of Education Press.
- Goh, K. S. (1979). *Report on the Ministry of Education 1978*. <https://www.nlb.gov.sg/main/article-detail?cmsuuid=8f0a445f-bbd1-4e5c-8ebe-9461ea61f5de>
- Gündüz, G. F. (2023). Program teorileri. In M. Güven & S. Aslan (Eds.), *Çağdaş gelişmeler ışığında eğitimde program geliştirme ve değerlendirme* (pp. 28–55). Pegem Akademi.
- Ho, E. S. (2009). Educational accountability in East Asia. *Educational Research for Policy and Practice*, 8(3), 201–212.
- Institute for International Cooperation & Japan International Cooperation Agency. (2004). *The history of Japan's educational development: What implications can be drawn for developing countries today*. <https://openjicareport.jica.go.jp/pdf/11778784.pdf>
- Kariya, T. (2012). Japanese solutions to the problem of inequality in education. *Globalisation, Societies and Education*, 10(4), 157–178. <https://doi.org/10.1080/03054985.2011.559388>

- Pedagogical codes of sustainable PISA success: a comparative analysis of selected Asian Curricula through schiro's ideologies
- Kridel, C. (Ed.). (2010). *Encyclopedia of curriculum studies*. Sage.
- Levent, F., & Yazıcı, E. (2015). Examination of factors affecting success of Singapore education system. *Journal of Educational Sciences*, 39(39), 121–143. <https://doi.org/10.15285/EBD.2014397401>
- Li, J. (2001). *Shanghai curriculum reform*. East China Normal University Press.
- Marulcu, I., & Akbıyık, C. (2014). Curriculum ideologies: Re-exploring prospective teachers' perspectives. *International Journal of Humanities and Social Science*, 4(5), 200–206.
- Menon, R. (2015). *An economic history of Singapore: 1965–2015*. Singapore Economic Review Conference.
- Ministry of Education, Singapore. (1966). *Singapore government press statement*. <https://www.nas.gov.sg/archivesonline/data/pdfdoc/PressR19661007c.pdf>
- Ministry of Education, Singapore. (1972). *Education in Singapore*.
- Ministry of Education, Singapore. (1998). *Learning to think, thinking to learn*. National Library Board.
- Ministry of Education, Singapore. (2000). *Information technology in Singapore schools: Past trends and future directions*.
- Ministry of Education, Singapore. (2004). *Teach less, learn more*. National Library Board.
- Ministry of Education, Singapore. (2012). Mathematics education in Singapore. *Indo MS-JME*, 5(1), 1–16.
- Ministry of Education, Singapore. (2019). *Learn for life – Remaking pathways: Greater flexibility with full subject-based banding*. <https://www.moe.gov.sg/news/press-releases/20190305-learn-for-life-remaking-pathways-greater-flexibility-with-full-subject-based-banding>
- Ministry of Education, Singapore. (2024). *Full subject-based banding to replace streaming in Singapore schools*.
- Ministry of Education, Singapore. (2025). *Impact of full subject-based banding on social mixing*. <https://www.moe.gov.sg/news/parliamentary-replies/20250304-impact-of-full-subject-based-banding-on-social-mixing>
- Ministry of Education of the People's Republic of China. (2001a). *Basic education curriculum reform*.
- Ministry of Education of the People's Republic of China. (2001b). *The general framework of the basic education curriculum reform (Trial)*.
- Ng, P. T. (2023). Learning in an era of uncertainty in Singapore. *Educational Research for Policy and Practice*, 24, 121–127. <https://doi.org/10.1007/s10671-023-09348-1>
- Ninomiya, S. (2019). The impact of PISA and assessment policy in Japan. *Assessment in Education: Principles, Policy & Practice*, 26(1), 91–110. <https://doi.org/10.1080/0969594X.2016.1261795>
- Null, W. (2011). *Curriculum: From theory to practice*. Rowman & Littlefield.
- Okano, K., & Tsuchiya, M. (1999). *Education in contemporary Japan: Inequality and diversity*. Cambridge University Press.
- Organisation for Economic Co-operation and Development. (2016). *PISA 2015 results: Excellence and equity in education* (Vol. I). <https://doi.org/10.1787/9789264266490-en>
- Organisation for Economic Co-operation and Development. (2019). *PISA 2018 results: What students know and can do* (Vol. I). <https://doi.org/10.1787/5f07c754-en>
- Organisation for Economic Co-operation and Development. (2022). *PISA 2022 results (Volume I): The state of learning and equity in education*. <https://doi.org/10.1787/53f23881-en>
- Organisation for Economic Co-operation and Development. (2023). *PISA 2022 results (Volume II): Learning during—and from—disruption*. <https://doi.org/10.1787/a97db61c-en>
- Ornstein, A. C., & Hunkins, F. P. (2016). *Curriculum: Foundations, principles, and issues* (7th ed.). Pearson.
- Pinar, W. F., Reynolds, W. M., Slattery, P., & Taubman, P. M. (1995). *Understanding curriculum*. Peter Lang.
- Pratt, D. (1994). *Curriculum planning: A handbook for professionals*. Harcourt Brace.
- Sato, H. (2017). The structure of PISA penetration into education policy in Japan and Norway. In L. Volante (Ed.), *The impact of the OECD on education worldwide* (pp. 209–230). Emerald.

- Bingül Şahin, Fatma Zehra Çakır, Mehmet Gedik, Pelin Erdoğan Selim Alnıaçık, Sinan Babur & Adnan Taşgın
- Schiro, M. S. (2013). *Curriculum theory: Conflicting visions and enduring concerns* (2nd ed.). Sage.
- Shelton, P. J. (2004). *Family and consumer science curriculum change* (Unpublished doctoral dissertation). California State University, Long Beach.
- Singleton, N. Y. (2013). *Curriculum orientations of virtual teachers* (Unpublished doctoral dissertation). University of Kansas.
- Soh, K. (2014). Finland and Singapore in PISA 2009. *Compare: A Journal of Comparative and International Education*, 44(3), 455–471. <https://doi.org/10.1080/03057925.2013.787286>
- Tahirsylaj, A. (2017). Curriculum field in the making: Influences That Led to Social Efficiency as Dominant Curriculum Ideology in Progressive Era in the U.S. *European Journal of Curriculum Studies*, 4(1), 618–628.
- Takayama, K. (2008). The politics of international league tables. *Comparative Education*, 44(4), 387–407. <https://doi.org/10.1080/03050060802481413>
- Takayama, K. (2011). Re-examining the visibility of Japanese education. *Comparative Education*, 47(1), 449–470. <https://doi.org/10.1080/03050068.2011.561542>
- Tan, C. (2019). PISA and education reform in Shanghai. *Critical Studies in Education*, 60(3), 391–406. <https://doi.org/10.1080/17508487.2017.1285336>
- Tanaka, K., Nishioka, K., & Ishii, T. (2017). *Curriculum, instruction and assessment in Japan: Beyond lesson study*. Routledge.
- Tasaki, N. (2017). The impact of OECD-PISA results on Japanese educational policy. *European Journal of Education*, 52(2), 145–153. <https://doi.org/10.1111/ejed.12211>
- Technical Education Department, Singapore. (1973). *Technical education and industrial training in Singapore*.
- Tonga, K., Tiitsaar, K., Leijen, Ä., & Pedaste, M. (2022). Professional development of teachers in PISA achiever countries. *Asia-Pacific Journal of Teacher Education*, 50(4), 395–414. <https://doi.org/10.1080/1359866X.2020.1863352>
- Tucker, M. S. (Ed.). (2014). *Chinese lessons: Shanghai's rise to the top of the PISA league tables*. National Center on Education and the Economy.
- Watkins, D., & Biggs, J. (1996). *The Chinese learner*. Comparative Education Research Centre.
- Wong, S. T. (2018). History of education in Singapore. In *Singapore's new education system*. ISEAS–Yusof Ishak Institute.
- Xu, Y. (2012). *Education development in Shanghai*. East China Normal University Press.
- Yamamoto, Y. (2015). Educational reform and active citizenship in Japan. *Asia Pacific Journal of Education*, 35(3), 329–345. <https://doi.org/10.1080/13439006.2011.630853>
- Yang, W., & Fan, G. (2023). Delving into the development of Chinese students based on PISA scores. In D. Guo (Ed.), *The frontier of education reform and development in China* (pp. 107–128). Springer. [https://doi.org/10.1007/978-981-19-6355-1\\_7](https://doi.org/10.1007/978-981-19-6355-1_7)
- Yıldırım, A., & Şimşek, H. (2021). *Sosyal bilimlerde nitel araştırma yöntemleri*. Seçkin.
- Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage.
- Zhou, Y., & Wang, D. (2016). A Chinese approach to learning? In C. P. Chou & J. Spangler (Eds.), *Chinese education models in a global age* (pp. 105–119). Springer. [https://doi.org/10.1007/978-981-10-0330-1\\_8](https://doi.org/10.1007/978-981-10-0330-1_8)