

TRANSFORMING EDUCATION IN PAKISTAN: PIDE's RESEARCH PERSPECTIVES



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An array of challenges, solutions, and critical insights emerges from the research studies conducted by the Pakistan Institute of Development Economics (PIDE) on various dimensions of education in Pakistan. These studies show a glowing picture of the country's educational landscape, shedding light on issues ranging from the impact of the COVID-19 pandemic on child education to the quality of professors in universities, the cost-benefit analyses of various education streams, and the efficacy of innovative teaching methodologies such as blended e-learning and STEM education.

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Equally significant is the exploration of Pakistan's professorless universities, a crucial element in the academic ecosystem often overlooked in favor of infrastructural development. The study rightly questions the prevailing emphasis on physical infrastructure over faculty competence and calls for a recalibration of priorities toward investing in developing and nurturing a skilled academic workforce. PIDE's recommendation to bolster professor training and recruitment efforts, including the recruitment of foreign professors, underscores the pivotal role of professors in shaping educational standards and fostering a culture of research excellence within higher education institutions.

The cost-benefit analysis of parallel education streams in the public sector provides insights into the efficiency of investments in different public sector educational institutions. By comparing the outcomes of Cadet Colleges and Islamabad Model Colleges, the advocates for addressing human resource shortages, enhancing teacher training programs, and promoting transparency in educational data underscores a comprehensive approach to enhance educational outcomes and system effectiveness in Islamabad Model Colleges.

The impact evaluations of blended e-learning and STEM education initiatives provide insight into the transformative power of innovative pedagogical strategies for increasing student engagement, critical thinking abilities, and learning outcomes. These studies advocate for improved educational technology access, infrastructural enhancements, and teacher professional development to maximize the benefits of digital learning tools and STEM instruction in schools.

Moreover, the research on the costs of lost talent due to emigration provides a comprehensive examination of the economic, social, and cultural ramifications of skilled individuals leaving Pakistan. This study underscores the imperative of devising strategies to retain and harness the talents of these individuals within the country to mitigate productivity losses and foster innovation. The findings call for proactive measures aimed at talent retention and creating an environment conducive to the growth and utilization of skilled human capital.

The discussion on education returns in Pakistan provides a compelling narrative about the economic benefits of investing in education. The research emphasizes education's transformative power in unlocking economic opportunities and eliminating societal inequities by emphasizing its large impact on individual incomes and national productivity.

In a nutshell, PIDE's research studies offer a thoughtful perspective on the challenges and opportunities within Pakistan's education landscape. These studies underscore the critical importance of evidence-based policymaking, targeted interventions, and strategic reforms to address the complex issues affecting Pakistan's education system. By implementing the recommendations presented in these studies Pakistan can pave the way for a brighter future where every child has access to quality education to realize their full potential.

RESEARCH STUDIES ON EDUCATION

Child education in the time of pandemic: Learning loss and dropout

Issue

The disruptive effects of the COVID-19 pandemic have affected the education sector at an unprecedented scale. In this regard, we assess the impact of COVID-19 on learning loss, school dropout, and the economic costs in terms of foregone earnings for children in Pakistan. The study finds a substantial decrease in Learning Adjusted Years of Schooling (LAYS) with worsening consequences for girls than boys. Likewise, the aggregate economic cost amounts to 107 billion dollars when adjusted for human capital utilisation. Besides, our simulation results suggest that about 7.2 million children drop out due to a reduction in household expenditure by 50 percent. In comparison, the dropout is more pronounced at the primary level of schooling.

PIDE's Proposed Reform

Policymakers in Pakistan should implement effective strategies to mitigate the adverse effects of the pandemic and school closures. This includes identifying and mapping affected areas to minimize disruptions in student learning and dropout rates. The government must prioritize and expedite a nationwide vaccination program to facilitate the safe return to in-person instruction. Additionally, efforts should focus on stimulating economic activities and supporting marginalized families to prevent child labor and school dropouts. Lastly, the curriculum should be adjusted to include extra lessons for the most affected students, while investing in infrastructure to build a resilient and future-oriented education system. Professor-less Universities in Pakistan

Professor-less universities in Pakistan

Issue

Across the world, universities are about professors engaged in research. But, in Pakistan, it is common to think of universities as mere brick-and-mortar buildings without enough competent professors and innovative ideas. Politicians seek to please their constituencies by setting up universities without thinking about the overall quality of education institutions at these institutions. The Higher Education Commission's (HEC) guidelines for a university are also focused on 'land' and don't mention anything explicitly about 'professors' or the quality of education. This results in extremely poor-quality degree programs being taught at Pakistani universities

PIDE's Proposed Reform

Shift the policy's focus away from mere 'brick and mortar' to grooming professors. The PSDP should allocate more funds for the training and financing of professors. Also, given the high failure and dropout rates, human capital flight, and omitted peer review, HEC scholarships are an inefficient way of nurturing professors. Perhaps a better approach might be to develop a large-scale professor hiring program. Under such an initiative, foreign professors must be hired at competitive salary packages to spend time in Pakistani universities.

Cost-Benefit Analysis of Parallel Education Streams in the Public Sector

Issue

The provision of effective public education is one of the most challenging tasks in the public good provision domain. Since 1947, more than twenty-three education policies and five-year plans have been presented by successive governments in Pakistan. However, our education system is still facing multifold issues such as ineffective management and supervision protocols, poor examination systems, etc. Without any doubt, the public education provision is one of the core investments that a state can make to enhance human capital and well-being. However, the aspect that makes public education provision tricky is the associated cost and benefits to the public of competing investment programmes in the public sector. With this idea in mind, in this research, we conducted a comparative Cost-Benefit Analysis of Cadet colleges (CCs) and Islamabad Model Colleges (IMCs). We also assessed the delivery approach of both streams for lesson learning and system strengthening. The cost-benefit analysis shows that investment in both streams is beneficial for the economy in the long run. Considering the cost to the government only, the CCs are producing more benefits than IMCs, while considering the overall cost (including cost to the government, private cost, and opportunity cost) IMCs are slightly ahead of CCs not because of higher earnings but because of lower private costs. The pooled regression analysis shows that CCs are producing higher academic grades than IMCs. The delivery approach of CCs is relatively better than the delivery approach of IMCs.

PIDE's Proposed Reform

Both education streams are cost-effective, so a genuine demand for scaling up of either stream can be responded to positively. This research has witnessed complaints about shortages of human resources in the IMCs. Therefore, such demands should be appraised critically and the shortages if any should be filled as soon as possible for system strengthening. New initiatives and interventions are important for improving education outcomes but without competent and skillful teachers such interventions and initiatives may not produce desirable outcomes. Therefore we should focus on teacher training and bring back professionalism to the teaching profession. Additionally, the transparency in education-related data should be increased in all streams to allow research organizations to research to enhance scholarly inputs to the education policy-making process.

Impact Evaluation of the Pilot Project for Blended E-learning in 200 Classrooms of Federal Capital (Grades 1 -10), Federal Directorate of Education Islamabad.

Issue

Blended E-learning - Schools in the federal capital received facilities and digital content for various subjects covered from grade 1 to grade 10 in 200 classrooms. three distinct Interventions – Primary Blended (Class 4), Middle Blended (Class 6), and Secondary Blended (Class 9), and Vendors/Service Providers were different for each intervention. The Idea was to estimate the short-run impact of the blended e-learning intervention on students' learning outcomes. The analysis focused on a comparison of student outcomes (grades 4, 6, and 9) in treatment schools versus control schools. Second, we reported whether blended e-learning instruction fosters engagement benefits (interest and motivation). Third, we reported perceived changes in the pedagogical practices and high-order thinking among the students. Finally, we also discussed the potential influence of contextual, design, and implementation factors that may drive or hinder this impact.

PIDE's Proposed Reform

Ensure increased immersion levels of students into ed-tech technology by giving students more readily available access to devices (computers, tablets, etc.). Increase students' contact hours. Upgrade the existing computer labs in schools and conduct blended e-learning lessons in an environment in which each student has individual access to content through a device. There should be no cross-contamination of treatment and control groups resulting from the transfer of teachers. A mix of multiple ed-tech partners/vendors should be competing at the same grade level rather than being given intervention mandates at different levels

Impact Evaluation of Pilot Project for STEM Teaching Grades 6 - 8 in 30 schools of FDE: (Knowledge Economy Initiative) Federal Directorate of Education Islamabad.

Issue

Under the STEM Teaching - STEM-based curriculum (Grade 6 - 8) together with Makerspaces to impart a better understanding of practical learning aspects of Science, Technology, Engineering, Mathematics, and Computing in 30 schools. One Distinct Intervention - Middle STEM (Class 6) and a Vendors/Service Provider. The Idea was to estimate the short-run impact of the STEM intervention on students' learning outcomes. The analysis focused on a comparison of student outcomes (grade 6) in treatment schools versus control schools. Second, we reported whether STEM instruction fosters engagement benefits (interest and motivation). Third, we reported perceived changes in the pedagogical practices and high-order thinking among the students. Finally, we also discussed the potential influence of contextual, design, and implementation factors that may drive or hinder this impact.

PIDE's Proposed Reform

Improve the quality of STEM makerspaces. Add equity dimension to the STEM pedagogy. Increase student contact hours. Retrain low-performing teachers and include an incentive structure for project compliance.

Costs of Lost Talent in Pakistan

Issue

The study explores the various dimensions of talent loss in Pakistan. First, it quantifies the economic impact by considering explicit and implicit costs. Second, it examines the productivity loss in the origin country as immigrants contribute to the GDP of destination countries. Third, the study provides a brief overview of the demographic, social, political, intellectual, and cultural impacts caused by the departure of skilled individuals. The insights from this study are crucial for informing policymakers on designing effective strategies to retain and utilize talented individuals within Pakistan. The finding reveals that both explicit and implicit costs amount to 1499.32 billion in PKR, accounting for 1.77 percent of GDP in 2023, indicating a positive impact when considering the money immigrants send back home. Immigrants contributed approximately 8 percent of GDP through remittances in 2023. However, the cost to the country of origin becomes significantly high when productivity loss is considered. Pakistan migrants' net contribution to the global GDP accounted for 85 percent of Pakistan's GDP in 2023 (Pakistan's GDP was 303.43 billion USD in 2023), constituting a productivity loss.

PIDE's Proposed Reform

While the return of qualified individuals improves innovation and productivity, their permanent settlement in the destination exacerbates shortages in key sectors of the economy. These findings warrant a holistic strategy for managing emigration effectively.

Return to Education in Pakistan: A Brief Overview

Issue

The rate of return to education is a measure of the economic benefits of education in terms of increased earnings and productivity. To provide evidence on the rate of return for Pakistan, we conducted an extensive literature search using online sources such as Google Scholar, JSOR, and others. We also presented global evidence, for comparison on the rate of returns covered extensively in the literature surveys of Montenegro and Patrinos (2023) Patrinos and Psacharopoulos (2020). There are two main estimation frameworks to estimate the rate of returns; the earning function and the full discounting method. The survey of earning differentials in Pakistan reveals several key insights. The rate of return to education varies, but overall, investing in education yields higher returns for females compared to males. However, the average returns for males are relatively low in Pakistan compared to global averages. Across economies, the returns are generally higher for females, and high-income economies exhibit the smallest gender gap. While private returns in Pakistan exceed social returns at higher education levels, a significant proportion of children end up with only primary education, leading to lower productivity and hindering long-term economic growth.

PIDE's Proposed Reform

The lower private returns to education in Pakistan indicate inefficiencies in the labor market, such as limited job opportunities, underemployment, or a mismatch between skills and job requirements. This suggests the need for policies that improve job creation prospects or investments in the private sector, align education with labor market demands, and enhance vocational training. For females, the higher returns may reflect the relative scarcity of educated women in the workforce, underscoring the importance of promoting gender equality in education and labor participation.

GORs Everywhere: University Land for Public Housing

Issue

Globally, two major challenges confronting higher education: growth and sustainability and universities are compelled to reassess their missions and objectives. Because tax dollars are scarce, society no longer favors and financially supports higher education. Consequently, higher education institutions are aligning themselves as entrepreneurial models in both domestic and global markets. Universities in Pakistan are not exempted from these concerns and face significant financial challenges, resulting in ongoing discussions regarding their funding. One issue that has been raised is the construction of housing colonies within university premises, which is seen as a misuse of valuable resources. The land owned by universities is a crucial asset and should be used strategically to ensure that the funds are allocated in the most effective way possible.

PIDE's Proposed Reform

Housing colonies on universities' land illustrates a substantial opportunity cost. Hence, a paradigm shift is required, viewing land not merely as a space for academic expansion but as a potential source of revenue generation. Therefore, resources need to be redirected for

efficient utilization of land to steer universities toward financial autonomy, fostering a vibrant and self-sustaining higher education system in Pakistan. Universities receive land as an endowment from the government, which is funded through the Public Sector Development Program (PSDP). A crucial reform is to monetize residential perks for faculty and establish standardized pay scales. Housing units should be rented out to the public, including university staff, at market rates, generating additional income for universities and promoting financial sustainability and inclusivity. Another Important reform involves that instead of sprawling housing complexes, universities should embrace high-rise developments comprising modern residential apartments, commercial spaces, and shopping malls as the opportunity cost of housing colonies is substantially higher. This effort can be realized through PPP, where both parties will enter into a contract for a certain period. PPP ventures in universities should operate on a profit-sharing model with defined terms and ownership structures outlined and agreed upon in advance. Ownership must remain with the university and upon the contract's expiry, the land will be transferred back to the university. The revenue generated can be reinvested in academic and research initiatives, reducing dependency on external funding. This reform aligns with contemporary urban development trends.

Finnish Miracle in Education: Lessons for Pakistan

Issue

One important initiative currently in the limelight across the globe is the Trends in International Mathematics and Science Study (TIMSS), which ranks countries in terms of students' scores in math and science. Countries have always relied on their indigenous tests to assess their educational excellence but not in comparison to other countries. Hence, the TIMSS assessments, since the spread of global competition, have become a way to achieve educational supremacy. Pakistan participated for the first time in TIMSS in 2019 in fourth-grade mathematics and science study. Performance-wise, we stood second from the bottom. Given Pakistan's low performance on TIMSS, we tried to dissect the salient features of the education system of Finland.

PIDE's Proposed Reform

First, Pakistan must decentralize and declare complete autonomy of its schools. This reform will enhance competition among schools in a neighborhood and inter-province competition among schools. Schools in each neighbourhood must be judged and ranked on selected performance parameters (student scores, etc, conducted by an international accreditation agency, not BISEs). Schools that outperform others must be incentivized with extra benefits such as performance bonuses and promotions. This reform must be introduced at a small scale, perhaps in schools in Islamabad, and gradually scale up to other regions and provinces. Second, we must map our curriculum with Bloom's Taxonomy. Currently, Pakistan's curriculum only touches the lower tiers of Bloom's, so there is little scope to nurture students' creative skills at the grassroots level.

Disaggregating the Graduate Unemployment in Pakistan

Issue

In Pakistan, graduate unemployment is becoming a serious challenge as it is almost three times the average unemployment rate in the country. The unemployment rate for engineers has increased from 11 percent to 23.5 percent which has doubled in just two years. A similar situation has been observed for those who graduated in computer science and agriculture.

PIDE's Proposed Reform

For better analysis and policy, we need to add more disciplines/fields of study, especially regarding social and natural sciences in LFS. This will help policymakers to accurately analyze the supply and demand gap of these graduates in the labor market. Most of the labor force in agriculture sector is illiterate and perhaps for this reason Pakistan imports a large quantity of inputs and related machinery from foreign countries. Moreover, Pakistan's exports in the agriculture sector are limited only to raw materials. We need to focus on improving prospects for value addition in agriculture to increase exports and employment opportunities for graduates. The reported evidence on the effect of training on employment is mixed, showing that labor market may not value the specific skills being taught. In particular, the curricula of these trainings may lack important "soft" personal and social ("non-cognitive") skills dimensions. Additionally, these trainings might generate expectations that are ultimately not rewarded by the labor market, and participation in the program might thereby end up discouraging workers. Pakistan needs a lot to attract tech-based foreign companies in Pakistan and should also facilitate and encourage local businesses to start such industries on their own to improve the employment prospects in the country. Government, universities, and industries need to develop a strategy to make internship/apprenticeship mandatory for all graduates in their respective degree programs so that they have a better idea of the job market.

Unemployment and Skills in Pakistan

Issue

Technological advancement is one of the most transformative drivers of the world of work globally. Contemporarily, such transformations are on a fast track in the developed world, but Pakistan is no exception to such transformations. Sooner or later, we have to face such transformations and the consequences thereof. But the question is: are we envisioning it in a better way to avoid its damaging effects on the already precarious employment situation of Pakistan?

PIDE's Proposed Reform

First, the focus should be on managing workers' job transition to new jobs, especially the low-skilled who may need the training to reskill. According to the European Union, workers at risk of automation could find similar or better work with adequate training. In addition, the skills investments for younger workers must be forecasted in light of automation trends, ensuring that young workers have the new skills that must match and be demanded in the labour market. For this, resilient educational systems should be in place to foresee and

adapt to meet the fast-evolving demand for skills to prevent both skills shortages and mismatches. Skills development pathways should be inclusive to target women, rural and older workers. Low-wage workers are the most vulnerable to shifts as friction points for such are more burdensome than others, so inclusive and forward-looking reskilling and workforce development programmes, tailored to the individual needs of the low-wage workers. Second, curricula must be aligned with the skills demanded – big data analytics and cyber security, etc. For this purpose, the Technical and Vocational Education and Training (TVET) system must be well coordinated to capture and reflect on innovations occurring in the labor market. Finally, higher and professional education standards along with the TVET systems vary significantly in terms of resources and quality. Our TVET system is less developed, which is underfunded, reflecting the low quality of TVET provision. As a result, the TVET system is unable to attract qualified staff and students. In addition, the students and parents perceive TVET as an inferior option to formal higher education. Given this, the government must ensure cooperation, advocacy, and investment in the upgrading of the TVET system to enhance its quality assurance standards to close the digital skills gap with skills development to achieve lifelong employability.

Latest PISA results (Students in 2022)

Issue

The latest Programme for International Student Assessment (PISA) results – released on December 5, 2023 – provide valuable insights into the academic performance and well-being of 15-year-old students from 81 economies worldwide. PISA tests claim to create a unique assessment that differs from traditional tests. The report states that in a world that increasingly values individuals for their ability to apply knowledge, PISA goes beyond assessing rote memorization. To succeed in PISA, students must demonstrate their ability to think critically, and creatively, and extrapolate from what they have learned.

PIDE's Proposed Reform

Smart integration of technology within and beyond the classroom seems to be the way forward. By leveraging flexible learning models, technology integration, and contingency planning, education systems can better ensure continuity of education and minimize the impact of crises on students' learning outcomes. In addition, as Pakistan is not currently part of the PISA assessments, it must participate in the PISA assessments to allow its education system to benchmark against other countries and gain insights into areas of strength and areas that need improvement. PISA is widely recognized as a global benchmark for assessing educational outcomes. By participating, Pakistan can demonstrate its commitment to improving education and aligning with international standards. This can contribute to enhancing the country's competitiveness in the global knowledge economy. Participation in PISA will also open doors for international collaboration and the exchange of best practices.