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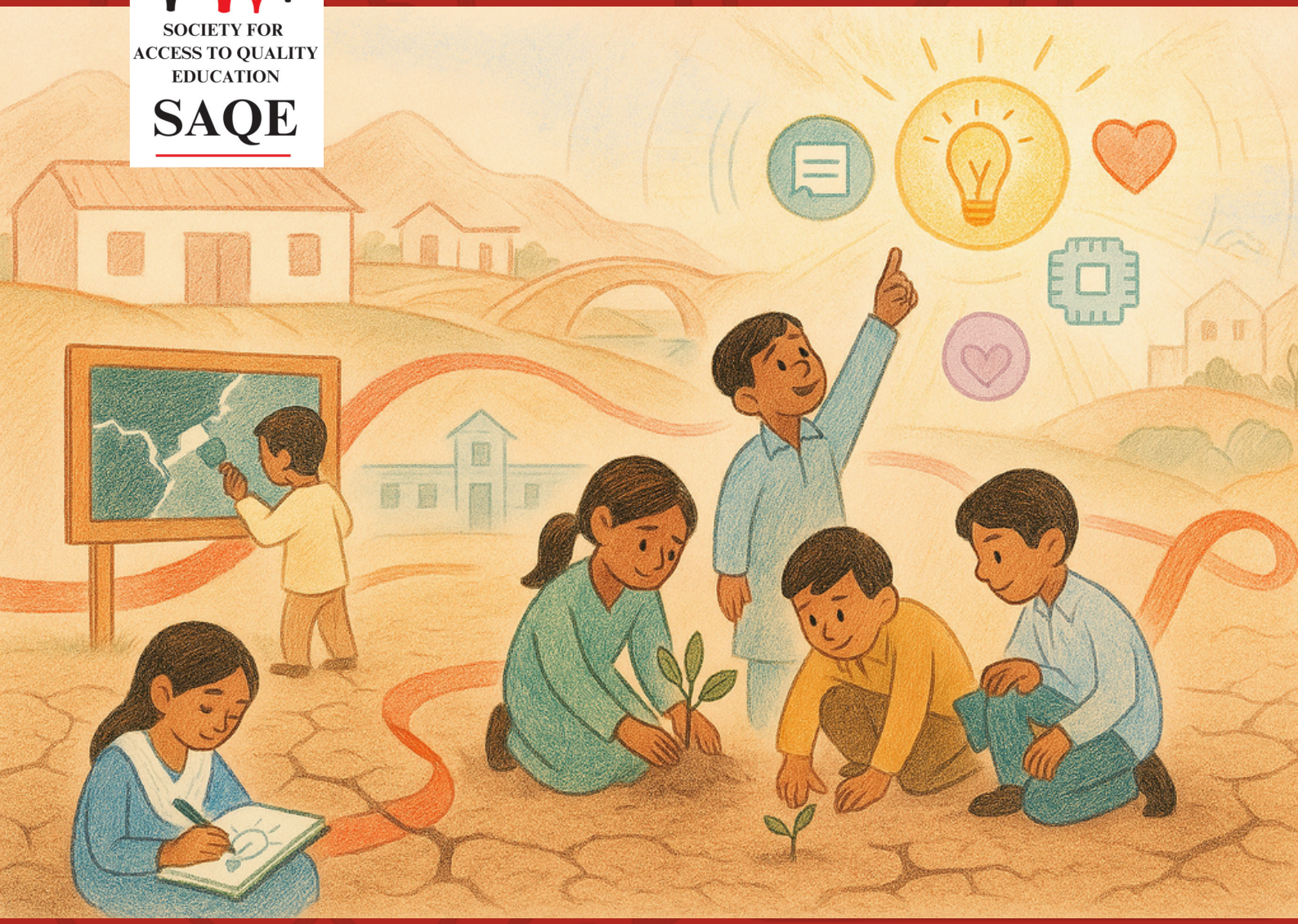

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LEARNING WHAT MATTERS!

Transforming Education to Cultivate a Breadth of Skills

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Transforming Education to Cultivate a Breadth of Skills

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Contact: info@saqepce.org
Website: www.saqepce.org
Authors: Urwa Naeem, Kaneez Zehra
Researchers: Moiz Hussain, Urwa Naeem
Designer: Damis Ibrahim
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Finally, this inquiry was profoundly shaped by the intellectual partnership and invaluable support of NEST (Network for Education System Transformation) members. We are sincerely grateful for their direction and collaboration throughout this endeavor.

Executive Director's Message

Pakistan is at a critical juncture in its national development trajectory, shaped by a significant demographic shift. With a large and growing youth population, the country holds immense potential to harness this demographic dividend to drive economic development, innovation and social transformation. However, the realization of this potential lies in the strength and effectiveness of one key factor: the country's education system. As the primary vehicle for equipping young people with the knowledge, skills and values needed to thrive in a rapidly evolving world, a responsive and inclusive education system is essential to ensuring that Pakistan does not miss the opportunity it has today.

For too long, the discussion about education in Pakistan has been stuck in a cycle of recognizing the crisis without fundamentally changing its course. We have counted the out-of-school children and measured learning gaps, yet the system itself, with its deep-rooted contradictions and structural inertia, has largely remained unchallenged. The focus should therefore not merely be on addressing the issues plaguing the education system but also on understanding why our solutions keep failing to take hold.

Therefore, I am very pleased to present "Learning What Matters: Transforming Education to Cultivate a Breadth of Skills". This is not just another report; it is a call for a complete rethinking of what education is and what it must become for Pakistan. The research in these pages offers a clear, honest diagnosis of an education system at odds with itself.

The study goes beyond mere numbers to illustrate the human side of this crisis. It powerfully highlights the gap between learning what is necessary to pass an exam and learning what is essential to build a life. Most importantly, this report doesn't just diagnose the issues. It provides a clear, systematic, and actionable plan for change, based on the belief that every child deserves not just access to a school but a meaningful future. The recommendations here are not simple, quick fixes; they are bold, structural reforms that require courage and political will. The insights from this report should serve as an urgent call to action for policymakers, educators, industry leaders, and civil society.

I sincerely thank the entire research team for their dedication, rigor, and passion. I am especially grateful to the Network for Education System Transformation (NEST) members for their support, insight, and commitment to this shared vision.

This report marks only the beginning of a much-needed national conversation. Continued, sustained inquiry and action will be essential. May this study inspire the bold and transformative changes our children deserve and our nation urgently needs.

KANEEZ ZEHRA
Executive Director, *Society for Access to Quality Education (SAQE)*
National Coordinator, *Pakistan Coalition for Education (PCE)*

Acronyms

ILO	International Labour Organization
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations International Children's Emergency Fund
OECD	Organisation for Economic Co-operation and Development
TVET	Technical and Vocational Education and Training
GDP	Gross Domestic Product
MDG	Millennium Development Goals
EFA	Education for All
PISA	Programme for International Student Assessment
DeSeCo	Definition and Selection of Competencies
SNC	Single National Curriculum
SDG	Sustainable Development Goals
LMTF	Learning Metrics Task Force
FGD	Focus Group Discussion
IRB	Institutional Review Board
SEL	Social and Emotional Learning
WEF	World Economic Forum
ASER	Annual Status of Education Report
AI	Artificial Intelligence

AI	Artificial Intelligence
STEM	Science, Technology, Engineering, and Mathematics
PITE	Provincial Institute of Teacher Education
PTA	Parent-Teacher Association
DEPIx	District Education Profile Index
SLO	Student Learning Outcomes
TEVTA	Technical Education and Vocational Training Authority
SSDP	Sindh School Development Plan
MoFEPT	Ministry of Federal Education and Professional Training
STEDEA	Standards for Teacher Education and Development in Education Authorities
NFC	National Finance Commission
NEST	Network for Education Systems Transformation
NOC	No Objection Certificate
ICT	Information and Communication Technology
IT	Information Technology
IB	International Baccalaureate
STEDA	Sindh Teacher Education Development Authority

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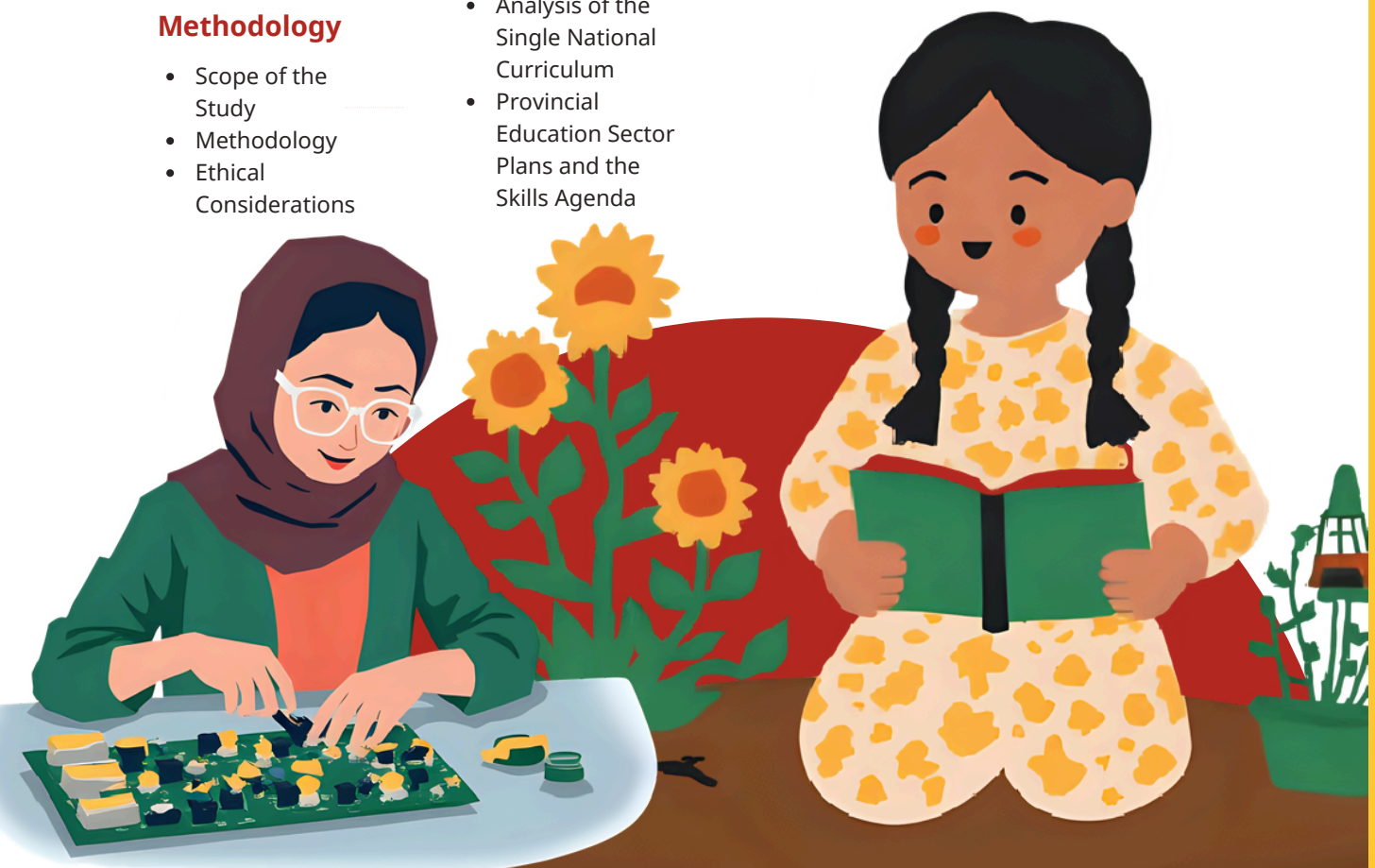
Contents



Executive Summary

Pakistan stands at a demographic crossroads, with a youth population of historic proportions. This ***"youth bulge,"*** representing two-thirds of the nation, offers the potential for a transformative demographic dividend. However, this study finds that this potential is being systematically squandered by an education system in a state of profound crisis. This system is not only failing to provide access to millions but is fundamentally failing to equip those within its classrooms with the skills that matter for life, work, and citizenship in the 21st century.

This research critically examines the chasm between Pakistan's education aspirations and its on-the-ground reality. It addresses the central question: ***How well are education systems in Pakistan creating opportunities for young people to learn what matters?*** Through a comprehensive analysis of policy frameworks, curriculum, pedagogy, and assessment, combined with on-the-ground insights from policymakers, educators, and parents across all four provinces, the study uncovers a system entangled in a web of deep-seated contradictions.

Key Findings: A System of Contradictions

While national and provincial policies, including the Single National Curriculum (SNC), eloquently champion the need for critical thinking, creativity, digital literacy, and problem-solving, the reality at the school level is starkly different. The study identifies several core contradictions that paralyze reform and perpetuate a cycle of failure:

The Curriculum-Assessment Trap: The most significant barrier to progress is an assessment system that is fundamentally misaligned with curricular goals. While curricula call for higher-order thinking, high-stakes board examinations continue to reward rote memorization and procedural recall. This "assessment trap" creates a powerful disincentive for teachers to adopt innovative pedagogies, forcing them to "teach to the test" and ensuring that memorization remains the dominant learning mode.

The Pedagogy Problem: Teachers, the key agents of change, are often ill-equipped to deliver a modern, skills-based education. Many lack training in contemporary pedagogical methods, are overburdened by large class sizes, and operate within a system that offers few incentives for professional growth. Innovation, where it exists, is often the result of individual teacher initiative rather than systemic support.

The Infrastructure and Technology Paradox: Despite rhetoric about a digital Pakistan, the physical and digital infrastructure in most public schools is dire. Chronic electricity shortages, non-functional science labs, and a severe lack of computers and internet connectivity render discussions of digital literacy and inquiry-based science purely academic for millions of students, creating a vast digital and learning divide.

The Cultural Resistance: A marks-centric culture permeates the entire ecosystem. Parents, students, and administrators continue to equate educational success with high examination scores, creating resistance to skills-based learning models. Furthermore, vocational and technical education (TVET) pathways are still widely perceived as a "third-class" option, hindering the development of a skilled workforce.

Fragmented Governance and Siloed Systems: A lack of coordination between curriculum bodies, examination boards, teacher training institutions, and industry stakeholders ensures that reforms remain fragmented and ineffective. The education system operates in a silo, disconnected from the real-world needs of the economy and society, leading to a dangerous mismatch between graduate skills and labor market demands.

The Way Forward: A Framework for Systemic Transformation

Piecemeal reforms have failed. Addressing this multifaceted crisis requires a holistic and systemic transformation. This study proposes a comprehensive roadmap of 12 strategic recommendations designed to build a coherent, future-ready education system. These recommendations call for a courageous shift from a colonial-era factory model of education to a learner-centered, skills-focused ecosystem. Key strategic imperatives include:

1. **Champion a New Vision for Holistic, Skills-Based Learning:** The foundational reform is to redefine the very purpose of education. This means re-centering the entire curriculum on cultivating a "Breadth of Skills," explicitly targeting critical thinking, problem-solving, digital literacy, collaboration, and resilience, and moving decisively beyond a system that rewards rote memorization.
2. **Revolutionize Pedagogy and Assessment to Match this Vision:** A new vision for learning requires a new engine for teaching and evaluation. This involves a national mission to overhaul teacher training to focus on competency-based, student-centered pedagogy, coupled with a radical reform of examination boards to design assessments that measure analytical skills and practical application, not just recall.

3. **Build Modern Pathways to Opportunity:** The education system must be directly connected to the economy and society. This requires transforming the educational structure by elevating TVET into a premier, aspirational pathway and forging a "Triple Helix" of deep collaboration between government, industry, and academia to ensure curriculum is aligned with real-world needs.
4. **Empower Learners and Communities through Decentralization and Support:** A just and effective system must shift power and provide holistic support. This involves decentralizing authority to local schools and communities, implementing comprehensive career counselling and mental health support from an early age, and validating diverse learning pathways to ensure every child has the guidance and opportunity to succeed.

The success of this roadmap depends on a new approach to implementation, guided by the principles of the 4Ps (Purpose, Pedagogy, Positioning, Power) and 3Cs (Capacity, Commitment, Cohesion) framework. Pakistan's future hinges on its willingness to undertake this education revolution. The choice is to either make the bold, systemic investments required to unlock its youth's potential or resign another generation to a future of untapped potential and continued inequality.

CHAPTER 1:
Pakistan's Education Crisis: A System Under Strain

Pakistan's Demographic and Socioeconomic Context

Pakistan is at a demographic crossroads, characterized by a distinctly youth-heavy age pyramid. Two out of every three Pakistanis are under the age of 30, with one in three falling between 15 and 29 years of age. The median age hovers just above 221. This youth bulge, while promising in theory, is placing unsustainable pressure on Pakistan's already strained education system, fragile economy, and civic infrastructure. Each year brings a new wave of school-age children, a direct consequence of a still-high population growth rate of 2.55%[2] and a fertility rate that, while declining modestly (from six live births per woman in 1994 to 3.6 per woman in 2024[3]), remains among the highest in the region. With a population exceeding 241 million[4], and a poverty headcount, which now stands at 44.7%[5] the scale of need is staggering.

Compounding these challenges are external shocks, such as climate change, political instability, and economic decline. Climate change, once a looming threat, is now a devastating reality. Consistently ranked among the top ten most climate-vulnerable countries in the world, Pakistan is already experiencing recurring climate disasters. The catastrophic 2022 floods alone disrupted education for over 3.5 million children[6]. Yet these floods represent not an anomaly, but are part of an accelerating pattern of destruction. From extreme heat and drought to erratic rainfall and smog, environmental shocks are now routine. The country's education infrastructure, already fragile, is simply not built to withstand this level of disruption. Nor are the students.

Political turbulence adds another volatile layer. Protests, closures, and unrest frequently shut down schools, sometimes for days or weeks without warning. Data from Punjab's 2024 academic year demonstrates this pattern: political protests resulted in 14 days of school closures, while combined disruptions from political unrest, climate events, and administrative decisions reduced the 262-day academic calendar to just 118 instructional days[7]. School closures due to unrest are not one-off events; they are part of a repeating cycle that fragments learning and severs education continuity.

[1] Najam, Adil. "PAKISTANS MOMENT OF YOUTH." DAWN.COM, May 5, 2024. https://www.dawn.com/news/1831567
[2] Pakistan Bureau of Statistics, "Announcement of Results of 7th Population and Housing Census-2023 'The Digital Census,'" Government of Pakistan, August 5, 2023 https://www.pbs.gov.pk/sites/default/files/population/2023/Press%20Release.pdf
[3] Ahmed, Amin. "Pakistan's Fertility Rate Has Declined, Says UN." DAWN.COM, February 3, 2025.
[4] Pakistan Bureau of Statistics, "Digital Census Results. https://www.dawn.com/news/1889376
[5] Shahbaz Rana, "Pakistan's Poverty Rate Rises to 44% Under New World Bank Thresholds," The Express Tribune, June 5, 2025, https://tribune.com.pk/story/2549678/pakistans-poverty-rate-rises-to-447-under-new-world-bank-thresholds
[6] Perry, Freya, Juan D. Barón, and Lauren Dahlin. "How Are the Children of Pakistan's 2022 Floods Faring?" World Bank Blogs (blog), March 16, 2024. https://blogs.worldbank.org/en/endpovertyinsouthasia/how-are-children-pakistans-2022-floods-faring
[7] Ilyas, Muhammad. "Sudden School Closures Halt Academic Progress." The Express Tribune, December 30, 2024. https://tribune.com.pk/story/2519106/sudden-school-closures-halt-academic-progress

Then there is the economic undertow. Pakistan's economy has remained sluggish over the past two decades, failing to keep pace with its expanding labor force. As of the 2023–24 Pakistan Economic Survey, the country's labor force stands at 71.8 million, yet 4.5 million individuals remain unemployed[8]. Youth unemployment is particularly acute: among those aged 15–24, the rate is 11.1 percent, the highest among all age groups, followed by 7.3 percent for the 25–34 bracket[9]. These figures underscore a dangerous mismatch between education aspirations and economic opportunities, especially for the country's predominantly young population. The economy simply does not generate sufficient productive or inclusive activity to absorb new entrants into the labor market, especially women, who face a disproportionately high unemployment rate of 14.4 percent compared to 10 percent for men[10]. Pakistan's fiscal constraints intensify this crisis.

The country has consistently run large fiscal and external deficits, with the budget deficit reaching nearly 8 percent of GDP and the external current account deficit nearing 5 percent by the end of FY 2021–22[11]. These persistent imbalances have led to ballooning public debt, with interest payments consuming almost two-thirds of total government revenue[12]. As a result, fiscal space for critical investments in the social sector, including education, health, youth development, and infrastructure, has been drastically curtailed. Relying on borrowing to service existing obligations rather than to finance growth-enhancing initiatives continues to undermine long-term development prospects.

Gender inequality remains one of the most entrenched structural injustices in Pakistan. The country consistently ranks near the bottom of the World Economic Forum's Global Gender Gap Index[13], placing it among the worst performers globally. Despite constitutional guarantees and repeated policy commitments, the gender gap in education persists. In the most recent edition of the index, Educational Attainment was the only sub-index in which Pakistan registered progress, with parity improving by 1.5 percentage points to reach 85.1 percent. This shift was partly due to a modest increase in female literacy rates, from 46.5 percent to 48.5 percent. However, the rise in parity was also driven by a decline in male tertiary enrolment[14], which narrowed the gender gap not by raising female achievement but by lowering overall education reach. These dynamics reveal that the apparent progress masks deeper systemic weaknesses and continuing gender disparities in access to quality education.

The broader human development indicators reflect this composite fragility. Pakistan ranks 168 out of 193 countries on the Human Development Index, marking a dramatic fall of 19 places[15], one of the steepest declines globally. Yet, amidst this

[8] Mian, Bakhtawar. "Youth Hit Hardest as 4.5m Remain Jobless." DAWN.COM, June 12, 2024. https://www.dawn.com/news/1839336
[9] ibid
[10] ibid
[11] Hansberry, Cate. "Rescuing Pakistan's Economy - Atlantic Council." Atlantic Council, April 8, 2025. https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/rescuing-pakistans-economy/
[12] ibid
[13] "Pakistan Hits Rock Bottom in WEFs Global Gender Gap Report Out of 148 Countries." DAWN.COM, June 12, 2025. https://www.dawn.com/news/1916743
[14] ibid
[15] "Falling Behind: Pakistan's HDI Crisis." Brecorder, May 14, 2025. https://www.brecorder.com/news/40362534

daunting landscape, the country's large youth population represents a human capital potential. The demographic dividend opportunity exists contingent upon successful educational and economic integration policies that can harness this population advantage for sustainable development outcomes.

Education Under Siege: Crisis in the Classroom

In the shadow of Pakistan's youth bulge and deepening socio-economic uncertainty lies an education system fraying at its seams, overburdened, under-resourced, and losing ground. Pakistan has made multiple national and international commitments to education, including Article 25A of the Constitution, which guarantees 'free and compulsory education to every child,' and Sustainable Development Goal 4 (SDG-4), which aims to ensure inclusive and equitable quality education for all. Yet, despite these promises, the right to quality education remains painfully out of reach for millions.

The 18th Constitutional Amendment of 2010 devolved education to the provinces, a move intended to localize and improve service delivery. Instead, what followed was an uneven, uphill struggle: widening infrastructure gaps, chronic teacher shortages, and governance vacuums.

The Access Crisis

The most glaring signal of crisis? Over 25 million children between the ages of 5 and 16 are out of school[16], one in every three. These aren't just statistics; they're futures paused, dreams stalled. The system manages to enrol just 47 million students, roughly split between boys and girls, but a closer look reveals deep fractures[17].

There are more than 225,000 schools scattered across the country, a number that looks decent on paper[18]. But over 56% are still primary-level only, meaning millions of children simply run out of classrooms when ready to move up. The transition from primary to middle, and middle to high school, is where the system bleeds students. Only 55% of children who start school make it to lower secondary, and in Balochistan, that figure drops to a harrowing 21%[19]. This isn't a dropout, it's disappearance.

Girls are especially vulnerable to this vanishing. Despite making up nearly half of enrolled students, they often face barriers that extend far beyond the school gate. Approximately 13% of parents cite the cost of schooling as a key reason for dropout or non-enrolment, with girls from low-income households 52% less likely to attend school than those from wealthier families[20].

[16] Pakistan Institute of Education, "Pakistan Education Statistics 2023-24," Government of Pakistan, April, 2025 https://pie.gov.pk/SiteImage/Publication/PES%202024.pdf
[17] ibid
[18] ibid
[19] ibid
[20] Barón, Juan D., Lauren Dahlin, and Jessica D. Lee. 2024. Five major challenges to girls' education in Pakistan. Washington, DC: World Bank https://datatopics.worldbank.org/dataviz/girls-education-pakistan/

A limited number of secondary schools, especially in rural areas, present challenges related to distance, safety, and accessibility; 29% of rural families report that schools are too far away. Long commutes expose girls to frequent harassment during travel and around school premises, further discouraging attendance. The lack of trained female teachers, particularly in conservative and rural regions, exacerbates dropout rates[21]. Early marriage, affecting over 19.4 million girls before age 18, restricts education continuity[22]. Collectively, these factors severely undermine girls' educational participation, especially in marginalized communities. In Khyber Pakhtunkhwa, for instance, only 42% of girls reach the final grade of lower secondary, compared to 61% of boys[23].

For children with disabilities, the exclusion is near-total: only 0.44% are enrolled in school, and just 0.96% of teachers are trained to support them[24].Despite Pakistan hosting one of the world's largest refugee populations, only 0.4% of enrolled students come from refugee backgrounds, a near-complete exclusion[25].

Beyond Access: The Learning Crisis

Delving on access issues alone tells only part of the story. Even for those who remain in school, Pakistan faces a parallel crisis: a learning crisis that reveals the system's failure to deliver meaningful educational outcomes. According to the World Bank, before COVID-19-related school closures, 80% of children in the late primary age group were unable to read at grade level, a figure 21 percentage points worse than the South Asian average.[26] Their Learning Poverty data (2022) confirms this crisis, showing 77% of children at late primary age are not proficient in reading when adjusted for out-of-school children, while large-scale learning assessments indicate that 65% fail to achieve the Minimum Proficiency Level by end of primary school.[27]

The National Achievement Test (2023) paints an even grimmer picture: Grade 4 students nationwide answered just 42% of math and 47% of English questions correctly, and those were based on Grade 2-level content. Even at Grade 8, students struggled to score above 60% in core subjects like math and science.[28] While Punjab performs slightly better than the rest, progress remains patchy. Girls often outperform boys in literacy, while boys lead in math, revealing embedded social scripts at play within classrooms. Pakistan's first-time participation in TIMSS (Grade 4 math/science) yielded very low mean scores, far below international averages, confirming the depth of this learning crisis.[29]

The Outdated Pedagogy

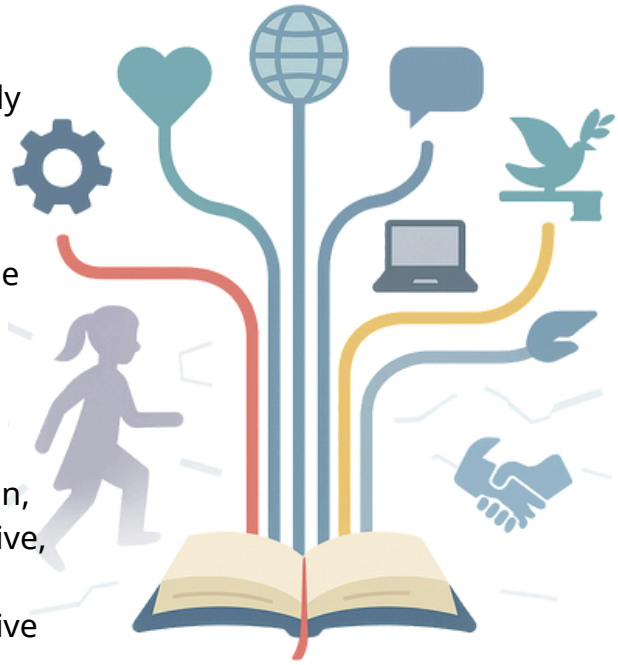
The root of this learning crisis lies in pedagogical approaches that prioritize rote memorization and exam drills over critical thinking and problem-solving[30]. As one

[21] ibid
[22] UNICEF, "Child Marriage Country Profiles," UNICEF Data Portal, accessed May 24, 2025 https://data.unicef.org/resources/child-marriage-country-profiles/
[23] Pakistan Institute of Education, "Pakistan Education Statistics 2023-24," Government of Pakistan, April, 2025 https://pie.gov.pk/SiteImage/Publication/PES%202024.pdf
[24] ibid
[25] ibid
[26] World Bank and UNESCO Institute of Statistics. "Pakistan Learning Poverty Brief." Pakistan Learning Poverty Brief. World Bank, April 2024. https://documents1.worldbank.org/curated/en/099090524113129017/pdf/P17920914d233b0701985a14a5d15f20e04.pdf
[27] World Bank and UIS. "Learning Poverty: A World Bank-UIS Indicator to Highlight the Learning Crisis." Pakistan Learning Poverty Brief, June 2022. https://documents1.worldbank.org/curated/en/099812207212211713/pdf/IDU0e0c38ddc0f77b04fda0a7ad0e2f4235d517a.pdf
[28] Pakistan Institute of Education, "National Achievement Test 2023," Government of Pakistan https://pie.gov.pk/SiteImage/Publication/NAT%202023.pdf
[29] Ahmad, Sohail, Sherwin Rodrigues, and Sadia Muzaffar Bhutta. "Pakistan's First Ever Participation in International Large-Scale Assessment (TIMSS): Critique and Implications." Journal of Education and Educational Development 9, no. 2 (December 28, 2022): 191–210. https://doi.org/10.22555/joeed.v9i2.717
[30] Bhatt, Rameen. "Is Pakistan's Education System Producing Thinkers or Followers?" The Friday Times, March 29, 2025. https://thefridaytimes.com/29-Mar-2025/is-pakistan-s-education-system-producing-thinkers-or-followers

commentator put it, Pakistan's schooling "trains students to obey rather than think." Creative thinking, questioning, or collaboration remain rare[31].

Approximately 40% of public-school teachers have satisfactory subject knowledge, with most relying on outdated, lecture-style teaching methods. Teachers often lack training and accountability: absenteeism can run as high as 15–20% on any day, and there are few incentives for performance[32]. The assessment system reinforces this pedagogical poverty. Official exam authorities themselves concede that current board exams "have been criticised for emphasising rote learning over critical thinking and problem-solving[33]."

The Need for a Breadth of Skills



This pedagogical failure becomes particularly stark when viewed against international frameworks that emphasize the breadth of skills necessary for success in the 21st century. Education systems around the globe increasingly recognize that schooling must deliver competencies far beyond basic literacy and numeracy[34]. According to UNESCO, breadth of skills refers to competencies that "rely not only on cognition, but also on the interdependencies of cognitive, social, and emotional characteristics," including ICT competence, critical and creative thinking, personal and social skills, ethical behavior, and intercultural understanding[35].

As an outcome of decades of education reform, SDG 4 specifically calls for children and youth to acquire not only foundational skills, but also skills for employment, entrepreneurship, and sustainable development[36].

In 2021, the federal government launched the Single National Curriculum (SNC) under the slogan, "One Nation – One Curriculum[37]", with ambitious aims of fostering national cohesion, equity, and a transition towards 21st-century skills, including analytical thinking, creativity, respect for diversity, and citizenship. It explicitly promotes patriotism, human rights, global citizenship, and peace.

Despite growing global emphasis on 21st-century competencies, data on such skills in Pakistan remains limited and fragmented. There is currently no national assessment framework for measuring students' digital, socio-emotional, or civic competencies, making monitoring progress in these domains difficult[38]. While Social-emotional and civic education have been formally introduced (e.g., "Life Skills" or "Social Studies"), the quality and depth of implementation vary widely. Efforts to embed civic and social-emotional learning have also faced ideological

[31] ibid
[32] ibid
[33] Abbasi, Kashif. "Current Assessment System Encourages Rote Learning: Boards." DAWN.COM, July 26, 2024. https://www.dawn.com/news/1847986
[34] Care, Esther, Helyn Kim, and Kate Anderson. "Visualizing the Breadth of Skills Movement Across Education Systems." Brookings, September 16, 2016. https://www.brookings.edu/articles/visualizing-the-breadth-of-skills-movement-across-education-systems/
[35] UNESCO UIS. "Breadth of Skills," September 10, 2024. https://uis.unesco.org/en/glossary-term/breadth-skills.
[36] Care, Esther, Helyn Kim, and Kate Anderson. "Visualizing the Breadth of Skills Movement Across Education Systems." Brookings, September 16, 2016.
[37] APP, "SNC to Cement Nation, Minimise Discord: Shafqat Mehmood," The Express Tribune (Pakistan), August 23, 2021, accessed July 11, 2025, https://tribune.com.pk/story/2316724/snc-to-cement-nation-minimise-discord-shafqat.
[38] Komal Qidwai, Fabiha Moin, Rida Rehan Chughtai, and Ziana Shakil, Unpacking opposition: The contested landscape of life skills-based education in Pakistan (Islamabad: ALIGN/Aahung, March 26, 2025), accessed July 11, 2025, https://www.alignplatform.org/resources/report-unpacking-opposition-contested-life-skills-education-pakistan

resistance, particularly to topics such as sexuality education or critical citizenship, which some conservative groups oppose.

Scale of the Crisis

All of this is reflected in the DEPIx, the planning commission's new education performance index. The national average score is a sobering 53.46, squarely placing the country in the "Low" performance category. Infrastructure & Access leads with a relatively high score of 58.95, indicating that schools are increasingly being built, but the system stumbles when it comes to delivering real learning. The Learning domain and Public Financing score lowest, highlighting poor educational outcomes and the chronic underfunding that drives them. Governance and teacher management also score poorly, dragged down by bureaucratic turnover and persistent shortages[39].

At the provincial level, Punjab leads with a composite DEPIx score of 61.39, followed by KP (54.47), Sindh (51.55), and Balochistan (45.50). Punjab shows strength in Infrastructure & Access (73.36) and Inclusion (75.05), while KP scores relatively better in Governance and Financing. But even Punjab stumbles on financing and teacher quality. Balochistan ranks lowest across nearly all domains, laying bare the effects of neglect and exclusion[40].

Resource Constraint

And yet, funding remains far below what the crisis demands. Despite ritualistic political declarations of education as a "national priority", Pakistan's education spending has steadily declined from approximately 2% of the GDP in 2018 to an all-time low of 0.8% in 2025[41]. This represents a devastating 29% cut in education expenditure during the first nine months of FY25[42], with most funds being absorbed by salaries rather than system reform or innovation. Pakistan's education investment falls far below regional peers and international recommended benchmarks of 4-6% of GDP.

Toward Learning What Matters

As the commentary above outlines, Pakistan's education issues extend well beyond access and enrolment. At its core, the system is failing to equip the students with the full range of skills that they require to navigate an increasingly complex, fast-changing, and interconnected world.

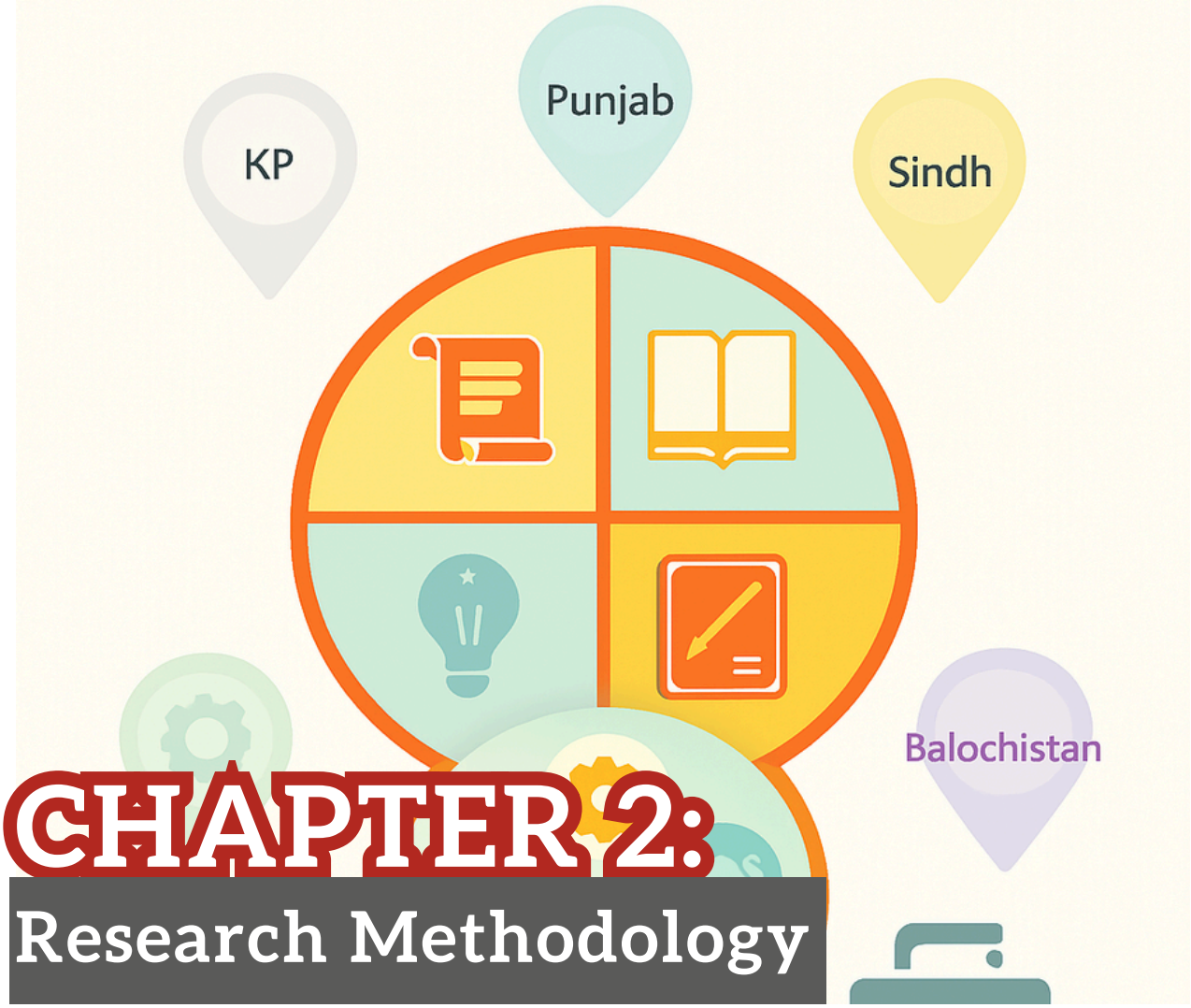
Accordingly, foundational literacy and numeracy, while important, are no longer sufficient on their own. Young people also require exposure and training to hone such skills as critical thinking, problem-solving, digital literacy, socio-emotional intelligence and civic awareness to thrive as global citizens.

[39] Planning Commission, "District Education Performance Index," Government of Pakistan, 2023 https://pc.gov.pk/uploads/archives/DEPIx_Updated-Final-Report.pdf.
[40] ibid
[41] editorial. "Education Underfunded." The Express Tribune, June 26, 2025. https://tribune.com.pk/story/2552672/education-underfunded.
[42] ibid

Research Question

The challenges outlined above highlight the urgent need to examine how Pakistan's education system is responding to the needs of its predominantly young population. This study therefore, seeks to address the following research question:

How well are education systems in Pakistan creating opportunities for young people to learn what matters?



CHAPTER 2:
Research Methodology

Scope of the Study

This study critically examines the learning ecosystem and the state of skill development within Pakistan's school education system. It focuses on four interrelated domains: ***policy frameworks, curriculum structures, teaching methodologies, and assessment mechanisms.*** The research spans four provinces (Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan) and the Federal Territory, aiming to assess how well the education system fosters the breadth of skills needed for young people to thrive in life, work, and citizenship.

The research focuses on the K-12 education system and includes two case studies on Technical and Vocational Education and Training (TVET) from Sindh and Balochistan. In addition, the study includes two Technical and Vocational Education and Training (TVET) case studies from Sindh and Balochistan

Methodology

This research employs a qualitative design, integrating secondary data analysis with primary data collection to explore how education policy and system-level reforms translate into implementation at the school and classroom levels. An advisory group comprising multi-sectoral experts was established to provide continuous feedback and guidance throughout the research process.

Secondary Data and Literature Review

The literature review situates the study within broader global and national debates around skills, learning, and education transformation. Sources reviewed include:

Global frameworks and academic research on 21st-century skills, foundational learning, transversal competencies, and digital literacy.	Curriculum and assessment frameworks, with a focus on the Single National Curriculum (SNC) and subject progression guides, to evaluate alignment between curriculum intent and skill development.	Provincial Education Sector Plans (ESPs) from Punjab, Sindh, Khyber Pakhtunkhwa, and Balochistan, to understand how strategic priorities are localized.	National economic and policy frameworks, including Vision 2025 and URAAN Pakistan 2030, to assess how education is positioned within Pakistan's socio-economic development agenda

Primary Data Collection

Primary data collection was designed to explore how various stakeholders, including policymakers, educators, parents, and learners, interpret and enact education reforms and policy commitments.

A. Semi-Structured Interviews

Interviews were conducted with key stakeholders, including:

- Bureau of Curriculum, Education Departments, and PITE representatives to assess policy intent and implementation bottlenecks.
- Curriculum developers, to explore the rationale behind curriculum design and the integration of skills.
- Assessment experts, to investigate evaluation practices.
- Industry representatives, to understand labor market needs and graduate skill gaps.
- Parents of public-sector students, to capture household-level perceptions around skill development, career aspirations, and the value of education.

B. Focus Group Discussions (FGDs)

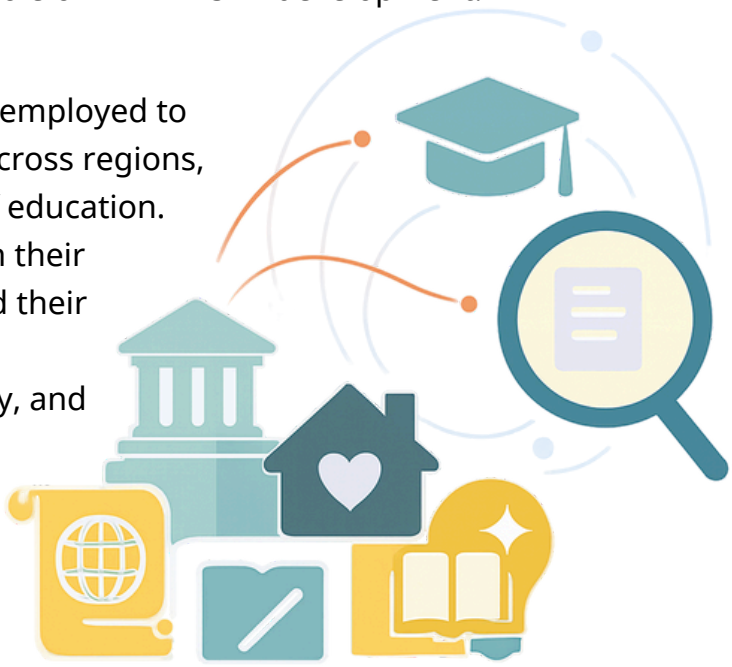
FGDs were conducted with groups of teachers from both urban and rural schools to explore: curriculum implementation challenges, teaching strategies and resource gaps, classroom experiences related to skills-based learning and practices around student evaluation and formative assessment.

C. Case Studies – TVET in Sindh and Balochistan

While this study's primary focus is on mainstream education, two case studies in Sindh and Balochistan explore the role of TVET in skill development.

Sampling Strategy

A purposive sampling strategy was employed to ensure inclusion of diverse voices across regions, genders, school types, and levels of education. Participants were selected based on their relevance to the study's themes and their ability to provide insight into policy implementation, curriculum delivery, and learner experience.



Data Analysis

Data from interviews and FGDs were analyzed using thematic analysis, combining:

Deductive coding based on predefined categories such as curriculum alignment, teaching practices, assessment structures, and policy coherence.	Inductive coding, allowing for the emergence of new themes from participants' lived experiences and perceptions.

Ethical Considerations

The study followed rigorous ethical protocols:

- Institutional Review Board (IRB) approval was obtained prior to fieldwork.
- The research team underwent safeguarding certification training.
- Informed consent was obtained from all participants.
- All interviews and data were anonymized, and participants were assured of confidentiality and voluntary participation.

CHAPTER 3:

Global Insights: Learning and Skills that Matter in a Changing World

Over the past two decades, global education discourse has undergone a fundamental shift. As the world faces mounting complexity, uncertainty, and precarity - from climate change and digital disruption to geopolitical uncertainty and widening inequality - there is a growing call to rethink the very purpose of education. No longer is it sufficient for children merely to attend school or acquire basic literacy and numeracy. Instead, scholars and global institutions are increasingly focused on whether learners are gaining the knowledge, skills, and values that truly matter for navigating an uncertain future[43].

Education today is not just about transmitting facts; it is about preparing young people to think critically, collaborate across divides, and adapt to complexity and uncertainty. As a result, global agendas now emphasize not just school enrolment, but also the quality, relevance, and purpose of learning. Over time, this evolution has given rise to a more ambitious, multidimensional vision for education; one that spans cognitive, social, emotional, digital, ethical, and civic competencies.

At the beginning of the 21st century, education systems worldwide were primarily shaped by efforts to combat poverty and stimulate economic growth through foundational competencies such as literacy and numeracy. These skills were viewed as essential stepping-stones to social mobility and formal employment. The Millennium Development Goals (MDGs) and the Education for All (EFA) agenda embodied this focus, prioritizing universal primary education as both a moral obligation and a development pathway. By the mid-2000s, educational discourse was shifting again. With the advent of the Fourth Industrial Revolution, traditional academic benchmarks no longer sufficed. National and regional strategies, including the European Union's Lisbon Strategy[44], began promoting lifelong learning, digital readiness, and social-emotional development.

[43] OECD. Trends Shaping Education. January 23, 2025. https://www.oecd.org/education/trends-shaping-education.htm.
[44] European Commission. Europe 2020: A Strategy for Smart, Sustainable and Inclusive Growth. Luxembourg: Publications Office of the European Union, 2010. https://op.europa.eu/en/publication-detail/-/publication/4299ddf0-4d7e-4c1d-bc6e-cd40c28c5e20.

The global financial crisis of 2008–09 further accelerated this shift, as economic shocks exposed the workforce's need for resilience, adaptability, and creativity.
However, as globalization deepened - economically, technologically, and culturally - the limitations of this narrow skills agenda became clear. A troubling paradox emerged: although more children attended school than ever before, millions were leaving without mastering the basics. Reports by UNESCO and the World Bank throughout the early 2000s exposed a critical truth: learning, not just access, had become the crisis. Many children who had spent years in classrooms could not read a paragraph or solve a simple math problem[45].
In response, a series of influential global frameworks emerged, recalibrating the aims of education to meet the demands of a fast-changing, interconnected world. The adoption of Sustainable Development Goal 4 (SDG 4) in 2015 marked a turning point. It called to ***'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'***, moving the goalposts beyond basic literacy to a broader, humanistic vision. The accompanying Incheon Declaration and Education 2030 Framework for Action emphasized the development of ***skills, values, attitudes, and knowledge that enable citizens to lead healthy and fulfilled lives, make informed decisions, and respond to local and global challenges[46].***

Other global actors contributed complementary perspectives. The OECD's Learning Compass 2030 framework described the knowledge, skills, attitudes, and values learners need to thrive in uncertain futures. Central to this vision is student agency, well-being, and ethical responsibility[47]. The OECD's DeSeCo (Definition and Selection of Competencies)[48] project and the evolution of PISA assessments[49] expanded the global focus from academic achievement to include collaborative problem-solving, digital literacy, and global competence. These shifts positioned education as a lever not just for economic outcomes, but for cultivating individuals who can contribute meaningfully to democratic, diverse, and sustainable societies.
In parallel, UNICEF's Global Framework on Transferable Skills (2019)[50] highlighted the need for lifelong, life-wide learning. It elaborates a "whole systems" approach to embedding life/ soft skills in education. The framework broadly defines transferable skills (covering cognitive, socio-emotional, and practical skills) and advocates for systematically developing a breadth of transferable skills at scale, across the life

[45] UNESCO. EFA Global Monitoring Report 2005: The Quality Imperative. Paris: UNESCO, 2005. https://unesdoc.unesco.org/ark:/48223/pf0000137333.
[46] UNESCO. Incheon Declaration and Framework for Action for the Implementation of Sustainable Development Goal 4. 2015. https://unesdoc.unesco.org/ark:/48223/pf0000245656.
[47] OECD. The OECD Learning Compass 2030. https://www.oecd.org/education/2030-project/learning/learning-compass-2030/.
[48] OECD. Definition and Selection of Competencies (DeSeCo). n.d. https://www.oecd.org/education/skills-beyond-school/definitionandselectionofcompetenciesdeseco.htm.
[49] Nurgabylov, B., S. Uteubayev, A. Zhylkapova, et al. "Developing 21st-Century Skills Through PISA-Based Assessment-Learning Tasks." 2024. https://op.europa.eu/en/publication-detail/-/publication/4299ddf0-4d7e-4c1d-bc6e-cd40c28c5e20
[50] UNICEF. Global Framework on Transferable Skills. 2019. https://www.unicef.org/reports/global-framework-transferable-skills.

course, and through multiple learning pathways. It also stressed the importance of inclusive, rights-based approaches designed to reach marginalized youth and prepare them for meaningful, productive lives.

Long before these frameworks converged, UNESCO's Four Pillars of Learning, first articulated in the 1996 Delors Report[51], had laid the groundwork for this holistic understanding of education. The pillars: learning to know, to do, to live together, and to be, remain foundational today, underpinning many of the competencies now prioritized globally.

Organizations like the Brookings Institution's Learning Metrics Task Force (LMTF) aimed to broaden the scope of learning measurement far beyond basic literacy and numeracy, focusing on a broader range of skills and knowledge essential for a child's holistic development in the 21st century. Their 'Breadth of Learning Opportunities' initiative created tools that assess whether education systems offer learning across seven domains - including academic, social, emotional, and cognitive skills, by analyzing curricula, assessments, learning materials, and classroom practices[52]. This work aligns with Brookings' broader Skills for a Changing World project, led by Esther Care and colleagues, which champions a 'breadth of skills' for all learners. Care's 2016 mapping of over 100 countries made this movement visible by charting how national education systems integrate these skills, from mission statements and curriculum references to documented skill progression. Findings show that while most countries now acknowledge the breadth of skills rhetorically, far fewer have fully embedded them across all system design levels: vision, curriculum, and progression[53].

These trends converged with other transformative pressures. The adoption of the Paris Agreement[54] and growing awareness of climate change brought new urgency to environmental education and green skills. The World Economic Forum's Future of Jobs Reports projected massive workforce reskilling demands driven by automation, AI, and datafication[55]. At the same time, labor market volatility spotlighted the need for TVET aligned with 21st-century realities.

Then came the COVID-19 pandemic. Digital literacy became a survival skill almost overnight, exposing stark inequalities in access to technology and infrastructure. Simultaneously, school closures and social isolation created a crisis of mental health and social-emotional well-being, further reinforcing the centrality of SEL (Social-Emotional Learning) in post-pandemic recovery strategies.

As a result, global consensus has begun to solidify: education must be dynamic, inclusive, and future-ready. Leading international organizations from the OECD and UNICEF to the ILO, World Bank, and WEF now call for systems that develop not just academic proficiency but also resilience and collaboration, environmental and ethical consciousness, and adaptability in the face of rapid technological change.

This evolving vision redefines education's purpose. It is no longer about preparing learners for narrowly defined job markets but empowering them to navigate complexity, contribute to society, and shape a sustainable, just future. Education is

[51] Delors, Jacques et al. Learning: The Treasure Within. Paris: UNESCO, 1996. https://unesdoc.unesco.org/ark:/48223/pf0000109590.
[52] Brookings Institution. Breadth of Learning Opportunities. https://www.brookings.edu/product/breadth-of-learning-opportunities/.
[53] Brookings Institution. Visualizing the Breadth of Skills Movement across Education Systems. https://www.brookings.edu/interactive/visualizing-the-breadth-of-skills-movement-across-education-systems/.
[54] United Nations. "The Paris Agreement | United Nations." https://www.un.org/en/climatechange/paris-agreement.
[55] World Economic Forum. The Future of Jobs Report 2018. Geneva: WEF, 2018. https://www.weforum.org/reports/the-future-of-jobs-report-2018.

increasingly understood not just as a foundation for economic development but as a cornerstone of human dignity, democracy, and planetary stewardship.

What Are the Skills That Matter?

Mapping out the skills that matter is no simple task. The modern world presents a landscape of unprecedented complexity, shaped by climate change, digital transformation, geopolitical shifts, and persistent inequality. At the same time, learners across the globe bring diverse needs, backgrounds, and aspirations. In response, global education discourse has moved beyond narrow academic goals to embrace a broader, more dynamic vision of learning. A growing body of global literature reflects this shift. Educators, researchers, and policymakers increasingly advocate for a wide range of interconnected competencies that prepare young people not only to thrive personally but also to contribute meaningfully to society. These future-oriented skills include:

Skill Category	Description & Examples	Key Insights
Foundational & Cognitive Skills	Core academic abilities such as literacy, numeracy, and problem-solving (e.g., critical thinking).	OECD data shows that critical thinking (66%) and problem-solving (59%) are the skills that are most emphasized globally across curricula[56].
Digital & STEM Skills	Proficiency in science, technology, engineering, and math; ability to engage with digital tools and environments.	UNESCO specifically highlights strengthening STEM education as a priority to help learners navigate the digital future.
Socio-Emotional & Life Skills	Skills like empathy, communication, collaboration, resilience, and adaptability. UNICEF defines these as "transferable skills, also known as life skills, 21st-century skills, soft skills, or socio-emotional skills," allowing children and adolescents to become agile, adaptive learners and citizens equipped to navigate personal, academic, social, and economic challenges[57].	A UNESCO analysis finds that about 40% of the most-mentioned "skills for the future" are socio-emotional in nature[58].

[56] OECD. What Students Learn Matters: Towards a 21st Century Curriculum. Paris: OECD Publishing, 2020. https://www.oecd.org/publications/what-students-learn-matters-91aafc75-en.htm.
[57] UNICEF. Global Framework on Transferable Skills. 2019. https://www.unicef.org/reports/global-framework-transferable-skills
[58] OECD. The Futures We Build: Abilities and Competencies for the Future of Education and Work. https://www.oecd.org/education/skills/futures-of-education-and-skills/

Creativity & Innovation	The ability to generate new ideas, solve novel problems, and apply knowledge in flexible ways.	Seen as essential for addressing complex global challenges like climate change and pandemics.
Ethical, Civic & Global Competence	Understanding of diversity, sustainability, and global interdependence; ability to act responsibly and make informed decisions for common good of communities and the planet.	OECD's Learning Compass 2030 framework includes attitudes and values like care, justice, and environmental stewardship as central to education[59].
Lifelong Learning & Adaptability	Meta-skills such as self-direction, learning-to-learn, and digital agility are essential for navigating rapid change and unknown futures. The ability to continually update one's skills is crucial, given that many future jobs and problems cannot yet be fully predicted.	OECD's learning compass emphasizes that students must learn to "navigate by themselves through unfamiliar contexts" rather than relying on fixed instructions[60].

The breadth of these competencies is wide. They are not isolated and are deeply connected. For example, socio-emotional skills often act as the 'magic glue,' reinforcing other skills[61]. Education experts stress that learning environments across formal, non-formal, and informal learning pathways must support all these cognitive, social, and technical dimensions to equip young people for tomorrow's world.

Innovations and Opportunities for Transformation

As the global education agenda expands beyond access and academic achievement to focus on relevance, equity, and future readiness, education systems worldwide are actively experimenting with innovations that can bridge the persistent gap between aspiration and reality. From digital tools and curriculum reforms to teacher training and student well-being, new strategies are emerging to help learners acquire the full spectrum of competencies needed to thrive in a complex world.

Technology and personalization are at the forefront of this shift. Artificial intelligence (AI), adaptive learning platforms, and digital content are increasingly used to tailor instruction to individual learners' needs, interests, and pace. The World Economic Forum notes that these technologies can provide real-time feedback, support

[59] OECD. The OECD Learning Compass 2030. https://www.oecd.org/education/2030-project/learning/learning-compass-2030/.
[60] ibid
[61] UNICEF. Global Framework on Transferable Skills. 2019. https://www.unicef.org/reports/global-framework-transferable-skills.

differentiated learning, and free teachers from routine tasks to focus on deeper pedagogy. Countries like South Korea are launching AI-powered digital textbooks in math and coding (from 2025), while the UAE is piloting AI tutors to foster critical thinking and content mastery[62]. Such tools can potentially expand access, especially for underserved learners, by offering virtual classes, self-paced learning, and personalized support.

Yet, technology alone is not a panacea. Experts caution that digital tools may exacerbate existing inequalities without strong pedagogy, inclusive design, and equitable infrastructure. Innovations must be embedded within broader systemic reforms, ensuring teacher empowerment, curricular alignment, and universal digital access. Technology, when wisely leveraged, can be a powerful catalyst, but not a substitute, for quality teaching.

This has led to major curriculum and credential reforms across regions. Many countries are moving beyond rigid subject-based models to adopt competency-based education, which emphasizes interdisciplinary learning, real-world problem-solving, and student agency. Project-based learning, coding bootcamps, entrepreneurship modules, and climate education are increasingly integrated into mainstream curricula. Some systems are exploring modular or stackable credentials, allowing learners to customize pathways and acquire skills aligned with their personal goals and evolving labor markets. International networks like the IB and Cambridge curricula continue to model approaches that embed global awareness, ethics, and critical thinking across disciplines[63].

Importantly, the success of these shifts depends on the professional development of teachers. Recognizing this, global frameworks like the OECD's Teaching Compass call for a new kind of educator, one who can facilitate inquiry, support socio-emotional development, and use technology effectively[64]. Ministries of education are updating teacher standards to include digital fluency, active learning strategies, and collaborative teaching, while universities and NGOs provide in-service training in 21st-century pedagogies. However, the challenge of scaling these innovations, especially in under-resourced settings, remains formidable.

Supporting students holistically is another critical component of transformative education. Experts stress that children learn best when their health, nutrition, mental well-being, and social support are addressed[65]. Increasingly, schools are delivering wraparound services, meals, healthcare, psychosocial support, and career guidance particularly in vulnerable or emergency contexts. These 'whole child' approaches help ensure that when learners are in the classroom, they are physically, emotionally, and socially ready to engage with the learning that matters most.

Amid these transformations, one encouraging trend is the growing inclusion of youth voices in shaping education reform. Young people are contributing directly to SDG 4 dialogues, curriculum design, and developing ed-tech tools. Their input is helping ensure that innovations are responsive, relevant, and grounded in learners' real experiences.

[62] World Economic Forum. "From Virtual Tutors to Accessible Textbooks: 5 Ways AI Is Transforming Education." https://www.weforum.org/agenda/2023/06/ai-education-virtual-tutors-accessible-textbooks/.
[63] World Economic Forum. "How Education Can Adapt to Prepare Learners for Tomorrow's Demands." https://www.weforum.org/agenda/2024/01/how-education-can-prepare-learners-future/.
[64] OECD. Teaching Compass. https://www.oecd.org/education/2030-project/teaching-and-learning/teaching/Teaching-Compass-2030.pdf.
[65] Harvard Graduate School of Education. "Why Invest in Global Education Now." https://www.gse.harvard.edu/news/21/10/why-invest-global-education-now.

In sum, promising models and tools are being piloted globally, but scaling them into system-wide norms demands policy coherence, adequate financing, and cross-sectoral collaboration. Despite broad recognition of the need to teach what truly matters, many education systems are only beginning this transformation. While some progress has been made in embedding 21st-century competencies, large gaps persist between vision and implementation.

CHAPTER 4:

Breadth of Skills in Pakistan: *Policies and Commitments*

In Pakistan, the education discourse remains heavily focused on basic literacy and numeracy. Reading proficiency and arithmetic are treated as the primary benchmarks of school success. International assessments confirm this narrow focus: for example, the 2019 TIMSS found Pakistani students ranking second-last among participating countries in mathematics, performing well on rote procedures but failing to apply concepts in problem-solving contexts[66]. Similarly, the 2023 ASER survey found that only about half of Grade 5 children could fluently read an Urdu or Sindhi story, and math performance has stagnated or declined (e.g., two-digit division ability falling from 51% to 46%). In other words, roughly 50% of primary students lack grade-appropriate literacy or numeracy skills, indicating that foundational competencies remain a major challenge[67]. This literacy/ numeracy focus has hampered attention to a wider set of skills: until very recently, curricular and policy debates seldom addressed critical thinking, communication, or other so-called transversal skills.

Social and emotional learning (SEL) has only recently emerged in Pakistan's education conversation, mainly due to the COVID-19 crisis. During the pandemic, widespread school closures and stress highlighted gaps in children's well-being and psychosocial support. In response, a few pilot programs began to appear. For example, CARE Pakistan partnered with the NGO Think Equal to run an SEL storytelling program in dozens of rural schools in 2022–2023. Evaluations found that nearly all participating teachers (100%) recommended scaling the program and reported improvements in classroom atmosphere and student confidence. 98% of teachers noted a more positive classroom environment, and 86% saw gains in student attendance and academic engagement following SEL activities[68]. These NGO-led initiatives show promise in building empathy and resilience, but SEL is still far from a system-wide priority. To date, official curricula only allude to emotional skills within subjects like Islamic Studies or Civic Education, and there is no formal SEL framework or nationwide teacher training to sustain these gains.

[66] TIMSS Pakistan. TIMSS 2019 Pakistan: Where to Next? https://timss2019.org/reports/timss-2019-pakistan/.
[67] ASER Pakistan. ASER 2023: What Did We Learn About Learning? https://aserpakistan.org/report.
[68] Think Equal and CARE. Pakistan Pilot Programme Report 2022–2023 https://thinkequal.org/blog/think-equal-x-care-pakistan-pilot-programme-report-2022-2023/

In contrast, digital and ICT skills have attracted more attention, but unevenly. Urban schools (especially in Islamabad, Lahore, Karachi) have begun partnerships with tech firms and donors to promote basic computer literacy, coding, and online entrepreneurship. For instance, in 2022, Pakistan's Telecommunication Authority (PTA) launched a 'Digital Inclusion' initiative (with UNESCO's support) aimed at increasing ICT access and skills, particularly for women and girls[69]. Likewise, during COVID, the government's e-Taleem platform joined hands with edtech startups like Taleemabad, SabaQ, and Noon Academy to provide remote learning content online. These efforts have put digital platforms in the spotlight: one analysis notes that five new online portals (Taleemabad, Noon Academy, SabaQ, Knowledge Platform, Muse) were introduced to support remote schooling. However, in practice, these platforms are largely supplemental. They require internet access and devices that many families lack, so uptake is skewed toward better-off urban students[70]. Moreover, policy discussions still frame 'digital skills' mainly as use of gadgets or apps, rather than formal competencies like computational thinking or cybersecurity. Pakistan's curriculum only recently added basic computing in middle school, but without resolving the gulf in access to technology. In short, while e-learning initiatives have proliferated, the broader goal of making students digitally literate remains mostly unfulfilled.

The broader set of transversal skills – critical thinking, problem-solving, creativity, communication, and collaboration – are the most neglected area. Unlike many countries, Pakistan has no official indicators or assessments for 21st-century competencies, so they remain 'aspirational' goals. Research and media reports consistently highlight the gap: a recent analysis noted that Pakistan's curriculum still 'places excessive emphasis on rote memorization, leaving little room for students to develop analytical and creative skills'. Most government schools rely on teacher-centered lectures and exam drills, with little project work or open-ended questioning. Only some elite private schools experiment with inquiry-based or project-based learning, but a vast majority of public schooling is exam-driven. This is compounded by outdated teacher training: one study found that over 90% of Pakistani primary teachers lack basic English proficiency, let alone the pedagogical skills to teach it creatively. In summary, core learning in Pakistan still tends to be 'paper-and-pencil' focused, and classroom teaching rarely reflects the analytical or collaborative work that modern economies require[71].

[69] UNESCO. "UNESCO to Collaborate with Pakistan Telecommunication Authority on Digital Inclusion and Gender Mainstreaming Strategy." https://www.unesco.org/en/articles/unesco-collaborate-pakistan-telecommunication-authority-digital-inclusion-and-gender-mainstreaming.
[70] Hameed, Sadia. "Digital Education Policies in Pakistan Are Disconnected from Reality." Dawn, [insert date if available]. https://www.dawn.com/news/1762045.
[71] Saigol, Rubina. A Bridge Gap in Pakistan's Curriculum and Pedagogy

Despite these gaps, there are signs of change on the margins. Small-scale STEM/STEAM initiatives have begun to introduce hands-on group work and problem-solving in some provinces. For example, in late 2024, Sindh's Education Department held district-level STEM fairs where 30 government schools built creative science projects (e.g., musical instruments from recycled materials), explicitly to "showcase students' scientific and creative abilities and practical problem-solving"[72]. Similarly, a new LearnOBots STEAM program (launched by the Federal Ministry of Education and the Institute of Space Technology) is equipping 150 public schools nationwide with curricula in AI, robotics, and other cutting-edge topics[73]. These programs emphasize group activities and inquiry; for instance, students design experiments or engineering models under teacher guidance. While still limited in scope, these initiatives suggest growing awareness among some officials of the need for creative, collaborative learning.

ANALYSIS OF THE SINGLE NATIONAL CURRICULUM

The Single National Curriculum (SNC) represents Pakistan's most ambitious attempt to standardize education, but its effectiveness in fostering a broad range of skills is a study in the gap between policy and practice. The SNC explicitly includes subject components meant to develop health, moral values, arts, civic engagement, and basic tech use, and it lists student learning outcomes in many domains (e.g., 'curiosity', 'analytical reasoning', 'collaboration'). For example, the SNC's '12 guiding considerations' include promotion of life skills, intellectual and emotional development, critical thinking, ICT literacy, and project-based learning in lieu of rote[74]. To assess its alignment with a holistic skills agenda, this analysis uses the Learning Metrics Task Force's (LMTF) "Breadth of Learning Opportunities" (BOLO) framework as a benchmark. The BOLO framework defines seven essential learning domains children should master: 1) Physical Well-being, 2) Social and Emotional Learning, 3) Culture and the Arts, 4) Literacy and Communication, 5) Learning Approaches and Cognition, 6) Numeracy and Mathematics, and 7) Science and Technology[75].

The following table illustrates this dissonance between the SNC's stated vision and the classroom reality.

[72] The Express Tribune. "STEM Competitions Foster Creativity." 2024. https://tribune.com.pk/story/2452067/stem-competitions-foster-creativity.
[73] Ministry of Federal Education and Professional Training. "Pakistan Sets a New Global Standard with Nationwide STEAM Education Rollout." https://parhlopakistan.com/news/pakistan-sets-a-new-global-standard-with-nationwide-steam-education-rollout/
[74] Shah, Zeenat. Single National Curriculum and Challenges. http://pamirtimes.net/2020/06/20/single-national-curriculum-and-challenges/
[75] Brookings Institution. Breadth of Learning Opportunities. https://www.brookings.edu/product/breadth-of-learning-opportunities/.

SNC's Vision vs. Classroom Reality: An Analysis by Learning Domain

Learning Domain (BOLO)	SNC's Stated Goal	Implementation Reality
Physical Well-being	Includes Health & Physical Education courses covering hygiene and nutrition.	Limited Impact: Mental and emotional health are largely unaddressed. Uneven access to sports facilities and coaching makes physical activity inconsistent.
Social & Emotional Learning (SEL)	Aims to instill moral and civic values through subjects like Islamic Studies and Citizenship.	Ad Hoc & Untrained: SEL is not a standalone subject. Its delivery depends on individual teachers who lack formal training in socio-emotional development.
Culture & the Arts	Includes Visual Arts and Music in early grades to build cultural identity.	De-prioritized: Arts education receives low emphasis beyond primary school. Most public schools lack specialized teachers and resources, limiting student exposure.
Literacy & Communication	Stresses fluency and comprehension in core languages (Urdu, English).	Method over Skill: Classroom practice is dominated by rote grammar drills, not creative expression or oral communication. Poor teacher proficiency (especially in English) is a major barrier.
Numeracy & Mathematics	Encourages application-oriented math and real-life problem-solving.	Procedure over Reasoning: Instruction focuses on formula recall, not analytical reasoning (as shown by TIMSS results). Practical skills like financial literacy are absent.
Science & Technology	Promotes inquiry-based learning, hands-on experiments, and digital literacy.	Theory over Practice: "Inquiry-based" learning is often just textbook reading due to a severe lack of science labs and equipment, creating a major urban-rural divide.
Learning Approaches & Cognition	Officially endorses critical thinking, creativity, and student-centered pedagogy.	The Core Contradiction: This is the SNC's greatest failing. The entire system reverts to lecture-based teaching and memorization, driven by high-stakes exams that do not reward the skills the curriculum claims to value.

The dissonance highlighted in the table above is not accidental; it stems from deep-rooted systemic barriers that hinder policy from being effectively translated into practice. A major motivation behind the SNC was to address the stark inequality between public and private education systems, sometimes referred to as 'curriculum apartheid'[76].

[76] PIDE. Analyzing the Pros and Cons of the Single National Curriculum. Pakistan Institute of Development Economics. https://pide.org.pk/research/analyzing-the-pros-and-cons-of-single-national-curriculum/

However, this goal has encountered resistance in practice. Many top-tier private schools obtained exemptions (NOCs) and continue to teach their own syllabi[77].

In many public classrooms, the promised shift to student-centred learning has not materialized: teaching remains heavily ecture-based, and assessments are still rote-driven. One critic observes that even though the SNC advocates for critical thinking, creativity, and ethical values, these goals are undermined by a continued reliance on memorization and standardized tests[78]. In other words, the pedagogical aspirations exist only on paper. Without a comprehensive overhaul of assessment practices that go beyond memorization, the transformative aspirations of the SNC risk being lost in translation[79]. This pedagogical gap is compounded by a severe resource deficit. Many public schools lack basic infrastructure like science labs or computers, creating a digital divide that excludes rural students and is further exacerbated by socioeconomic disparities. Socioeconomic disparities further complicate matters. Wealthier families can afford tutors and tech access, helping their children adapt more easily. In contrast, low-income students in Urdu-medium public schools require greater support, which the SNC has yet to adequately address[80].

Finally, cultural and ideological concerns have surfaced. Critics argue the curriculum leans too heavily on religious and nationalistic content, potentially alienating minorities and limiting pluralism. Issues like mandatory Islamiyat and the inclusion of religious messaging in non-religious subjects remain controversial, diverting focus from the core educational mission[81].

Provincial Education Sector Plans and the Skills Agenda

A comprehensive review of the provincial education sector plans (2020-2025) reveals a significant, though uneven, alignment with the development of a broad spectrum of skills essential for Pakistan's youth. While all four provinces demonstrate a clear strategic pivot away from rote memorization, their approaches and priorities diverge across different skill domains. The plans collectively signal a strong ambition to tackle the learning crisis, but they are also candid about the deep-seated systemic barriers that challenge the translation of policy into practice. This analysis evaluates

[77] PIDE. The Single National Curriculum: Strategies for Implementation. https://pide.org.pk/research/the-single-national-curriculum-strategies-for-implementation/.
[78] Ministry of Federal Education and Professional Training. Review and Rationalization of Pakistan's National Curriculum: Addressing Gaps, Enhancing Integration, and Reforming English Education (ECE to Grade 5).https://medium.com/@riazleghari/review-and-rationalization-of-pakistans-national-curriculum-addressing-gaps-enhancing-026f7a83e8b8
[79] PIDE. Analyzing the Pros and Cons of the Single National Curriculum. Pakistan Institute of Development Economics. https://pide.org.pk/research/analyzing-the-pros-and-cons-of-single-national-curriculum/.
[80] ibid
[81] ibid

the plans against three core skill categories: foundational & higher-order skills, vocational & technical skills, and life & socio-emotional skills.

1. Universal Commitment to Foundational and Higher-Order Skills

The most consistent theme across all sector plans[82, 83, 84, 85] is the urgent need to strengthen both foundational literacy/ numeracy and higher-order thinking skills. The plans are united in their diagnosis that students are not only failing to master the basics but are also leaving school without the ability to think critically, analyse information, or solve problems.

- *Shared Vision:* Initiatives like Punjab's "New Deal on Learning," which aims for universal primary-level literacy and numeracy, and Balochistan's redefinition of learning to include "analytical abilities," underscore a shared understanding of the problem.
- *Curriculum as the Lever:* All provinces identify curriculum and textbook revision as the primary tool for this shift. Khyber Pakhtunkhwa's focus on "inquiry-based" learning and Punjab's emphasis on STEAM subjects are direct attempts to embed critical thinking into core instruction.
- *The Major Contradiction:* However, every plan implicitly or explicitly admits that this goal is fundamentally undermined by existing assessment systems. The continued dominance of high-stakes examinations that reward rote learning creates a powerful disincentive for teachers and schools to adopt new, skill-focused pedagogical approaches.

2. Divergent Pathways for Technical and Vocational Skills (TVET)

While all plans acknowledge the importance of employability, their strategies for integrating vocational skills show significant variation.

- *Integrated Models (Punjab and Sindh):* Punjab and Sindh have more mature and explicit strategies for connecting general education with the TVET sector. Punjab's plan calls for stronger linkages with the Technical Education and Vocational Training Authority (TEVTA) and highlights specific, market-driven training programs (e.g., IT certifications, textile manufacturing). Similarly, Sindh's Non-Formal Education policy and Skills Development Program (SSDP) are designed to create clear pathways from non-formal learning to vocational certification and employment, particularly for out-of-school children.
- *Embedded Models (Balochistan and Khyber Pakhtunkhwa):* In contrast, Balochistan and KP's plans focus more on embedding "life skills" and practical knowledge within the existing curriculum rather than building separate vocational tracks. For example, Balochistan's curriculum reform includes skills for climate resilience and disaster preparedness, highly relevant vocational skills for the region, but delivered through general education.

This divergence suggests that while some provinces are building direct school-to-work pipelines, others are focused on making general education more practical and relevant to students' future lives.

[82] Khyber Pakhtunkhwa Education Sector Plan 2020/21 – 2024/25, Elementary & Secondary Education Department, Khyber Pakhtunkhwa. https://kpese.gov.pk/education-sector-plan-2020-21-2024-25/
[83] Punjab Education Sector Plan. (2019). Punjab Education Sector Plan 2019/20 – 2023/24
[84] Balochistan Education Sector Plan 2020-2025. Education Department, Balochistan. https://test.emis.gob.pk/Uploads/BESP2020-25.pdf
[85] Sindh Education Sector Plan 2019-2024. School Education & Literacy Department Government of Sindh https://www.globalpartnership.org/content/education-sector-plan-2019-2024-sindh-province-pakistan

3. The Nascent Focus on Life Skills and Socio-Emotional Learning (SEL)

Beyond academic and technical competencies, the plans show an emerging recognition of life skills and SEL as critical for student development.

- Explicit Integration: Punjab and Sindh are leading this effort. Sindh's plan includes a pilot for SEL and interventions for health and menstrual hygiene management. Punjab's curriculum revisions incorporate modules on gender empowerment, human rights, and entrepreneurship.
- Implicit Focus: Balochistan's emphasis on resilience and KP's focus on developing behaviors aligned with "global needs" also touch upon these skills, even if they aren't labeled as SEL.

This area represents a forward-looking aspect of the plans, aligning with global trends in education. However, it remains the least developed component, often appearing as a pilot program or a secondary objective rather than a fully integrated strategy.

From a bird's eye view, the provincial education plans present an ambitious and largely aligned vision for creating opportunities for young people to learn skills that matter. They correctly identify the need to build a wide breadth of skills, from foundational literacy to complex problem-solving and vocational expertise.

However, the analysis also reveals a critical gap between vision and reality. The successful implementation of these plans is contingent on overcoming three monumental and shared challenges:

The Teacher Capacity Crisis: A universal shortage of teachers skilled in modern pedagogy.

The Assessment-Curriculum Contradiction: Examination systems that actively work against skill development goals.

The Implementation Gap: Weak institutional capacity to develop, monitor, and scale reforms effectively.

Therefore, while the "what" (the skills to be taught) is becoming clearer, the "how" (the systemic reform needed to deliver them) remains the central, unresolved challenge for Pakistan's education systems. This makes the plans a roadmap of noble intentions, whose destination is not yet guaranteed.

Economic Vision and Education Alignment: From Vision 2025 to URAAN Pakistan 2030

Pakistan's economic planning has evolved from broad aspirational goals to a more targeted and pragmatic approach. Vision 2025, launched in 2014, aimed to position Pakistan among upper-middle-income nations through human capital development and a transition to a knowledge economy. In contrast, URAAN Pakistan 2030,

Introduced in 2024, marks a strategic recalibration. Learning from past shortcomings, it outlines specific and measurable goals focused on digital transformation, green growth, and workforce modernization. Key priorities include scaling up ICT capabilities through advanced tech training and coding boot camps, promoting climate literacy and renewable energy skills, supporting industrial automation and smart manufacturing, and fostering strong industry-academia collaboration through internships and curriculum alignment with private sector needs.

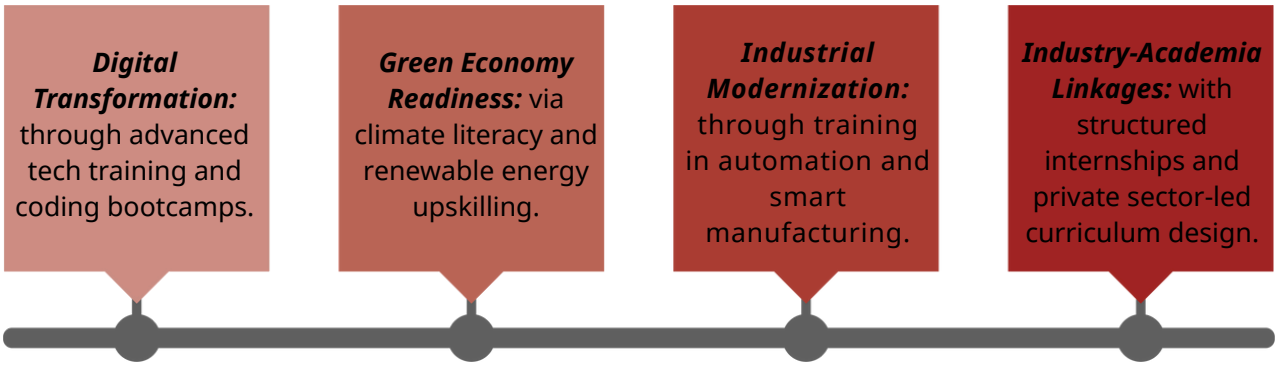
Human Capital Development Strategy

Both frameworks recognize Pakistan's demographic advantage but differ in implementation approaches.

Vision 2025 set goals including education spending at 4% of GDP, promoting critical thinking over rote learning, expanding ICT literacy, and aligning TVET with labor markets, most of which went unmet.	URAAN Pakistan 2030 builds on these with enhanced approaches: integrating AI and digital literacy in curricula, implementing competency-based assessment reforms, providing skills training in high-demand sectors like cybersecurity and renewable energy, and launching the National Digital Skills Initiative targeting a $5 billion ICT freelancing industry.

Sectoral Priorities and Addressing the Skills Gap

Pakistan is now prioritizing targeted skill development over generic capacity building. URAAN Pakistan 2030 addresses key sectoral gaps by aligning education and training with evolving market demands. This includes:



This renewed focus responds to a critical paradox: a large unemployed youth population coexists with employers unable to find skilled workers. Root causes include misalignment between education and labor markets, outdated pedagogical methods, weak TVET integration, insufficient industry

A System of Contradictions

The preceding analysis of Pakistan's education landscape, from on-the-ground realities to federal, provincial, and economic policies, reveals a system caught in a

[86] Ministry of Planning, Development & Special Initiatives. "URAAN Pakistan." URAAN Pakistan. Accessed July 10, 2025. https://uraanpakistan.pk/

series of deep-seated contradictions. While there is an unprecedented and clear consensus in policy documents on the need for a broader set of skills, the capacity to deliver on this vision is fundamentally undermined by structural fragmentation, a persistent implementation gap, and a stark misalignment with economic demands.

The policy documents have successfully identified what skills are needed. The central, unresolved challenge is how to build an education system with the institutional capacity, political will, and resource foundation to actually cultivate them at scale. Until these contradictions are addressed, the breadth of skills debate in Pakistan will remain confined to policy papers, while the potential of its youth remains largely untapped.

CHAPTER 4:

On the Ground Insights: Pakistan's Education System Under the Microscope

Infrastructural Barriers to Meaningful Learning

Pakistan's education system faces a fundamental contradiction: while national policies emphasize the need to equip students with 21st-century skills, many classrooms still lack the most basic conditions for effective learning. Although official data suggests a manageable student-teacher ratio on average, reality tells a different story. In provinces like Sindh and Balochistan, overcrowded classrooms with student-teacher ratios exceeding 70:1 are common, making individualized instruction impossible. As one teacher from Balochistan explains,

> ***I have 70 students in my classroom from different grades. Half my time goes into managing discipline rather than teaching. There is no way I can give individual attention to any student.***

The electricity crisis compounds these challenges. Load-shedding of 10-14 hours during school hours in regions like Balochistan and South Punjab renders digital initiatives meaningless. A rural Sindh teacher explained:

> ***Our school doesn't even have an electricity connection. In the summer, the heat becomes unbearable, and students stop concentrating. How can we use computers or digital tools when we don't even have a fan?***

However, as one professor emphasized the importance of innovative pedagogical approaches, he stated that:

> ***We don't need fancy resources for innovative pedagogy. We can teach counting with blocks. It's mindset, not money.***

This perspective highlights that while infrastructure challenges are real, pedagogical transformation requires more than just physical resources.

Gender disparities worsen these infrastructure deficits, with only 42% of science labs located in girls' schools[87], perpetuating STEM education gaps that limit future opportunities. This stark disconnect between policy ambitions and classroom realities underscores the urgent need for systemic reform and resource allocation.

The Pedagogy Problem: When Systems Reward the Wrong Learning

Despite ambitious Education Sector Plans across all four provinces calling for competency-based models, classroom practice remains anchored in rote memorization. The disconnect between policy intentions and ground realities is stark. A Sindh teacher summarized:

> ***"We are told to encourage critical thinking, but we still get exam papers that reward memorization. So, we return to what we know - drilling students to recall answers."***

[87] Pakistan Alliance for Girls Education (PAGE). Girls' Education in Pakistan: Statistics and Trends for 2022–2023. Lahore: PAGE Publications, 2023. https://www.page.org.pk/reports/.

This pedagogical inertia stems from multiple sources. Many teachers were themselves trained in lecture-based, rote instruction methods. An 18-year veteran teacher in Badin lamented: "The only training I ever got was my induction. Since then, nothing. We are left to figure things out on our own."

The resistance to critical thinking is systemic. As one NGO representative noted:

> ***If a child asks too many questions, they're labeled disruptive. Our teachers aren't trained to handle critical thinkers.***

This cultural barrier extends beyond individual classrooms to reflect deeper institutional biases against inquiry-based learning.

Provincial responses vary in ambition but share implementation challenges. Punjab links career advancement to Continuous Professional Development through PESDA, while Sindh integrates training into formal institutions like STEDA and PITE. KP implements training alongside the Single National Curriculum rollout, and Balochistan prioritizes gender-sensitive reforms.

An Education Department representative from Sindh acknowledges progress:

> ***We're working on a breadth of skills, not just narrow competencies. Sindh has taken serious steps in training teachers to deliver on this vision.***

While, a teacher training institute representative cautioned and stressed on the importance of continuous development:

> ***"No training ever changes a teacher overnight. Transformation requires persistence, accountability, and continuous support.***

Assessment systems continue rewarding recall over analysis, undermining reform efforts. While provinces experiment with technology integration - Punjab's AI-powered assessments, Sindh's centralized paper-setting, KP's Continuous Assessment System, and Balochistan's digitization focus - structural weaknesses persist. Paper setters lack modern assessment training, creating predictable, content-heavy exams that encourage cramming rather than learning.

The Technology Paradox: Innovation Without Integration

A generational divide characterizes technology adoption in Pakistani classrooms. Younger teachers, particularly females, actively use smartphones for educational content delivery and engage in professional development through social media networks. Senior teachers resist digital integration, preferring conventional methods they've mastered over decades.

The challenge extends beyond generational differences. As one NGO representative observes,

> ***In this AI era, students can learn more online than from teachers who bring outdated knowledge. The problem isn't just students; it's the whole system.***

However, implementation gaps reveal the paradox. Even trained teachers lack functioning labs or internet access to teach students. A headmaster described the futility:

> ***Our lab has computers running Windows 98. Some don't even turn on. Teachers who trained on new software come back and can't use any of it.***

In Balochistan, teachers report no ICT exposure at all:

> ***"We are told to teach computer skills, but we have never touched a computer ourselves."***

An Education Department representative emphasizes the need for sustained investment:

> ***Amazing middle-tech innovations are happening - but without dedicated budgets, they remain voluntary, fragile efforts.***

CASE STUDY: WHAT IS HAPPENING IN ISLAMABAD

In recent years, Islamabad's educational landscape has undergone a significant transformation, with a pronounced emphasis on integrating digital skills and Information and Communication Technology (ICT) into the curriculum. The Ministry of Federal Education and Professional Training (MoFEPT) has been at the forefront of this movement, forging strategic partnerships and initiating programs to modernize the educational experience for students in the capital.

- Strategic Initiatives and Partnerships: A cornerstone of this digital evolution is the collaboration between MoFEPT and various technology partners. In October 2024, MoFEPT, in partnership with Jazz and Tech Valley, celebrated the success of the "Digital Safar" program. Launched in 2023 with support from Google, this initiative aims to equip young minds across Pakistan with essential digital skills and online safety education through programs like "Be Internet Awesome" and "CS First". Furthering this commitment, the ministry has taken proactive steps to introduce coding and artificial intelligence (AI) education at the primary school level. In October 2024, it was announced that primary school students would be introduced to cutting-edge technologies such as coding, AI, and cybersecurity. This groundbreaking initiative marks a significant step towards preparing a technologically advanced future workforce.
- Infrastructure Development: Recognizing the importance of infrastructure in facilitating digital education, MoFEPT has embarked on projects to establish IT labs across schools. By June 2024, the ministry aimed to set up 50 IT labs equipped with the latest computers, connectivity, and necessary furnishings. These labs are designed to provide students with hands-on experience, enhancing their learning in various subjects, including computer science and IT. Additionally, 400 tech-enabled smart classrooms have been established in Islamabad Capital Territory (ICT), Azad Jammu and Kashmir (AJK), and Gilgit-Baltistan (GB). These classrooms have smart screens, computers, clickers, and speakers, facilitating a blended learning environment by implementing the eTaleem Learning Management System (LMS).
- Teacher Training and Capacity Building: The successful integration of digital tools in education hinges on the proficiency of educators. To this end, MoFEPT has initiated programs focused on teacher training. In collaboration with Google for Education, the ministry launched Project Albus, a pilot program to transform selected middle school classrooms by integrating Google tools and technology, including Chromebooks. This initiative provides dynamic and customized training for teachers, enhancing their ability to utilize modern pedagogical techniques.
- Collaborations with International Organizations: International collaborations have also played a pivotal role in Islamabad's digital education drive. In June 2024, Google and Pakistan's education ministry announced a partnership to provide access to education for millions of students across the country. This collaboration aims to digitally transform Pakistan's education system and build smart schools, thereby reducing the number of out-of-school.

The Curriculum Challenge: Teaching Yesterday's Content for Tomorrow's World

The Single National Curriculum aims to foster creativity and critical thinking, yet Student Learning Outcomes largely prioritize recall over analytical reasoning. Only 2-3 SLOs per chapter promote higher-order thinking, while assessments remain content-heavy. Teachers report that textbooks are too content-heavy for completion within academic years, especially with disruptions from heatwaves, political instability, and administrative duties.

The skills integration challenge is fundamental. An expert from Sindh notes:

> ***Skills shouldn't be isolated. From the very start, they must be part of the mainstream education system.***

While a representative from Punjab offered a contrasting perspective:

> ***Skills development should remain a separate track. Merging it with mainstream education risks diluting both depth and technical focus. Each requires a distinct approach to be truly effective.***

An NGO representative added:

> ***It's not fair to expect HEC to teach skills that were never built at earlier levels. Skills need to be taught across the education pipeline.***

The medium of instruction creates additional barriers. Students speak regional languages at home, making English or Urdu a second or third language that hinders comprehension. Teachers advocate for local language instruction until Grade 5, but federal English directives override provincial preferences, contributing to poor learning outcomes among low-income households.

Digital and green skills integration remains weak. Computer Studies often starts only at Grade 8-9 and remains theoretical due to non-functional labs and untrained teachers. Environmental topics in Geography and Social Studies lack practical application despite Pakistan's climate vulnerability. Climate education stays textbook-bound with minimal real-world problem-solving focus.

An Education Advisor envisions broader integration:

> ***STEM festivals are a gateway. Imagine if students added financial literacy, created business models, and learned how to pitch real-world ideas.***

A University Professor highlights innovative approaches:

> ***Why is media literacy only for media students? We've run design thinking projects where diverse groups prototyped real-world solutions. That's education.***

Distribution challenges further hamper reform. New SNC textbooks haven't reached many schools in Balochistan and Punjab, forcing continued reliance on outdated materials.

The Cultural Resistance: When Communities Reject Change

Cultural values strongly shape educational preferences, with many parents viewing conventional schooling as superior to digital or skills-based approaches. Parents equate educational success with teacher authority, classroom discipline, and visible academic results. A curriculum advisor noted:

> ***We introduced video lessons, but parents thought their kids were just watching YouTube. There's a trust deficit when it comes to screen-based learning.***

This marks-centric culture dominates educational thinking. National Achievement Test (2023) and TIMSS 2019 data show students perform significantly better on recall-based questions than on analytical reasoning tasks. A parent stated:

> ***"Marks are important, but critical thinking abilities are more important so that children can make right decisions as per needs."***

The workforce consequences are evident. A human resources manager at a multinational firm observed:

> ***We get applicants with degrees who can't explain basic concepts or solve practical problems. The education system trains them to pass, not to think.***

An industry leader emphasized:

> ***We don't just need graduates; we need people who can think logically, troubleshoot, and adapt.***

TVET pathways face particular resistance. A TVET institute official advocates:

> ***TVET is not a third-class path. It's a third path to success. Why should it be only for the poor? Promote it in every school like a pathway to greatness.***

However, a Director notes:

> ***Entrepreneurship and job creation sound great. But how many really understand them? Laws and skills aren't enough; we need real commitment from every level.***

The challenges facing TVET implementation are evident in ground-level experiences across provinces. A detailed examination of Sindh's experience reveals the depth of these systemic issues.

The Challenges and Potential of TVET in Sindh
A Case Study of a Polytechnic Training Center in Badin

Technical and Vocational Education and Training (TVET) in Pakistan has long been considered a crucial mechanism for developing a skilled workforce that can contribute to national economic growth. However, despite being recognized as an essential pillar for employment generation and workforce modernization, Pakistan's TVET system continues to suffer from structural inefficiencies, outdated curricula, and limited industry engagement. This case study explores the current state of TVET in Sindh, focusing on a Polytechnic Training Center in Badin, which offers three-year diploma programs in engineering, electrical, mechanical, and petroleum technology. Badin's economic landscape is predominantly agricultural, but the presence of oil refineries and petroleum rigs creates a unique demand for technically trained workers. Despite TVET's potential to meet industrial workforce demands, several challenges limit the effectiveness of technical education in the province.

Institutional Overview and Training Programs: The Polytechnic Training Center in Badin is one of several public-sector TVET institutes in Sindh, responsible for imparting technical skills that can improve employability in local industries and international markets. The minimum qualification required for enrollment is a matriculation (Grade 10) certificate, and students typically enroll to acquire industry-relevant skills before seeking employment abroad or in Pakistan's major industrial hubs such as Karachi and Lahore. However, the infrastructure and training facilities at the institute do not match industry needs. Interviews with the head of the institute and the chairman of the IMC (Institute Management Committee) highlighted that the available technical equipment is either broken, outdated, or obsolete. This has resulted in a predominantly theory-based training environment, with limited opportunities for hands-on learning—a key requirement for vocational education. The IMC is responsible for bridging the gap between local industries and TVET institutes, ensuring that training programs are aligned with industry demands. However, industry engagement remains weak, and most technical graduates struggle to find employment in their respective trades due to a lack of practical exposure.

TVET and the Employment Dilemma: Conflict Between Diplomas and University Degrees: One of the most pressing challenges for TVET in Sindh, and Pakistan as a whole, is the societal preference for university degrees over vocational training. Many students view technical diplomas as inferior to traditional university education, as the latter provides access to managerial and white-collar jobs. Interviews with students revealed that some pursue both a university degree and a TVET diploma simultaneously, recognizing that a diploma alone does not open pathways to career growth or higher education. This creates a direct conflict between vocational education and academic degrees, with many students eventually prioritizing university education over technical training.

Furthermore, the three-year duration of diploma programs is often cited as a major deterrent for potential students. Many students and their families question why diploma programs require such a long commitment, especially when informal apprenticeships at car mechanic shops, workshops, and trade hubs offer faster, hands-on training without formal certification. The informal market, where young apprentices work under master craftsmen, remains Pakistan's primary mode of skill development for technical trades.

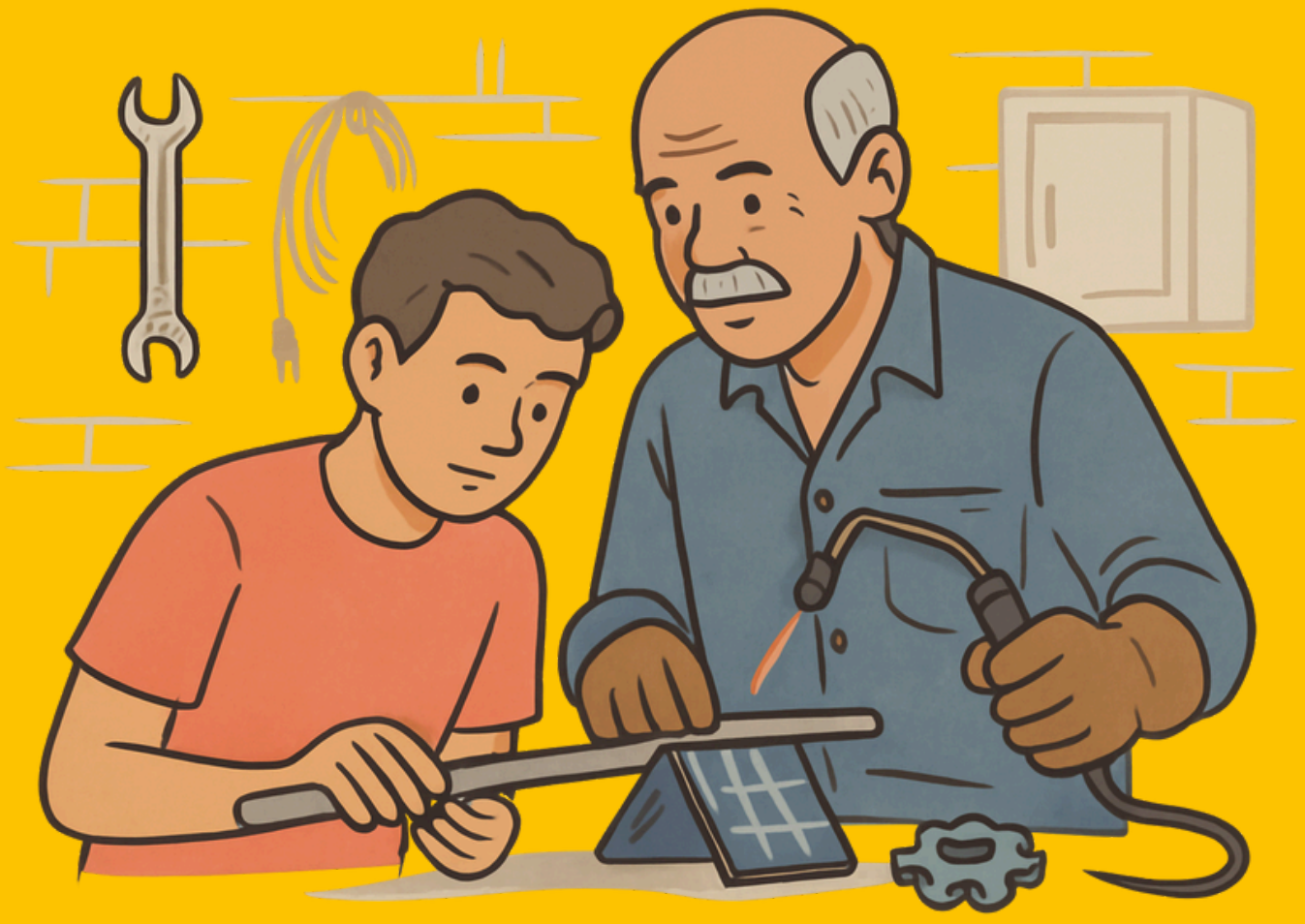
Structural Limitations: Centralized Curricula and Bureaucratic Rigidity: One of the key challenges faced by TVET centers is the rigidity of the curriculum, which is structured at the federal level by the National Vocational and Technical Training Commission (NAVTTC) and implemented by the provinces.

Despite Sindh's diverse industrial landscape, the diploma program structure remains uniform across all four provinces, with no customization based on regional economic needs. The curriculum includes compulsory subjects such as Islamiat and Pakistan Studies, which, while important for general education, do not contribute to technical skill development.

The inclusion of non-technical courses further extends the duration of the diploma programs, making them less attractive to students who are eager to enter the workforce quickly. Many TVET stakeholders, including institute heads and industry representatives, believe that the duration of the diploma programs should be reduced and made more modular, allowing students to complete core technical courses within a shorter timeframe and specialize based on industry needs.

Alternative Routes to Skill Development: The Role of Private Institutes and Informal Apprenticeships: While public-sector TVET institutions continue to struggle with funding limitations, outdated technology, and bureaucratic challenges, Sindh has seen the rise of privatesector technical training institutes, which offer shorter, industry-specific courses that employers often prefer. Private institutes offer a more market-driven curriculum, focusing on high-demand technical skills such as solar energy installation, digital fabrication, and advanced automotive repair.

These institutions also have stronger industry linkages, ensuring graduates are better positioned for job placements. Additionally, the informal apprenticeship system continues to thrive, particularly in sectors like automobile repair, plumbing, welding, and electrical work. Many young workers bypass formal technical institutes altogether, opting instead to learn directly from skilled professionals in workshops and factories. While effective in skill transmission, this system lacks certification, standardization, and recognition by employers in the formal sector.



Gender norms create additional barriers. Girls face persistent obstacles in STEM, digital skills, and entrepreneurship due to restrictive mobility and systemic exclusion. Rural girls' secondary enrollment in STEM-offering schools remains below 40% [88]. Only 15% of IT graduates are women[89], and merely 1% of tech startups are founded by women[90]. A representative explained:

> ***Parents often resist giving daughters access to devices, not because of cost, but because of fear. They worry about misuse or harassment.***

Career guidance remains inadequate, as an official observes:

> ***Counseling can't start after high school. It must begin early and be based on real aptitude, not just what an uncle says.***

A University representative adds:

> ***There's a huge disconnect between education levels. No accountability. No guidance. Universities don't know what schools are doing, and vice versa.***

The Assessment Trap: Measuring What Doesn't Matter

Pakistan's assessment system perpetuates the very learning culture that reforms aim to change. Examination boards lack modern assessment expertise, creating content-heavy exams that allow students to prepare using past papers rather than engaging with concepts. The widespread practice of reusing old questions - often through random shuffling - creates a system geared toward gaming rather than demonstrating skills.

An Education Activist emphasizes the measurement challenge:

> ***What gets measured gets noticed. If we're not measuring transformation, how do we know we're achieving it? So much is being done by the Education Departments, but what are the indicators of success? How are we measuring the amazing work happening on the ground?***

Provincial reform efforts show promise but face scaling challenges. Punjab's BISE gradually introduces analytical questions, aiming for 40-50% of papers by 2026. Sindh pilots portfolio-based assessments through British Council partnerships. KP's Continuous Assessment System allocates 20% of scores to in-school evaluations. Balochistan experiments with NGO-led science fairs and oral assessments.

However, systemic issues persist. Most teachers lack exposure to rubric-based evaluation, high student-teacher ratios make meaningful formative assessment impossible, and the marks-centric culture among parents and administrators resists change. A rural Sindh teacher admitted;

> ***We don't know what formative assessment even means. We've never seen an example or had a workshop explaining it.***

[88] Khan, S., and R. Ahmed. 2023. STEM Equity in Pakistan: Policy vs Practice. Journal of South Asian Education 15 (2): 45–67.
[89] Higher Education Commission (HEC) Pakistan. 2023. Annual Report 2021–22 https://www.hec.gov.pk/english/news/Pages/Annual-Reports.aspx
[90] CIRCLE Women. 2022. State of Women Entrepreneurship in Pakistan: Navigating Barriers in Tech Startups. CIRCLE Publications https://circlewomen.co/2022-

The Verdict: Policy Ambitions Versus Ground Realities

While Education Sector Plans across all provinces outline ambitious reforms, fieldwork reveals consistent disconnects between policy and practice. A teacher summarized:

> ***The plans are always good on paper. But in our schools, nothing really changes.***

A concerned father added,

> ***We hear about new books all the time, but we don't see any difference in what our children learn. If everything stays the same, how will their future be different from ours?***

The systemic nature of required change is evident. As one Education Activist argues:

> ***We're stuck in a colonial, factory model of education. Transformation starts when we change what we measure and how we define success.***

An official said,

> ***We need to stop thinking of education as an assembly line. It's time to throw away the current box, not just think outside it.***

Collaboration gaps persist across sectors. A Policy Expert observes:

> ***Other countries have 10-year visions for skills. Education is aligned with industries. Why are we still treating skills as an afterthought?***

A university professor advocates:

> ***The Triple Helix, which brings together industry, higher education, and technical education, is the model we need. We can't keep working in silos.***

The evidence suggests Pakistan's education systems are not effectively creating opportunities for young people to learn what matters. Infrastructure deficits block access to modern learning; pedagogical practices remain rooted in memorization, assessment systems reward recall over application, and cultural resistance limits acceptance of skills-based education. Success stories exist but remain isolated: community-mobilized technology initiatives, teacher-led innovation, and grassroots professional networks. These examples suggest potential pathways forward, but scaling requires addressing the fundamental misalignment between what education systems promise and what they actually deliver. As a Government official emphasizes;

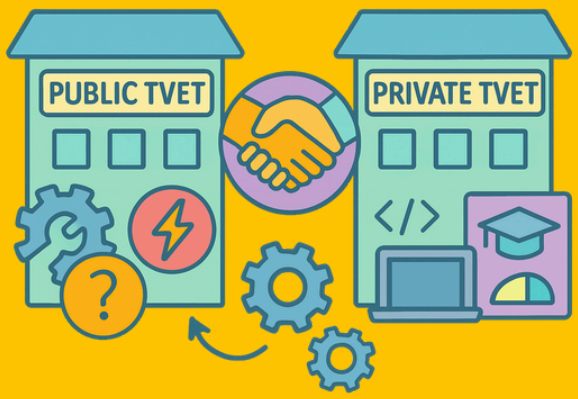
> ***We must institutionalize innovation. Stop treating it like a special initiative - it needs to become the norm.***

Case Study: The Evolution and Challenges of TVET in Balochistan

Balochistan's Technical and Vocational Education and Training (TVET) sector plays a crucial role in addressing youth unemployment, workforce migration, and industry-specific skills development. As Pakistan's largest but least developed province, Balochistan has been gradually working to expand TVET programs to create employment pathways for its youth, particularly in industries such as mechanical engineering, electrical trades, plumbing, and petroleum technology.

Unlike other provinces, private-sector partnerships have played a critical role in improving select TVET institutes, most notably through Szabist's ZABTech initiative, which has adopted and transformed certain centers by upgrading infrastructure, modernizing curricula, and enhancing teacher training. However, despite these positive interventions, challenges such as outdated curricula, limited female enrollment, lack of parental engagement, and rigid national-level oversight continue to hinder the full potential of TVET in Balochistan.

TVET Structure and Programs in Balochistan: Balochistan's TVET sector is still largely controlled by NAVTEC, the federal-level technical education authority, which regulates curricula and defines program structures across all provinces. The core offerings in Balochistan's public TVET centers include Level 1 to Level 4 certifications in mechanical, electrical, and plumbing trades, while higher technical programs (Level 5 and above) remain exclusive to universities. However, in privately-supported TVET centers like ZABTech, a wider range of courses are available, including graphic design, web development, and programming, ensuring that students gain access to emerging global skills, particularly in freelancing and digital work.



However, in privately-supported TVET centers like ZABTech, a wider range of courses are available, including graphic design, web development, and programming, ensuring that students gain access to emerging global skills, particularly in freelancing and digital work.

The Institute Management Committees (IMCs) in Balochistan are more active in centers with private sector involvement, ensuring regular industry engagement in curriculum decisions. The IMCs collaborate with local employers to assess labor market needs and provide training that aligns with regional industry demands. These partnerships help bridge the skills gap by ensuring that TVET graduates are prepared for employment in both local and international markets.

Infrastructure and Training Limitations: Despite some private-sector investment, the majority of TVET centers in Balochistan still suffer from outdated infrastructure and resource shortages. Like their counterparts in Sindh, many public TVET centers lack modern equipment, making practical training difficult. Students often receive theoretical instruction with limited hands-on experience, which reduces their employability. In contrast, private-led institutes under the ZABTech model have benefited from significant infrastructure upgrades, access to industry mentors, and expanded training programs. The integration of soft skills, digital literacy, and competency-based assessments has further improved the quality of learning outcomes in these centers.

Competency-Based Training and Workforce Development: One of the most promising developments in Balochistan's TVET sector is the introduction of competency-based technical assessments. Under this approach, students are evaluated not only on their technical knowledge but also on their practical skills and attitudes towards their respective vocations. This competency-based approach aligns with the provincial target of exporting 30,000 skilled workers to GCC countries and other international labor markets. As of 2023, 2,000 workers had already been trained under this initiative, with the rest still undergoing training.

Additionally, 20,000 new industries have been registered in the province, increasing the demand for skilled labor. Many TVET graduates have transitioned into freelancing careers in digital trades such as web design, programming, and graphic design, competing in the global gig economy. However, a significant portion of TVET graduates still migrate to larger cities like Karachi and Lahore or seek employment abroad due to limited local industry absorption capacity.

Social and Cultural Barriers to TVET Enrollment

- *The Social Divide in TVET Perceptions:* The social perception of technical education remains a major challenge in Balochistan, where TVET programs are often associated with lower-income communities. Many families still view university degrees as the only pathway to upward mobility, leading to lower enrolment rates in technical diploma programs. However, the economic downturn, rising inflation, and job shortages have forced many young people to reconsider TVET as a practical alternative to higher education. As unemployment rises, technical education is slowly gaining acceptance, but this shift in perception remains gradual.
- **Female Enrolment and Gender Barriers in TVET:** Historically, TVET programs in Balochistan have been male-dominated, with minimal female participation. In fact, the first female enrolment in a vocational program in the province occurred only in December 2023, highlighting the long-standing gender disparity in the sector. Several factors contribute to the low female participation in TVET, including:

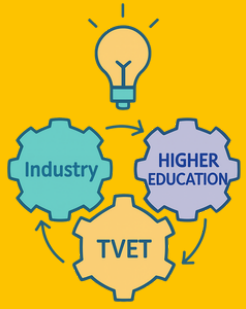
  1. Cultural restrictions and mobility constraints that prevent women from pursuing non-traditional careers.
  2. Limited course offerings for women beyond traditional gendered roles such as tailoring and beautician training.
  3. A lack of female-friendly training environments and instructors, discouraging women from enrolling in TVET programs.

  Despite these barriers, there is growing recognition of the need to integrate women into the technical workforce, particularly in digital and freelancing-related trades, which do not require physical mobility. Expanding TVET access for women in digital fields could significantly boost their economic independence.

- ***Parental Involvement and the Need for TVET Integration in Formal Education:*** One of the biggest gaps in TVET adoption in Balochistan is the lack of parental involvement. Unlike traditional schooling, where parents play an active role in monitoring student progress, TVET education often lacks parental engagement. Many parents are unaware of the career potential that technical skills can provide, leading to low enrollment rates and lack of support for students pursuing vocational training. Experts at ZABTech have advocated for integrating technical education into formal schooling from the 9th grade onwards, similar to models adopted in Japan and China. This would:

  - Expose students to technical skills at an earlier stage, reducing the stigma associated with TVET.
  - Provide hybrid learning pathways where students can earn both academic qualifications and vocational skills simultaneously.
  - Increase parental awareness of TVET as a viable and respected career pathway.

Collaboration gaps persist across sectors. A Policy Expert observes:

> ***Other countries have 10-year visions for skills. Education is aligned with industries. Why are we still treating skills as an afterthought?***

A university professor advocates:

> ***The Triple Helix, which brings together industry, higher education, and technical education, is the model we need. We can't keep working in silos.***

The evidence suggests Pakistan's education systems are not effectively creating opportunities for young people to learn what matters. Infrastructure deficits block access to modern learning; pedagogical practices remain rooted in memorization, assessment systems reward recall over application, and cultural resistance limits acceptance of skills-based education.

Success stories exist but remain isolated: community-mobilized technology initiatives, teacher-led innovation, and grassroots professional networks. These examples suggest potential pathways forward, but scaling requires addressing the fundamental misalignment between what education systems promise and what they actually deliver. As a Government official emphasizes,

> ***We must institutionalize innovation. Stop treating it like a special initiative - it needs to become the norm.***

CHAPTER 6:

From Vision to Action: Systemic Levers for Educational Transformation

This study set out to answer a critical question for Pakistan's future: ***How well are education systems creating opportunities for young people to learn what matters?*** The answer, distilled from a comprehensive analysis of policy, practice, and lived experience, is unequivocal. Despite ambitious policy rhetoric championing a modern, skills-based agenda, Pakistan's education system fundamentally fails to deliver the breadth of competencies its youth need to thrive. It remains trapped in a colonial-era, factory model of schooling that prioritizes rote memorization over critical thinking, procedural recall over creative problem-solving, and examination scores over genuine learning.

The research reveals a system defined by a series of deep-seated and paralyzing contradictions. A progressive curriculum is undermined by an archaic assessment system. The call for digital literacy is muted by a reality of chronic infrastructural deficits. The aspiration for inquiry-based pedagogy is blocked by a lack of teacher capacity and a culture that resists questioning. This is not a system with isolated problems; it is a system whose core components are in direct conflict with one another, creating a perpetual cycle of inertia and underperformance. The result is a profound disconnect between the skills Pakistan's economy and society desperately need and what its schools actually produce.

The consequence of this systemic failure extends far beyond the classroom walls. It jeopardizes Pakistan's ability to capitalize on its historic demographic dividend, fuels youth unemployment, and perpetuates cycles of inequality. Continuing on this path is not a viable option. The findings of this report argue that piecemeal reforms and isolated pilot projects, however well-intentioned, are insufficient to address a crisis of this magnitude. What is required is a fundamental re-imagination of the very purpose, structure, and practice of education in Pakistan. This transformation must be systemic, courageous, and centered on a singular, non-negotiable goal: to build an education system that empowers every child with the knowledge, skills, and values to shape their own future and that of their nation.

Strategic Recommendations for Reform

1. Transform Educational Philosophy and Structure

Strategic Imperative: Abandon the colonial factory model in favor of learner-centered education

- Establish dual-stream pathways; universities for academic tracks and technical/vocational track for skills-based careers
- Position TVET as an aspirational pathway to higher education and quality employment, not a fallback option
- Integrate creativity, critical thinking, and real-world problem-solving across all educational levels

2. Integrate Skills as Core Curriculum Elements

Strategic Imperative: Embed 21st-century competencies throughout the education system

- Develop a national skills framework aligned with both local contexts and global standards.
- Replace content-heavy theoretical approaches with hands-on, experiential learning.
- Incorporate financial literacy, entrepreneurship, and design thinking from elementary grades.
- Implement project-based learning, including business model creation and community problem-solving

3. Revolutionize Teacher Professional Development and Support

Strategic Imperative: Invest comprehensively in educator capacity and professional agency

- Include teachers directly in curriculum design processes
- Implement competency-focused training tied to career progression and compensation
- Utilize AI-driven assessment tools for personalized professional development
- Create specialized training for multi-grade classroom management in rural areas
- Establish formal peer-learning platforms building on existing informal networks
- Reform teacher unions to prioritize classroom improvement over administrative protection

4. Overhaul Assessment and Evaluation Systems

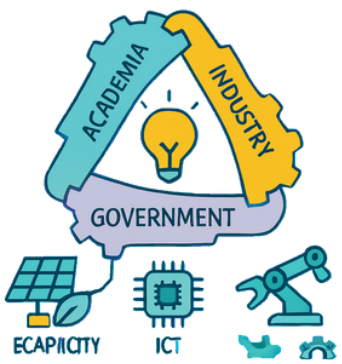
Strategic Imperative: Shift from memorization-based to competency-based evaluation

- Design assessments that measure critical thinking, creativity, and practical application
- Staff examination boards with experts trained in skills-based evaluation
- Implement robust anti-cheating mechanisms, including AI-driven proctoring
- Align examination language with student learning realities rather than arbitrary mandates

5. Establish Industry-Education Partnerships

Strategic Imperative: Create structured collaboration between education and economic sectors

- Implement the Triple Helix Model connecting academia, industry, and government
- Establish regional Skill Forecasting Units to identify emerging workforce needs
- Involve industry representatives in curriculum design and regular updates
- Develop public-private partnerships for scaling transformation initiatives
- Focus on sectors critical to Pakistan's economic vision: renewable energy, ICT, and advanced manufacturing



6. Strengthen System Coordination and Governance
Strategic Imperative: Break institutional silos that undermine policy coherence

- Coordinate curriculum development, teacher training, and assessment departments
- Position higher education institutions as bridges between industry and schools
- Ensure all policy initiatives are demand-driven and future-focused
- Create clear accountability mechanisms for transformation outcomes

8. Validate Diverse Learning Pathways
Strategic Imperative: Recognize and formalize informal skill acquisition

- Create certification systems for skills acquired through farming, artisanal work, and community engagement
- Develop localized learning models reflecting regional economies and cultural contexts
- Ensure educational pathways accommodate linguistic diversity and local knowledge systems

9. Implement Comprehensive Student Support Services
Strategic Imperative: Provide holistic support for student development and career planning

- Introduce age-appropriate career counseling from early childhood through secondary education
- Address both educational pathway guidance and mental health support
- Create aptitude-based guidance systems that match students with appropriate learning tracks

10. Engage Communities as Partners
Strategic Imperative: Transform schools into community learning hubs

- Expand parental involvement beyond traditional parent-teacher meetings
- Reconstitute School Management Committees as functional community organizations
- Offer vocational and digital literacy workshops for families
- Ensure continuous community engagement in reinforcing student skill development

11. Ensure Financial Sustainability and Institutional Commitment
Strategic Imperative: Secure long-term funding and policy commitment

- Allocate dedicated budget lines for skills development, technical education, and innovative pedagogy
- Institutionalize successful pilot programs through formal policy frameworks
- Reduce dependence on donor funding through domestic resource mobilization
- Prioritize equity, innovation, and sustainability in all financing decisions

12. Strengthen Decentralized Decision-Making

Strategic Imperative: Transfer meaningful authority to school and community levels

- Grant schools autonomy over budgeting, staffing, and curriculum adaptation
- Ensure contextual responsiveness through local decision-making authority
- Center youth and student voices in educational governance forums
- Foster co-ownership and participation among all learners

Implementation Imperative

Pakistan's demographic dividend presents both unprecedented opportunity and urgent responsibility. The choice is stark: comprehensive educational transformation or continued perpetuation of inequality and social stagnation.

Success requires moving beyond narrow instrumentalist approaches focused solely on examinations and employment outcomes. Instead, Pakistan must embrace education as a comprehensive driver of human development, social equity, and civic engagement.

The recommendations outlined above provide a detailed roadmap for this systemic transformation. However, a roadmap is useless without the will and the wisdom to navigate the journey. Their success is not guaranteed by policy decrees alone; it depends on a fundamental shift in the how of implementation, a shift guided by the principles of the 4Ps and 3Cs framework. Winthrop and Sengeh (2022) demonstrate that meaningful education system transformation depends on three interconnected foundations[91]:

Co-constructing a broadly shared **Purpose** that unites all stakeholders	Redesigning **Pedagogy** to center learners in educational processes	**Positioning** and realigning system components to support pedagogical goals and

These scholars emphasize that transformation transcends top-down technical fixes or administrative reforms; it represents a fundamentally social and collaborative endeavor requiring sustained, inclusive engagement across educators, families, communities, students, government institutions, and development partners throughout the 3Ps framework. Expanding this foundation, Winthrop, Morris, and Qargha (2023) introduced a critical fourth dimension - **Power**

Recognizing that truly inclusive and equitable transformation must explicitly acknowledge and address underlying **power** dynamics that shape educational systems.[92]

Rappe, Olateju, and Cannon (2024) operationalize this 4Ps framework through NEST's (Network for Education System Transformation[93]) systemic approach, connecting people, policies, and practices within the broader education ecosystem. They identify three essential mechanisms (3Cs) for implementing transformative change[94]:

[91] Winthrop, Rebecca, and David Sengeh. 2022. "Transforming Education Systems: Why, What, and How." Brookings, June 23, 2022. https://www.brookings.edu/articles/transforming-education-systems-why-what-and-how/.
[92] Winthrop, Rebecca, Emily Markovich Morris, and Ghulam Omar Qargha. 2023. "Revisiting Education Systems Transformation: Why Understanding the 5 Forms of Power Is Essential." Brookings, October 9, 2023. Updated November 3, 2023. https://www.brookings.edu/articles/revisiting-education-systems-transformation/.
[93] Brookings. 2025. "Network for Education Systems Transformation | Brookings." February 6, 2025. https://www.brookings.edu/projects/network-for-education-systems-transformation/.
[94] Rappe, Kelsey, Modupe (Mo) Olateju, and Grace Cannon. 2024. "Co-Creating a Shared Research Question and Agenda." Brookings, October 31, 2024. https://www.brookings.edu/articles/co-creating-a-shared-research-question-and-agenda/.

Building Capacity among those responsible for translating policies into practice

Fostering Commitment through deepened involvement and ownership of key ecosystem participants

Aligning policy priorities with local contexts to achieve Cohesion and effective implementation

The integrated 4Ps and 3Cs framework guides this study's approach to systemic transformation that remains context-sensitive, equity-oriented, and focused on developing comprehensive skills for all learners.

The time for incremental change has long passed. For the millions of young people whose futures hang in the balance, Pakistan's choice is stark: a courageous education revolution or the certainty of a demographic dividend squandered.

Bibliography

Abbasi, Kashif. "Current Assessment System Encourages Rote Learning: Boards." DAWN.COM, July 26, 2024. https://www.dawn.com/news/1847986.

Ahmad, Sohail, Sherwin Rodrigues, and Sadia Muzaffar Bhutta. "Pakistan's First Ever Participation in International Large-Scale Assessment (TIMSS): Critique and Implications." Journal of Education and Educational Development 9, no. 2 (December 28, 2022): 191–210. https://doi.org/10.22555/joeed.v9i2.717.

Ahmed, Amin. "Pakistan's Fertility Rate Has Declined, Says UN." DAWN.COM, February 3, 2025. https://www.dawn.com/news/1889376.

ASER Pakistan. ASER 2023: What Did We Learn About Learning? https://aserpakistan.org/report.

Barón, Juan D., Lauren Dahlin, and Jessica D. Lee. Five Major Challenges to Girls' Education in Pakistan. Washington, DC: World Bank, 2024. https://datatopics.worldbank.org/dataviz/girls-education-pakistan/.

Bhatt, Rameen. "Is Pakistan's Education System Producing Thinkers or Followers?" The Friday Times, March 29, 2025. https://thefridaytimes.com/29-Mar-2025/is-pakistan-s-education-system-producing-thinkers-or-followers.

Brookings Institution. Breadth of Learning Opportunities. https://www.brookings.edu/product/breadth-of-learning-opportunities/.

Brookings Institution. Network for Education Systems Transformation. February 6, 2025. https://www.brookings.edu/projects/network-for-education-systems-transformation/.

Brookings Institution. Visualizing the Breadth of Skills Movement across Education Systems. https://www.brookings.edu/interactive/visualizing-the-breadth-of-skills-movement-across-education-systems/.

Care, Esther, Helyn Kim, and Kate Anderson. "Visualizing the Breadth of Skills Movement Across Education Systems." Brookings, September 16, 2016. https://www.brookings.edu/articles/visualizing-the-breadth-of-skills-movement-across-education-systems/.

CIRCLE Women. State of Women Entrepreneurship in Pakistan: Navigating Barriers in Tech Startups. CIRCLE Publications, 2022. https://circlewomen.co/2022-.

Delors, Jacques, et al. Learning: The Treasure Within. Paris: UNESCO, 1996. https://unesdoc.unesco.org/ark:/48223/pf0000109590.

Editorial. "Education Underfunded." The Express Tribune, June 26, 2025. https://tribune.com.pk/story/2552672/education-underfunded.

European Commission. Europe 2020: A Strategy for Smart, Sustainable and Inclusive Growth. Luxembourg: Publications Office of the European Union, 2010. https://op.europa.eu/en/publication-detail/-/publication/4299ddf0-4d7e-4c1d-bc6e-cd40c28c5e20.

Government of Balochistan. Balochistan Education Sector Plan. https://www.emis.gob.pk/Uploads/Balochistan%20Education%20Sector%20Plan.pdf.

Government of Khyber Pakhtunkhwa. Education Sector Plan 2020-21 to 2024-25. https://kpese.gov.pk/education-sector-plan-2020-21-2024-25/.

Government of Punjab. Punjab Education Sector Plan. https://pnd.punjab.gov.pk/node/2984.

Government of Sindh. Sindh Education Sector Plan & Roadmap 2019-24. https://rsu-sindh.gov.pk/contents/publications/SESP&R%202019-24.pdf.

Hameed, Sadia. "Digital Education Policies in Pakistan Are Disconnected from Reality." Dawn. https://www.dawn.com/news/1762045.

Bibliography

Hansberry, Cate. "Rescuing Pakistan's Economy." Atlantic Council, April 8, 2025. https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/rescuing-pakistans-economy/.

Harvard Graduate School of Education. "Why Invest in Global Education Now." https://www.gse.harvard.edu/news/21/10/why-invest-global-education-now.

Higher Education Commission (HEC) Pakistan. Annual Report 2021–22. 2023. https://www.hec.gov.pk/english/news/Pages/Annual-Reports.aspx.

Ilyas, Muhammad. "Sudden School Closures Halt Academic Progress." The Express Tribune, December 30, 2024. https://tribune.com.pk/story/2519106/sudden-school-closures-halt-academic-progress.

Khan, S., and R. Ahmed. "STEM Equity in Pakistan: Policy vs Practice." Journal of South Asian Education 15, no. 2 (2023): 45–67.

Mian, Bakhtawar. "Youth Hit Hardest as 4.5m Remain Jobless." DAWN.COM, June 12, 2024. https://www.dawn.com/news/1839336.

Ministry of Federal Education and Professional Training. "Pakistan Sets a New Global Standard with Nationwide STEAM Education Rollout." https://parhlopakistan.com/news/pakistan-sets-a-new-global-standard-with-nationwide-steam-education-rollout/.

Ministry of Federal Education and Professional Training. Review and Rationalization of Pakistan's National Curriculum: Addressing Gaps, Enhancing Integration, and Reforming English Education (ECE to Grade 5). https://medium.com/@riazleghari/review-and-rationalization-of-pakistans-national-curriculum-addressing-gaps-enhancing-026f7a83e8b8.

Ministry of Planning, Development & Special Initiatives. "URAAN Pakistan." Accessed July 10, 2025. https://uraanpakistan.pk/.

Najam, Adil. "Pakistan's Moment of Youth." DAWN.COM, May 5, 2024. https://www.dawn.com/news/1831567.

News Report. "Falling Behind: Pakistan's HDI Crisis." Brecorder, May 14, 2025. https://www.brecorder.com/news/40362534.

News Report. "Pakistan Hits Rock Bottom in WEF's Global Gender Gap Report Out of 148 Countries." DAWN.COM, June 12, 2025. https://www.dawn.com/news/1916743.

Nurgabylov, B., S. Uteubayev, A. Zhylkapova, et al. "Developing 21st-Century Skills Through PISA-Based Assessment-Learning Tasks." 2024. https://op.europa.eu/en/publication-detail/-/publication/4299ddf0-4d7e-4c1d-bc6e-cd40c28c5e20.

OECD. Definition and Selection of Competencies (DeSeCo). https://www.oecd.org/education/skills-beyond-school/definitionandselectionofcompetenciesdeseco.htm.

OECD. The Futures We Build: Abilities and Competencies for the Future of Education and Work. https://www.oecd.org/education/skills/futures-of-education-and-skills/.

OECD. The OECD Learning Compass 2030. https://www.oecd.org/education/2030-project/learning/learning-compass-2030/.

OECD. Teaching Compass. https://www.oecd.org/education/2030-project/teaching-and-learning/teaching/Teaching- Compass-2030.pdf.

OECD. Trends Shaping Education. January 23, 2025. https://www.oecd.org/education/trends-shaping-education.htm.

OECD. What Students Learn Matters: Towards a 21st Century Curriculum. Paris: OECD Publishing, 2020. https://www.oecd.org/publications/what-students-learn-matters-91aafc75-en.htm.

Bibliography

Pakistan Alliance for Girls Education (PAGE). Girls' Education in Pakistan: Statistics and Trends for 2022–2023. Lahore: PAGE Publications, 2023. https://www.page.org.pk/reports/.

Pakistan Bureau of Statistics. "Announcement of Results of 7th Population and Housing Census-2023 'The Digital Census.'" Government of Pakistan, August 5, 2023. https://www.pbs.gov.pk/sites/default/files/population/2023/Press%20Release.pdf.

Pakistan Institute of Development Economics (PIDE). Analyzing the Pros and Cons of the Single National Curriculum. https://pide.org.pk/research/analyzing-the-pros-and-cons-of-single-national-curriculum/.

Pakistan Institute of Development Economics (PIDE). The Single National Curriculum: Strategies for Implementation. https://pide.org.pk/research/the-single-national-curriculum-strategies-for-implementation/.

Pakistan Institute of Education. National Achievement Test 2023. Government of Pakistan. https://pie.gov.pk/SiteImage/Publication/NAT%202023.pdf.

Pakistan Institute of Education. Pakistan Education Statistics 2023-24. Government of Pakistan, April 2025. https://pie.gov.pk/SiteImage/Publication/PES%202024.pdf.

Perry, Freya, Juan D. Barón, and Lauren Dahlin. "How Are the Children of Pakistan's 2022 Floods Faring?" World Bank Blogs, March 16, 2024. https://blogs.worldbank.org/en/endpovertyinsouthasia/how-are-children-pakistans-2022-floods-faring.

Planning Commission. District Education Performance Index. Government of Pakistan, 2023. https://pc.gov.pk/uploads/archives/DEPIx_Updated-Final-Report.pdf.

Rana, Shahbaz. "Pakistan's Poverty Rate Rises to 44% Under New World Bank Thresholds." The Express Tribune, June 5, 2025. https://tribune.com.pk/story/2549678/pakistans-poverty-rate-rises-to-447-under-new-world-bank-thresholds.

Rappe, Kelsey, Modupe (Mo) Olateju, and Grace Cannon. "Co-Creating a Shared Research Question and Agenda." Brookings, October 31, 2024. https://www.brookings.edu/articles/co-creating-a-shared-research-question-and-agenda/.

Saigol, Rubina. A Bridge Gap in Pakistan's Curriculum and Pedagogy.

Shah, Zeenat. "Single National Curriculum and Challenges." Pamir Times, June 20, 2020. http://pamirtimes.net/2020/06/20/single-national-curriculum-and-challenges/.

The Express Tribune. "STEM Competitions Foster Creativity." 2024. https://tribune.com.pk/story/2452067/stem-competitions-foster-creativity.

Think Equal and CARE. Pakistan Pilot Programme Report 2022–2023. https://thinkequal.org/blog/think-equal-x-care-pakistan-pilot-programme-report-2022-2023/.

TIMSS Pakistan. TIMSS 2019 Pakistan: Where to Next? https://timss2019.org/reports/timss-2019-pakistan/.

UNESCO. EFA Global Monitoring Report 2005: The Quality Imperative. Paris: UNESCO, 2005. https://unesdoc.unesco.org/ark:/48223/pf0000137333.

UNESCO. Incheon Declaration and Framework for Action for the Implementation of Sustainable Development Goal 4. 2015. https://unesdoc.unesco.org/ark:/48223/pf0000245656.

UNESCO. "UNESCO to Collaborate with Pakistan Telecommunication Authority on Digital Inclusion and Gender Mainstreaming Strategy." https://www.unesco.org/en/articles/unesco-collaborate-pakistan-telecommunication-authority-digital-inclusion-and-gender-mainstreaming.

Bibliography

UNESCO UIS. "Breadth of Skills." September 10, 2024. https://uis.unesco.org/en/glossary-term/breadth-skills.

UNICEF. Child Marriage Country Profiles. UNICEF Data Portal. Accessed May 24, 2025. https://data.unicef.org/resources/child-marriage-country-profiles/.

UNICEF. Global Framework on Transferable Skills. 2019. https://www.unicef.org/reports/global-framework-transferable-skills.

United Nations. "The Paris Agreement." https://www.un.org/en/climatechange/paris-agreement.

Winthrop, Rebecca, and David Sengeh. "Transforming Education Systems: Why, What, and How." Brookings, June 23, 2022. https://www.brookings.edu/articles/transforming-education-systems-why-what-and-how/.

Winthrop, Rebecca, Emily Markovich Morris, and Ghulam Omar Qargha. "Revisiting Education Systems Transformation: Why Understanding the 5 Forms of Power Is Essential." Brookings, October 9, 2023. Updated November 3, 2023. https://www.brookings.edu/articles/revisiting-education-systems-transformation/.

World Bank and UNESCO Institute of Statistics. Pakistan Learning Poverty Brief. World Bank, April 2024. https://documents1.worldbank.org/curated/en/099090524113129017/pdf/P17920914d233b0701985a14a5d15f20e04.pdf.

World Bank and UIS. "Learning Poverty: A World Bank-UIS Indicator to Highlight the Learning Crisis." Pakistan Learning Poverty Brief, June 2022. https://documents1.worldbank.org/curated/en/099812207212211713/pdf/IDU0e0c38ddc0f77b04fda0a7ad0e2f4235d517a.pdf.

World Economic Forum. "From Virtual Tutors to Accessible Textbooks: 5 Ways AI Is Transforming Education." https://www.weforum.org/agenda/2023/06/ai-education-virtual-tutors-accessible-textbooks/.

World Economic Forum. The Future of Jobs Report 2018. Geneva: WEF, 2018. https://www.weforum.org/reports/the-future-of-jobs-report-2018.

World Economic Forum. "How Education Can Adapt to Prepare Learners for Tomorrow's Demands." https://www.weforum.org/agenda/2024/01/how-education-can-prepare-learners-future/.

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