

Teachers', Parents', and Students' Views on Learning Changes for 21st Century Skills Development in Elementary Education

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Abstract

This research aims to explore the perspectives of teachers, parents, and community stakeholders regarding the implementation of elementary education reform focused on developing twenty-first-century skills, specifically critical thinking, collaboration, and digital literacy. Utilizing a mixed-methods approach, combining a qualitative case study with quantitative survey data, the study examines factors influencing stakeholder support and resistance. The key results show that effective leadership scored the highest with an average of 4.2, while resource limitations and resistance to change were the most frequently cited challenges, with survey support averaging 3.4. Thematic analysis identified the importance of cultural sensitivity, adaptability, and continuous evaluation as critical to successful implementation. These findings imply that fostering strong leadership, inclusive stakeholder engagement, and ongoing evaluation are essential for overcoming obstacles and ensuring sustainable reform, ultimately better preparing students to thrive in the modern world.

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INTRODUCTION

The modern world's rapid development has created new demands for education, especially in elementary schools, to prepare students with essential twenty-first-century skills. These skills, including critical thinking, creativity, collaboration, and digital literacy, are crucial for students to succeed in a competitive and technology-driven society (O.E.C.D., 2020). As a result, educational institutions are required to reform traditional teaching methods and curricula to better accommodate these needs (Scott & Husain, 2021). Despite the urgency, many schools face challenges such as resistance to change, limited resources, and varying levels of readiness among teachers, parents, and students (Wang et al., 2023). Understanding stakeholder perspectives is therefore vital to designing effective and sustainable educational transformations.

Teachers, parents, and students each hold unique views and experiences that influence how educational changes are received and implemented. Teachers are at the forefront of pedagogical innovation, but their perceptions of these changes greatly determine their willingness to adapt and innovate (R. Knight, 2020). Parents often influence the motivation and engagement of students, and their attitudes can either support or hinder the process (Kong & Wang, 2021). Students' responses and perceptions are equally important, as they are the direct beneficiaries and participants in the learning process (Almahasees et al., 2021). Examining these perspectives collectively can reveal the social and cultural dynamics affecting the success of curriculum reforms that aim to enhance twenty-first-century skills.

While existing research has explored various aspects of curriculum innovation and technology integration, much of it tends to focus on quantitative data or limited stakeholder groups (Mielikäinen, 2022). Few studies have investigated the comprehensive viewpoints of teachers, parents, and students within the same setting, especially during ongoing transformation processes. Additionally, most research is conducted in contexts with abundant resources, which may not reflect the realities of many schools facing socio-economic constraints (Adera, 2025; M. Knight & Cooper, 2019). Additionally, most research is conducted in contexts with abundant resources, which may not reflect the realities of many schools facing socio-economic constraints (Murrisk dkk., 2023). Thus, it remains essential to conduct in-depth, qualitative case studies that explore the nuanced perceptions and experiences of all stakeholders involved in these educational reforms.

This study aims to fill this gap by providing an in-depth case analysis of how teachers, parents, and students perceive and face the changes in elementary learning aimed at developing twenty-first-century skills. Using qualitative methods, the research will focus on gathering detailed insights into stakeholders' attitudes, beliefs, and challenges encountered during the transformation. The findings are expected to provide valuable practical insights into stakeholder engagement and reveal potential barriers and facilitators within the local context. Ultimately, this research will contribute to the development of more inclusive and effective strategies for implementing educational reforms in elementary schools.

METHOD

This research employs a qualitative case study at elementary school in Bandung, Jawa Barat approach to explore the perspectives of teachers, parents, and students regarding the changes in elementary learning aimed at developing twenty-first-century skills include creative thinking, critical thinking, collaboration, and communication. The research design follows a descriptive and interpretive framework to gain in-depth understanding of stakeholders' perceptions and experiences (Creswell, 2017). The case study method is suitable for capturing complex social phenomena within real-life contexts, especially in educational settings. The overall procedure of this study is presented in the following algorithm to ensure systematic data collection and analysis:

Research Procedure Algorithm:

1. Identify and select a school that has undergone recent educational reforms targeting twenty-first-century skills include creative thinking, critical thinking, collaboration, and communication.
2. Develop data collection instruments, including semi-structured interview guides and observation checklists based on literature and research objectives.

3. Obtain ethical approval from relevant authorities and informed consent from all participants.
4. Conduct initial observations in the school environment to understand the context of the reform process.
5. Recruit participants through purposive sampling to include diverse perspectives of teachers, parents, and students.
6. Conduct semi-structured interviews with participants individually, recording and transcribing the responses.
7. Observe classroom interactions and activities that reflect the implementation of the new pedagogical approaches.
8. Collect relevant documents such as lesson plans, curricula, and communication materials related to the learning changes.
9. Analyze data through thematic coding, identifying patterns, similarities, and differences among stakeholder perspectives.
10. Validate findings through member checks and triangulation to ensure trustworthiness (Creswell, 2017).



Figure 1. Proces Analys Thematic

Data Acquisition

Data was gathered through a combination of methods to enhance credibility and depth of understanding. Semi-structured interviews were chosen to allow flexibility in exploring participants' perceptions while ensuring coverage of key (Adeoye-Olatunde & Olenik, 2021). Observation sessions provided contextual insights into how changes were implemented in actual classroom settings. Additionally, relevant documents and artifacts were reviewed to triangulate and enrich the data collected through interviews and observations. All interviews and observations were recorded and transcribed verbatim, then coded thematically using NVivo software to identify salient themes (Miles & Huberman, 1994)).

Data Analysis

Thematic analysis was employed to interpret the qualitative data, Clarke & Braun (2017) six-phase process. This involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. This approach allows a nuanced understanding of stakeholder perceptions and highlights areas of consensus and divergence regarding the educational reforms (Al-Thani, 2024).

Throughout the analysis process, peer debriefing and member validation techniques were applied to enhance validity. The findings were then synthesized to answer the research questions and support the discussion of the perspectives involved.

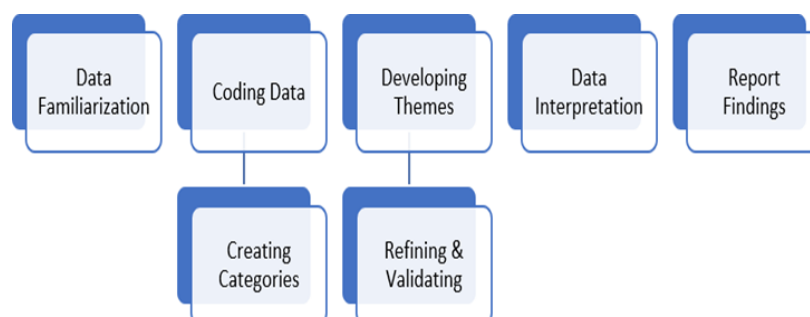


Figure 2. Proces Analys Thematic

RESULTS AND DISCUSSION

Results

The data collected from the qualitative interviews, observations, and document reviews reveal several key themes related to stakeholder perspectives on the changes in elementary learning aimed at developing twenty-first-century skills. The analysis indicates that teachers generally perceive the reforms as necessary but face significant challenges in adapting their pedagogical practices. Most teachers expressed positive attitudes toward integrating critical thinking and collaborative activities but noted a lack of sufficient training and resources as barriers. Parents demonstrated mixed reactions; while some supported the new approaches, others expressed concerns about the adequacy of digital tools and the impact on traditional learning methods. Students showed increased engagement and motivation when participating in interactive activities, although some struggled with self-regulation in digital environments.

This study employed a quantitative approach through a Likert-scale survey among 40 participants, consisting of 20 teachers, 10 parents, and 10 students. The primary purpose of the survey was to gather baseline data and serve as one of the triangulation methods to complement qualitative findings, rather than an exploratory analysis on its own. Responses were rated from 1 (Strongly Disagree) to 5 (Strongly Agree), with the data summarized in Table 1. Results indicated that teachers' perceptions of their preparedness to implement new pedagogies were moderate, with a mean score of 3.2. In contrast, teachers' perceptions of students' engagement scored higher, with a mean of 4.1, suggesting a generally positive outlook. Parents' perceptions of the effectiveness of the reforms were moderately optimistic, with a mean of 3.5. Notably, students demonstrated high confidence in using digital tools, with a mean score of 4.3, reflecting strong receptiveness to technology-based learning.

In Table 1 also illustrates the responses of stakeholder groups to key aspects of the reform process namely pedagogical readiness, student engagement, and perceived effectiveness. The Table shows that while teachers are somewhat cautious, students and parents exhibit relatively positive attitudes toward the ongoing changes. Furthermore, the thematic analysis identified four major themes: perceived benefits, implementation challenges, resource availability, and stakeholder support. Notably, many teachers emphasized the importance of professional

development, while parents focused on infrastructural support, and students emphasized engagement and interest in digital learning activities.

Table 1. Participants' Responses to Key Aspects of Educational Reform

Stakeholder Group	Aspect	Mean score	Interpretation	Comments
Teachers	Pedagogical Preparedness for New Strategies	3.2	Moderately prepared, need for more training	Many expressed needs for workshops and coaching
	Confidence in Using Digital Tools	4.1	High confidence, motivated to adapt	Familiarity with basic tech
	Perception of Student Engagement	4.0	Positive, observed increased student participation	Teachers noted more active involvement during lessons
Parents	Support for Learning Changes	3.5	Slightly supportive, cautious about implementation	Some expressed concern about digital resource availability
	Perceived Impact on Student Learning	3.6	Moderate, optimistic but skeptical	Parents hope for measurable improvements
	Confidence in School Preparedness	3.4	Cautiously optimistic	Some worry about infrastructural support
Students	Engagement in Digital Learning Activities	4.3	Very engaged and interest high	Students reported enjoyment of interactive tasks
	Self-regulation in Learning	3.8	Moderate, needs guidance	Some students still need assistance managing time
	Confidence in Skill Development	4.2	Confident in acquiring new skills	Students feel more capable with new approaches

Although the findings of this study provide an overview of stakeholder perceptions and experiences regarding the changes in elementary learning, various underlying factors and social contexts also influence the success and challenges encountered. Therefore, it is essential to interpret these results more comprehensively and critically to understand the key drivers and barriers affecting the implementation of educational innovations. Consequently, the following discussion aims to analyze these findings in depth, linking them to relevant theories, previous studies, and practical implications. This approach is intended to offer a more complete understanding of the dynamics of educational change and strategic pathways moving forward.

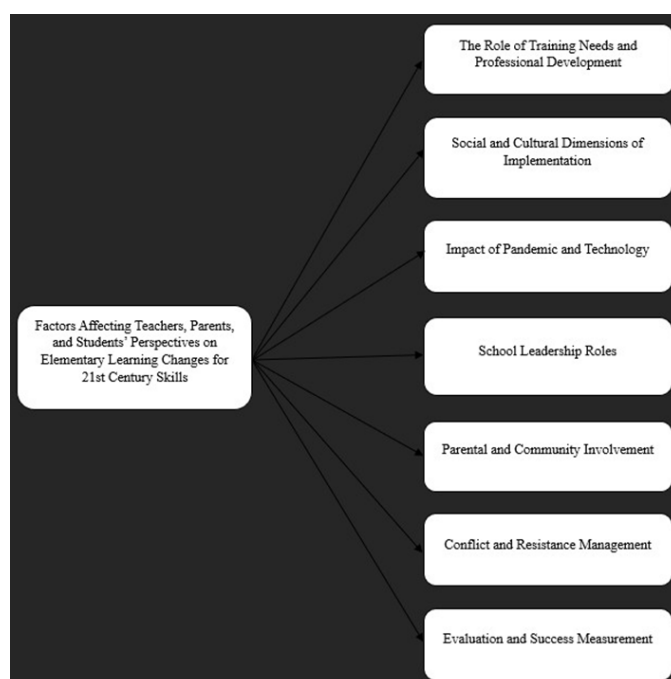


Figure 3. Factors Affecting Teachers, Parents, and Students' Perspectives on Elementary Learning Changes for 21st Century Skills

Discussion

The role of Training Needs and Professional Development

Effective professional development is crucial for equipping teachers with the necessary skills to adapt to rapid educational reforms, especially those aimed at fostering twenty-first-century skills. Recent studies emphasize that targeted training enhances teachers' confidence and instructional competence, thereby fostering a more innovative learning environment (Adera, 2025). Teachers often highlight that without ongoing professional development, the integration of new pedagogies remains superficial and inconsistent. As one teacher mentioned, "Professional training has helped me understand how to incorporate critical thinking into my lessons effectively," illustrating the direct impact of such programs. Therefore, addressing specific training needs is fundamental in ensuring teachers are adequately prepared to implement curriculum changes effectively.

Furthermore, the quality of professional development significantly influences the sustainability of pedagogical innovations (Nurmalina & Suhartono, 2021). Studies show that continuous, contextualized training positively affects teachers' attitudes and their ability to implement innovative teaching strategies (Geletu, 2022). Headmasters often stress that professional development should be ongoing and tailored to real classroom challenges to maximize its effectiveness. For example, a principal noted, "Our teachers' skills improved dramatically after targeted workshops focused on digital tools and collaborative methods." This underscores that well-designed and sustained training initiatives serve as a catalyst for meaningful change in teaching practices, ultimately benefiting student outcomes.

Nevertheless, gaps in training programs often hinder their success, as many educators report a lack of alignment between training content and classroom realities (Stevenson et al., 2020). Teachers emphasize that training must be practical, with immediate applicability, to foster genuine pedagogical change. A teacher respondent stated, "Many workshops provide theoretical

knowledge but lack practical strategies that I can use tomorrow,” reflecting the disconnect between theory and practice. Similarly, school leaders reiterate that identifying specific professional development needs should be a priority for policymakers to ensure resource allocation is effective. Overall, professional development, when aligned with actual classroom needs, plays an indispensable role in empowering teachers to lead successful educational transformations.

Social and Cultural Dimensions of Implementation

The success of educational change initiatives is profoundly influenced by the social and cultural context within which they are implemented. According to recent research, culturally ingrained beliefs and societal norms often shape teachers' and parents' perceptions of reform, either facilitating or impeding progress (Alam & Mohanty, 2023). For instance, a teacher noted, “In our community, traditional teaching methods are deeply rooted, making it difficult to fully embrace new pedagogies.” Leaders must therefore consider local cultural values and social dynamics to ensure that reforms are culturally sensitive and more readily accepted. Ignoring these dimensions risks resistance and superficial compliance, undermining the effectiveness of educational innovations.

The social fabric of the school community plays a vital role in both supporting and challenging the implementation process. Studies highlight that strong social networks and trust among teachers, parents, and school leaders foster shared understanding and collective ownership of reforms (Nadeem, 2024). A principal emphasized, “When parents trust the school’s vision, they are more supportive of changes, which helps us move forward smoothly.” Conversely, cultural norms that emphasize hierarchy and conformity may inhibit open dialogue, thus constraining innovative practices. Understanding and navigating these social and cultural factors are essential for creating an inclusive environment that encourages stakeholder engagement and shared responsibility.

Moreover, cultural perceptions around education, authority, and learner roles can influence stakeholder involvement and attitudes towards reform efforts. As observed by a teacher, “Some parents prefer traditional grades and examinations, which makes it harder to promote skills like critical thinking and collaboration.” This highlights the importance of culturally responsive strategies that bridge traditional values and modern pedagogies. Research supports that culturally aligned communication and community participation increase acceptance and sustainability of reforms (Ishola et al., 2024). Addressing these social and cultural dimensions ensures that educational reforms are not only implemented but also deeply embedded within the local context, leading to more effective and enduring change.

Impact of Pandemic and Technology

The COVID-19 pandemic has acted as a catalyst for the acceleration of educational technology integration, fundamentally transforming traditional classroom practices (Christopoulos & Sprangers, 2021). During this period, many teachers reported rapid shifts to online and hybrid learning models, often without sufficient preparation or training (Huang et al., 2021). A teacher shared, “The pandemic forced us to rethink our teaching strategies overnight, and digital tools became our main resource.” Headmasters also emphasized that the crisis highlighted both the potential and the limitations of technology, such as issues related to digital inequity. Consequently, the pandemic’s impact underscores the necessity for schools to build resilient and adaptable digital infrastructure for sustained educational development.

Furthermore, the increased reliance on technology has reshaped stakeholder roles and interactions within the educational ecosystem. Studies indicate that digital platforms facilitate greater parent involvement through real-time communication and remote monitoring of student progress (Hsu & Chen, 2023). A principal noted, “Technology has allowed parents to become more engaged in their child's learning, which was challenging before.” However, challenges such as digital divide, limited access to devices, and lack of digital literacy have created gaps that hinder equitable participation. Teachers also observed that digital environments demand new pedagogical skills, such as managing virtual engagement and fostering collaboration online. Hence, technology's impact extends beyond mere usability; it influences the entire pedagogical, social, and relational landscape of education.

Finally, the ongoing integration of technology in response to pandemic-related disruptions presents both opportunities and challenges for sustainable reform. Recent research emphasizes that effective technology use can enhance personalized learning, foster autonomy, and improve student outcomes (Porubin, 2024). Nonetheless, many stakeholders express concern over the potential for superficial adoption and digital fatigue, which can undermine long-term benefits (Marsh et al., 2022). As one school leader stated, “We must go beyond just using digital tools; we need to ensure meaningful integration aligned with our educational goals.” Therefore, the pandemic's legacy urges educational institutions to develop strategic, inclusive, and pedagogically sound approaches to technology implementation, ensuring resilient learning environments in post-pandemic times.

School Leadership Roles

Effective school leadership is paramount in guiding educational reforms and ensuring successful implementation of new pedagogical practices (Ghamrawi, 2023). Leaders, particularly principals, serve as change agents who influence both staff and community perceptions, fostering a culture of innovation and adaptation (Acton, 2021). A headmaster shared, “Our role is to support, motivate, and provide resources for teachers to experiment with new teaching strategies.” Fostering collaborative decision-making and professional development are central components of transformational leadership that inspire shared vision. Research indicates that strong leadership correlates positively with greater teacher engagement and implementation fidelity of curriculum reforms.

Additionally, school leaders play a crucial role in managing the challenges of resource allocation, stakeholder communication, and maintaining morale during periods of change (Chatzipanagiotou & Katsarou, 2023). Leaders who demonstrate adaptability and clarity in vision can reduce resistance among teachers and parents, facilitating smoother transitions (Khater, 2024). Teachers expressed that leadership support in training and infrastructural development significantly increased their confidence and willingness to innovate. As one teacher noted, “Our principal's active guidance and understanding made me feel supported when I struggled with integrating new digital tools.” Therefore, effective leadership not only influences the operational aspects but also shapes the emotional climate that sustains reform efforts.

Furthermore, instructional leadership goes beyond administration to encompass pedagogical guidance and curriculum oversight. Leaders are responsible for setting high expectations, monitoring progress, and fostering a climate of continuous professional growth (Kilag & Sasan, 2023). Studies have shown that school principals who prioritize instructional

quality and foster innovation can noticeably improve student learning outcomes (Meng, 2023). A school director remarked, “Our focus is on creating a learning environment where teachers feel empowered to try and fail, learn, and succeed.” Consequently, the active involvement and strategic vision of school leaders are indispensable for embedding change within the school culture and achieving sustainable improvement.

Parental and Community Involvement

Active parental and community engagement is essential for the successful implementation and sustainability of educational reforms aimed at fostering twenty-first-century skills. Recent research emphasizes that when parents participate actively in school activities and decision-making, student motivation and achievement increase significantly (Yulianti et al., 2022). A teacher remarked, “When parents are involved, they not only support learning at home but also become allies in encouraging new teaching methods.” Community involvement broadens the resource base and fosters social accountability, which reinforces educational goals. Therefore, establishing strong partnerships with parents and local entities is vital to creating an inclusive, supportive learning environment.

Moreover, the level of involvement from parents and community members often depends on effective communication and trust-building strategies adopted by schools. Studies highlight that transparent information sharing and regular engagement foster positive attitudes and reduce resistance to change (Zainab et al., 2022). A principal noted, “We hold frequent meetings with parents and community stakeholders to ensure they understand and support the curriculum changes.” Conversely, in communities where trust is low or cultural norms discourage active participation, reform efforts may encounter resistance or apathy. As such, schools must develop culturally sensitive engagement strategies that address local values and concerns to enhance inclusiveness.

Finally, community involvement extends beyond passive support to active collaboration in enriching the educational process. Research shows that community-based projects, local volunteers, and business partnerships contribute to contextualizing learning and providing additional resources (Karasik, 2020). A school principal shared, “Our community partners help us provide real-world learning opportunities that align with our goals for developing twenty-first-century skills.” Engaging local stakeholders in curriculum activities fosters a sense of shared responsibility and ownership over educational outcomes. Consequently, fostering a strong relationship between schools, parents, and the wider community is fundamental for creating resilient, adaptive, and innovative educational environments.

Conflict and Resistance Management

Educational reform initiatives often face resistance from various stakeholders due to entrenched beliefs, cultural norms, and fear of change (Nwisagbo et al., 2025). Teachers and parents may perceive new pedagogical approaches as threatening to established routines and authority structures, leading to conflict. A headmaster shared, “Resistance mainly arises from uncertainty; some teachers fear that they cannot keep up with technological demands.” Effective management of such resistance requires transparent communication and participatory decision-making, fostering a sense of ownership among stakeholders (Yadav et al., 2020). Addressing the root causes of apprehension helps minimize opposition and encourages constructive dialogue.

Research indicates that conflicts can be transformed into opportunities for growth when managed proactively and empathetically (Raina, 2022). Conflict resolution strategies, such as collaborative problem-solving, active listening, and consensus-building, are proven to enhance stakeholder commitment (Bodunde et al., 2024). A teacher noted, “When conflicts are addressed openly, it improves trust and teamwork among staff members.” Conversely, neglecting resistance often results in stagnation, regression, and the eventual failure of reform efforts. Therefore, leadership plays a crucial role in mediating conflicts and creating an inclusive environment where divergent viewpoints are valued and constructively integrated.

Furthermore, long-term success depends on establishing a culture of continuous feedback and adaptation to emerging challenges. Studies emphasize the importance of maintaining open channels for communication and conflict management training to prevent escalation (Adham, 2023). A principal highlighted, “We hold regular meetings to listen to concerns, clarify misunderstandings, and jointly develop workable solutions.” Resistance management is not merely about control but about fostering shared understanding and mutual respect. Ultimately, proactive conflict resolution enhances the resilience of school reform processes and supports sustainable educational change.

Evaluation and Success Measurement

Effective evaluation is essential to determine the extent to which educational reforms achieve their intended outcomes, particularly in developing twenty-first-century skills. Recent studies underscore that multi-dimensional assessment approaches, encompassing formative and summative evaluations, provide a comprehensive view of progress (Finkelstein et al., 2022). A teacher noted, “Continuous assessment helps us understand what students are genuinely learning and where adjustments are needed.” School leaders emphasize that success measurement should go beyond exam scores to include critical thinking, collaboration, and digital literacy. Hence, robust evaluation systems are fundamental to guiding ongoing improvements and ensuring the sustainability of reform initiatives.

Furthermore, success measurement requires clear, measurable indicators aligned with specific educational goals and stakeholder expectations (Gillen, 2024). The use of innovative assessment tools, such as portfolios, project-based tasks, and digital platforms, allows for capturing diverse competencies (Devaki, 2024). A principal shared, “We track not only academic achievement but also skills like problem-solving and teamwork through rubrics and portfolios.” Regular data collection and analysis enable educators to identify areas of strength and weakness and adjust strategies accordingly. Ultimately, a well-designed evaluation framework is key to validating reform efforts and motivating stakeholders for continuous engagement.

Lastly, the key to sustainable success lies in using evaluation results for reflective practice and strategic planning. Studies highlight that fostering a culture of feedback and learning from both successes and setbacks leads to ongoing progress (Ahsan, 2025). As one headmaster expressed, “We review our outcomes regularly and involve teachers, parents, and students in reflecting on what works and what needs improvement.” Comprehensive evaluation must be transparent and participatory to promote shared ownership of educational goals. Through sustained evaluation and adaptive strategies, schools can ensure long-term achievement of reform objectives and prepare students for the demands of the modern world Results.

CONCLUSION

The findings of this study indicate that the implementation of elementary learning reforms aimed at developing twenty-first-century skills is significantly influenced by various stakeholder perspectives, including teachers, parents, school leaders, and the community. The qualitative data reveal that teachers generally perceive these reforms as necessary but face challenges related to inadequate training, resources, and cultural resistance. Meanwhile, parents and community members display varied attitudes, where trust and effective communication emerge as critical factors affecting their support for ongoing reforms. Quantitative responses support these insights; for example, teachers' confidence in adopting new pedagogies scored a mean of 3.2, reflecting moderate preparedness, whereas students' engagement in digital activities scored a high mean of 4.3, indicating increased motivation and participation.

The analysis demonstrates that leadership plays a pivotal role in mediating conflicts and managing resistance, with school principals acting as catalysts for fostering positive attitudes and collective ownership of change. Leaders who prioritize ongoing professional development, transparent communication, and inclusive decision-making are more successful in reducing resistance and promoting stakeholder buy-in. Additionally, the social and cultural dimensions, such as community norms and cultural values, profoundly affect the acceptance and integration of new pedagogies, underscoring the importance of culturally responsive strategies. The impact of the COVID-19 pandemic further accelerated the adoption of educational technology, exposing both opportunities for innovation and disparities in access, thus requiring resilient and equitable technological infrastructure.

Evaluation systems that utilize multi-dimensional assessment methods, including formative, summative, and digital portfolios, are crucial for accurately measuring the success of reforms. The data highlights that success should not solely be judged by academic achievement but also by improvements in critical thinking, collaboration, and digital literacy, which are core twenty-first-century skills. Regular evaluation, transparency in reporting, and participatory reflection enable continuous improvement and foster a culture of learning among teachers, students, and stakeholders. The overall results suggest that sustainable reform is attainable when driven by strategic leadership, culturally sensitive engagement, and robust evaluation frameworks.

The integration of innovative pedagogies and assessment strategies within elementary education requires a holistic approach that considers the intertwined roles of leadership, stakeholder engagement, cultural context, and continuous evaluation. The results affirm that successful transformation hinges on fostering collaborative environments where teachers, parents, students, and community members work synergistically towards shared educational goals. Moreover, the influence of external factors, such as the COVID-19 pandemic and technological advancements, must be strategically managed to mitigate disparities and maximize opportunities for all learners. To ensure sustainable progress, policymakers and school leaders must prioritize capacity building, culturally responsive practices, and data-driven decision making. Ultimately, a resilient, inclusive, and adaptive educational ecosystem is essential for equipping elementary students with the skills necessary to thrive in the modern world.

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