

Effect of Quality Assurance Tests on Students Academic Performance and Resource Allocation in Punjab Education Foundation Schools

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Abstract

This study aimed to investigate the effects of Quality Assurance Tests (QATs) on students' academic performance and resource allocation in Punjab Education Foundation (PEF) schools. Utilizing a mixed-methods approach, quantitative data was gathered from 1,000 students and 200 teachers through surveys, revealing a significant positive correlation between QAT scores and academic performance, with 75% of students indicating that their test scores influenced their grades. Qualitative insights highlighted teachers' perceptions, showing that 80% supported the utility of QATs in enhancing instructional practices while identifying challenges such as inadequate training and administrative issues. The results underscored the critical role of QATs in guiding resource allocation, with 68% of teachers noting that underperforming schools received targeted support based on QAT outcomes. Recommendations include implementing professional development for teachers, enhancing administrative support, and fostering collaboration among educators to effectively utilize QAT data for improving educational quality. These findings contribute to understanding assessment's impact on educational practices and highlight the need for ongoing evaluation and support to optimize QAT implementation in PEF schools.

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Keywords: Quality Assurance Tests (QATs), Academic Performance, Resource Allocation, Punjab Education Foundation (PEF), Teachers' Perceptions, Educational Quality

Introduction

Quality Assurance Tests (QATs) in Punjab Education Foundation (PEF) schools are pivotal in evaluating educational standards and allocating resources. The PEF, as a public-private initiative, strives to enhance the quality of education in under-resourced areas of Punjab, Pakistan, through various supportive measures, including QATs (Aslam et al., 2019). These assessments are designed to gauge student learning outcomes, ensure accountability, and inform policy adjustments, aligning with global efforts to improve education equity and quality (Durrani et al., 2021). Prior research indicates that standardized testing can significantly influence resource distribution, teacher performance, and instructional practices in low-income educational settings (Mahmood & Gondal, 2020). However, the effectiveness of QATs in enhancing academic performance and resource management in PEF schools remains an area requiring in-depth study to optimize educational outcomes.

Quality Assurance Tests (QATs) are integral to the performance monitoring and accountability frameworks within Punjab Education Foundation (PEF) schools. PEF, established to address educational inequities in Punjab, primarily uses QATs to assess students' academic performance and make informed decisions on resource allocation. These tests, conducted periodically, serve as benchmarks for evaluating school effectiveness, guiding policy and resource management practices aimed at enhancing education quality across a network of public-private partnership schools (Andrabi, Das, & Khwaja, 2020).

Research indicates that standardized assessments like QATs can improve academic outcomes by providing data-driven insights into student learning needs and enabling targeted interventions. They influence school funding decisions, teacher training requirements, and instructional resources, thus crucial in resource distribution (Memon et al., 2018). However, debates surrounding the impact of standardized testing highlight both its potential benefits and challenges, as these tests might not capture the full spectrum of learning or educational quality and may place undue pressure on teachers and students (Khattak & Aslam, 2019). Therefore, further examination is needed to assess how QATs affect academic performance and resource distribution within PEF schools to ensure these evaluations are effective tools for sustainable educational reform in Punjab.

The implementation of Quality Assurance Tests (QATs) in Punjab Education Foundation (PEF) schools plays a crucial role in shaping educational outcomes by assessing students' academic progress and directing resource allocation. These assessments serve as a feedback mechanism, helping policymakers and educators identify gaps in student learning and improve instruction quality (Rasul & Khan, 2019). By standardizing evaluation across PEF schools, QATs help maintain consistency in educational standards and enable data-driven decision-making, particularly in resource allocation. Studies indicate that QATs facilitate targeted investments in academic resources, such as teacher training, infrastructure, and learning materials, ultimately bridging educational disparities (Jamil, 2021; Ahmed & Anwar, 2020).

In addition, QATs are integral to the accountability framework of PEF, providing an objective measure to evaluate school performance across a large network. This performance-based

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model has had mixed effects on academic achievement. While it motivates schools to enhance student learning, some critiques highlight that overemphasizing test scores can lead to narrow instructional practices prioritizing test performance over comprehensive education (Aly, 2021). A better understanding of how QAT-driven resource allocation influences academic outcomes, teacher satisfaction, and student engagement could offer valuable insights into optimizing the quality and equity of education in public-private school partnerships.

The rationale for this study lies in the pressing need to understand the impact of Quality Assurance Tests (QATs) on educational outcomes and resource distribution within Punjab Education Foundation (PEF) schools. QATs, integral to PEF's model of public-private partnerships, are designed to uphold educational standards across a vast network of schools that serve some of Pakistan's most underserved communities (Rasul & Khan, 2019). These assessments evaluate students' academic performance and play a critical role in informing resource allocation decisions by identifying areas that require support, such as teacher training, learning materials, and infrastructure improvements (Ahmed & Anwar, 2020).

Despite the intended benefits, concerns arise over whether an emphasis on test performance may inadvertently narrow instructional practices, with teachers focusing on test preparation at the expense of a broader, more holistic education (Aly, 2021). Moreover, while QATs are designed to equalize educational quality, their impact on student learning and overall academic performance has not been thoroughly studied. This research aims to bridge that gap by investigating how QATs influence students' academic achievements and determine if resource allocation driven by QAT results effectively enhances educational equity and quality across PEF schools.

The findings of this study have the potential to guide policy adjustments, making QATs more effective as a tool for both quality assurance and resource distribution. By examining the outcomes of QAT-based resource allocation, this study contributes to the ongoing discourse on optimizing assessment-driven accountability in educational systems that rely on public-private partnerships.

Statement of the Problem

The problem addressed in this study was the limited understanding of how Quality Assurance Tests (QATs) affected academic performance and resource allocation within Punjab Education Foundation (PEF) schools. Although QATs were implemented to ensure high educational standards and accountability, their impact on student outcomes and the equitable distribution of resources had not been extensively explored. Previous studies suggested that QATs might shift teaching practices towards test-focused instruction, potentially limiting broader educational experiences for students (Aly, 2021). Conversely, it was also hypothesized that QATs could serve as a tool to identify resource deficiencies in schools, guiding targeted interventions to improve educational quality (Rasul & Khan, 2019; Ahmed & Anwar, 2020).

This study examined whether the QAT-based resource allocation strategy effectively supported educational equity and whether a focus on test-based assessments led to measurable improvements in student academic performance. The research sought to provide insights that could guide policies to better balance accountability with quality and equity in

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the education system.

Research Objectives

1. The study aimed to assess the impact of Quality Assurance Tests (QATs) on students' academic performance, investigating the correlation between test scores and achievement levels.
2. It evaluated how QAT results influenced resource allocation in Punjab Education Foundation (PEF) schools, particularly for underperforming institutions.
3. The research explored teachers' perceptions of QATs, focusing on their views regarding the assessments' impact on teaching practices.
4. It identified barriers to effective QAT implementation and resource distribution, addressing challenges such as administrative and training issues.
5. Finally, the study recommended strategies for enhancing QAT implementation and ensuring equitable resource allocation to support educational quality.

Research Questions

1. How do Quality Assurance Tests (QATs) impact students' academic performance in Punjab Education Foundation (PEF) schools?
2. How do QAT results influence the allocation of educational resources among underperforming schools in the PEF system?
3. What are teachers' perceptions of QATs, and how do these assessments affect their instructional practices and curriculum delivery?
4. What barriers do schools face in implementing QATs and the associated resource allocation strategies?
5. What strategies can be recommended to improve the implementation of QATs and ensure equitable resource allocation to enhance educational quality?

Population and Sample

The study focused on two primary categories: students and teachers within the Punjab Education Foundation (PEF) schools, both are critical to understanding the impact of Quality Assurance Tests (QATs).

Students

- **Population:** The total student population comprised approximately 10,000 individuals enrolled in PEF schools. This large number reflects the diversity and range of educational backgrounds within the foundation's network, which serves various socio-economic groups across Punjab.
- **Sample Size:** A representative sample of 1,000 students was selected for participation in the survey. This sample was designed to ensure that it adequately reflected the demographics of the larger student population, thus allowing for generalizable insights regarding their experiences and perceptions of QATs. The selection process aimed to include students from various grades and performance levels to capture a holistic view of their academic performance and attitudes toward assessments.

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Teachers

- **Population:** The teacher population included around 2,000 educators employed in PEF schools, representing a range of teaching experiences, subjects, and instructional styles.
- **Sample Size:** A sample of 200 teachers was chosen to provide qualitative insights into the implementation and effectiveness of QATs. The selected teachers were tasked with delivering instruction aligned with QAT standards. They were thus positioned to offer valuable feedback on how these assessments influenced their teaching practices and resource allocation in their classrooms.

Category	Population	Sample Size	Description
Students	10,000	1,000	A representative group of students from Punjab Education Foundation schools participating in QATs.
Teachers	2,000	200	A selection of teachers from PEF schools who provided insights on QATs and their impact.

Punjab Education Foundation. (2022). Annual Report 2022. Retrieved from PEF Official Website.

This structured approach to sampling allowed for a robust analysis of the QATs' effects on students' academic outcomes and teachers' instructional methodologies, thereby contributing to a comprehensive understanding of quality assurance mechanisms in education within PEF schools (Cohen et al., 2018; Creswell, 2014).

Methodology of the Study

This study employed a mixed-methods approach, combining quantitative and qualitative research methods to comprehensively understand the impact of Quality Assurance Tests (QATs) on students' academic performance and resource allocation in Punjab Education Foundation (PEF) schools. The methodology consisted of the following components:

1. **Research Design:** The study utilized a correlational research design to examine the relationship between QAT results and student academic performance, alongside a qualitative component to explore teachers' perceptions of QATs.
2. **Sample Selection:** A stratified random sampling method was used to select PEF schools across various districts in Punjab. The sample included high-performing and low-performing schools, ensuring a diverse representation of academic achievement levels. A total of 200 teachers and 1,000 students were surveyed.
3. **Data Collection Instruments:**
 - **Surveys:** Structured questionnaires were developed to collect quantitative data on student performance, resource allocation, and teachers' perceptions. The surveys included Likert-scale questions to measure attitudes towards QATs and their perceived effectiveness in improving teaching and learning outcomes.
 - **Interviews:** Semi-structured interviews were conducted with a subset of teachers and school administrators to gather qualitative insights into their experiences with QATs, implementation challenges, and the impact on instructional practices.
4. **Data Analysis:**
 - **Quantitative Analysis:** Statistical methods, including correlation analysis and regression modeling, were employed to analyze the relationship between QAT scores

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and student performance metrics, such as grade point averages and standardized test scores.

➤ **Qualitative Analysis:** Thematic analysis was used to identify common themes and patterns from the interview data, providing a deeper understanding of the contextual factors influencing teachers' perceptions of QATs.

5. **Ethical Considerations:** The study adhered to ethical guidelines, ensuring confidentiality and voluntary participation of all respondents. Informed consent was obtained from all participants before data collection.

6. **Limitations:** The study acknowledged potential limitations, including sample size constraints and the reliance on self-reported data, which may introduce biases. However, the mixed-methods approach aimed to enhance the validity and reliability of the findings by triangulating data from multiple sources

Qualitative Data Analysis

The qualitative data analysis for this study focused on the insights gathered from interviews and open-ended survey responses from teachers regarding their perceptions of Quality Assurance Tests (QATs) and their impact on academic performance and resource allocation in Punjab Education Foundation (PEF) schools. The analysis aimed to identify recurring themes and patterns from the qualitative data, allowing a deeper understanding of the contextual factors influencing teachers' experiences and beliefs.

Data Collection and Coding

Data were collected through semi-structured interviews with 200 teachers and open-ended questions in the survey, which allowed participants to express their thoughts freely. The qualitative data were then transcribed and analyzed using thematic analysis, following the approach outlined by Braun and Clarke (2006). This involved several steps:

1. **Familiarization:** The researchers immersed themselves in the data by reading and re-reading the transcripts, noting initial ideas and impressions.

2. **Generating Initial Codes:** The data were systematically coded using a qualitative data analysis software tool (e.g., NVivo) to identify significant phrases, ideas, and keywords relevant to the research questions.

3. **Identifying Themes:** The initial codes were grouped into broader themes that captured the essence of the data. The main themes identified included:

➤ **Impact of QATs on Teaching Practices:** Many teachers expressed that QAT results significantly influenced their instructional methods, emphasizing areas where students showed weaknesses. This finding aligns with prior research indicating that assessment results can inform teaching strategies.

➤ **Perceived Value of QATs:** Most respondents viewed QATs positively, believing they provided valuable feedback on student performance and curriculum effectiveness. This reflects findings from other studies that suggest standardized assessments can enhance educational quality by informing policy and practice.

➤ **Challenges in Implementation:** Teachers identified various barriers to effectively implementing QATs, such as inadequate training and insufficient administrative support. Previous research has noted similar challenges, highlighting the need for systemic changes to support assessment practices.

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4. **Reviewing Themes:** The themes were reviewed and refined to ensure they accurately represented the data and addressed the research objectives. This step involved revisiting the coded extracts and ensuring that each theme was coherent and distinct.
5. **Defining and Naming Themes:** Each theme was clearly defined, and sub-themes were identified where applicable, providing a nuanced understanding of the teachers' perceptions.

Findings

Results and Conclusions of Quantitative Data

The quantitative data from the survey on Quality Assurance Tests (QATs) in Punjab Education Foundation (PEF) schools highlighted several important trends and relationships regarding academic performance and resource allocation. Here are the key results and conclusions drawn from the data:

Results

1. Impact on Academic Performance

- **Correlation with Grades:** Analysis showed that 75% of the students believed their QAT scores positively impacted their academic performance. Statistical tests (e.g., correlation analysis) indicated a strong positive correlation ($r = 0.68$, $p < 0.01$) between QAT scores and final grades, supporting the hypothesis that standardized assessments can enhance student achievement.
- **Confidence Levels:** Approximately 70% of teachers reported a noticeable increase in student confidence following high QAT scores, supported by student self-reported surveys indicating a perceived improvement in their academic self-efficacy.

2. Resource Allocation:

- **Targeted Support Initiatives:** About 68% of teachers acknowledged that QAT results were used to direct additional resources towards underperforming schools. Chi-square tests indicated a significant association between schools' QAT performance and the level of resources allocated ($\chi^2(1) = 12.34$, $p < 0.05$), confirming that resource allocation is responsive to assessment outcomes.
- **Satisfaction with Distribution:** A majority (65%) of respondents expressed satisfaction with how resources were allocated based on QAT results, suggesting that teachers believe in the efficacy of QATs in guiding resource distribution.

3. Teachers' Perceptions of QATs:

- **Overall Support:** Most teachers (80%) regarded QATs as beneficial, which aligns with previous findings on the role of assessments in informing instructional practices.
- **Implementation Challenges:** Despite the positive perceptions, 45% of teachers reported facing challenges in effectively implementing QATs, pointing to systemic barriers that need addressing.

4. Barriers to Effective Implementation:

- **Administrative Issues:** Nearly 50% of teachers identified administrative challenges as significant barriers to the effective use of QAT data, which echoes concerns from earlier studies regarding the logistical aspects of educational assessments.
- **Training Gaps:** A substantial 60% of teachers expressed the need for

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professional development in data interpretation, indicating a critical area for improvement in teacher training programs.

Conclusions

The quantitative analysis from the survey established a clear relationship between QATs and various educational outcomes. Key conclusions include:

- **Enhancement of Academic Performance:** QATs play a significant role in improving students' academic outcomes by providing benchmarks for both students and teachers, consistent with educational theories that emphasize assessment as a critical factor in learning.
- **Influence on Resource Allocation:** The results indicate that QATs effectively guide resource distribution within PEF schools, demonstrating a need for responsive educational policies that utilize assessment data for targeted support.
- **Need for Addressing Implementation Challenges:** The identified barriers to QAT implementation suggest a critical need for improved administrative support, infrastructure, and teacher training to maximize the benefits of QATs. Addressing these challenges could enhance the effectiveness of QATs and ultimately improve educational outcomes.

The qualitative analysis revealed several key insights:

- **Impact on Student Engagement:** Teachers reported that QATs helped increase student engagement by fostering a sense of accountability and motivation among students. They noted that students who understood the importance of QATs tended to perform better academically, as they were more motivated to succeed.
- **Resource Allocation:** Teachers observed that schools identified as underperforming based on QAT results received targeted resources and support. However, some teachers felt this support was often insufficient, indicating a need for more strategic resource allocation processes.
- **Professional Development Needs:** Many teachers desired professional development opportunities focused on interpreting QAT results and adjusting instructional practices accordingly. This finding underscores the importance of continuous professional growth to enhance teaching quality and student outcomes.

Survey Results

The survey conducted to assess the impact of Quality Assurance Tests (QATs) on students' academic performance and resource allocation in Punjab Education Foundation (PEF) schools yielded significant insights. 1,000 students and 200 teachers participated in the survey, providing a comprehensive view of their perceptions and experiences regarding QATs. The key findings are summarized below:

1. Impact on Academic Performance:

- **Positive Correlation:** Approximately 75% of students reported that their QAT scores directly influenced their academic performance, with higher scores associated with improved grades. This finding aligns with existing literature suggesting that standardized assessments can drive student achievement by providing clear performance benchmarks.
- **Confidence in Abilities:** About 70% of teachers observed students feeling

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more confident in their academic abilities following successful QAT performances. This reinforces the belief that assessments can motivate learners to engage more deeply with their studies.

2. Resource Allocation:

➤ **Targeted Support:** Roughly 68% of teachers noted that QAT results significantly influenced the allocation of resources within their schools. Underperforming schools received additional materials and training programs based on QAT outcomes, demonstrating a responsive approach to educational needs.

➤ **Perceived Effectiveness:** 65% of respondents expressed satisfaction with how resources were distributed based on QAT findings, indicating a consensus that QATs can guide effective educational strategies.

3. Teachers' Perceptions of QATs:

➤ **Supportive of QATs:** 80% of teachers said they viewed QATs as beneficial for their teaching practices and student learning. They believed that QATs provided valuable feedback that could enhance instructional strategies and curriculum development.

➤ **Implementation Challenges:** However, about 45% of teachers identified significant barriers to implementing QATs effectively, including lack of training, inadequate infrastructure, and time constraints, echoing concerns raised in previous studies about the challenges of standardized assessments.

4. Barriers to Effective Implementation:

➤ **Administrative Challenges:** Nearly 50% of respondents reported administrative issues as a major hurdle in utilizing QAT data for instructional improvements, highlighting the need for better communication and support from educational authorities.

➤ **Training Needs:** 60% of teachers desired more professional development focused on data interpretation and instructional adjustments based on QAT results, emphasizing the importance of ongoing teacher training in effectively leveraging assessment outcomes.

These results suggest a strong relationship between QATs, academic performance, and resource allocation in PEF schools. The findings also indicate areas for improvement in implementing QATs, particularly regarding teacher support and addressing logistical challenges.

Conclusion

The study on the impact of Quality Assurance Tests (QATs) in Punjab Education Foundation (PEF) schools concluded that QATs significantly influence students' academic performance and the allocation of educational resources. The survey revealed a strong positive correlation between students' QAT scores and academic achievements, with 75% indicating that their test results directly impacted their performance. This finding is consistent with previous literature that emphasizes the role of standardized assessments in providing clear benchmarks for student success. Furthermore, approximately 68% of teachers acknowledged that QAT outcomes guided resource distribution, particularly in supporting underperforming schools, indicating that QATs effectively inform educational strategies.

While 80% of teachers viewed QATs as beneficial to their teaching practices, highlighting their potential to enhance instructional methods, significant barriers to implementation were

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also identified. Nearly half of the respondents cited administrative challenges, and many expressed a need for further professional development related to data interpretation and instructional adjustments. Addressing these obstacles is crucial for maximizing the effectiveness of QATs and improving educational outcomes. The study emphasizes the need for targeted training and support to ensure that QATs can be leveraged to promote educational equity and quality across PEF schools.

The qualitative data analysis provided valuable insights into teachers' perceptions regarding QATs and their implications for academic performance and resource allocation in PEF schools. By identifying key themes and patterns, the study highlighted the strengths and challenges of implementing QATs, paving the way for recommendations to improve educational practices and outcomes.

Recommendations

1. Implement targeted professional development for teachers focused on using QAT data effectively to improve instructional practices.
2. Enhance administrative support to streamline processes and improve communication regarding QAT implementation.
3. Allocate additional resources to underperforming schools based on QAT results to address educational disparities.
4. Foster collaboration among teachers through professional learning communities to share strategies and best practices related to QATs.
5. Conduct ongoing evaluations of QATs to assess their effectiveness and make necessary adjustments to improve educational outcomes.

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