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Short, Mid, and Long-Term Educational Reform of Primary and Secondary Education in Bangladesh: Leadership Capacity Building of Principals

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Abstract – The capabilities of school principals are essential for implementing educational reform initiatives. Particularly, ethical leadership capability, technology adaptiveness, experiential learning affinity, and networking capability are considered critical for the successful implementation of educational reform in Bangladesh. This work-in-progress paper outlines a mixed method approach to initially develop the scales through focus group studies, refine the scales with a quantitative pilot study, followed by a survey to examine the hypotheses. The study expects to offer short, medium, and long term impact in the educational reform initiatives at school level in Bangladesh.

Keywords – Educational Reform, Capabilities, Experiential Learning, School Reform,

I. INTRODUCTION

In an era of rapid societal change, educational systems in Bangladesh are under pressure to reform and adapt. A major stakeholder in implementing any policy reform is the principals of primary and secondary schools. Their leadership plays a pivotal role in the success or failure of any new educational reform initiative. However, the factors that influence a principal's ability to effectively lead and implement educational reforms remain understudied and poorly understood. There is a void in extant scholarly research on educational reform regarding the capabilities of school principals in Bangladesh. Despite having B.Ed and M.Ed degrees, many principals across the country are often failing to uplift student performance to an international standard. It is essential to thoroughly examine their capabilities to improve leadership qualities in principals.

According to the Bangladesh Bureau of Statistics, there are around 114,539 primary schools of different types and 20960 secondary schools, including some schools with colleges [29]. This statistic does not include colleges that include higher secondary and degree level courses. Based on BSS data, approximately 135,000 school principals are responsible for leading educational institutes through educational reform programs with a team of nearly one million teachers. Therefore, the preparedness and capabilities of principals are essential to achieve the educational reform initiatives of policymakers. The Legatum Prosperity Index ranks countries based on various factors, including education. Bangladesh's ranking of 126 and score of 44.19 in the education pillar in 2023 indicate that the country faces significant challenges in its education sector [26]. These challenges could include low enrollment

rates, inadequate infrastructure, insufficient teacher training, or limited access to quality education. In Bangladesh, schools are governed through a mixture of different school boards and international exam bodies. While there is a plethora of statistical data available on various demographic profiles of Bangladeshi students and teachers, not much is known about the principals.

With this backdrop of the educational situation in Bangladesh, educational reform is considered a priority by all sectors in the country. There are a number of reasons why principals must be prepared for educational reform as they serve as the primary leader who shapes a school's culture, instruction, and performance. Acting as a bridge between policy and practice, a principal ensures effective implementation of reforms [16].

While holding B.Ed and M.Ed degrees provides school principals with foundational knowledge in pedagogy, curriculum design, and educational management, these qualifications alone may not equip them with the leadership capabilities or competencies required to implement educational reform policies. Reform efforts often require principals to be visionary leaders, capable of fostering a culture of innovation and ethical decision-making within schools [12]. Principals must inspire both teachers and students to think critically and creatively—skills that are not always emphasized in traditional education degrees. Again, the integration of technology in education requires principals to have advanced digital literacy and a deep understanding of how technological tools can enhance learning [7]. B.Ed and M.Ed programs may not always focus on cutting-edge technology or provide in-depth training on digital pedagogy, leaving principals ill-prepared to lead schools in an increasingly digital world. Furthermore, principals must possess experiential learning and networking skills to foster an innovative environment that prepares students for future economies. They must have a mindset geared towards continuous improvement, data-driven decision-making, and the ability to respond effectively to external economic, social, and technological changes [9].

For the changing economic, cultural, and technological scenarios, principals need to foster a positive, inclusive school culture by creating an environment of equity, collaboration, and respect, for students from all demographic and economic profiles [39]. Like their counterparts in developed countries, Bangladeshi school principals should utilize data-driven decision-making to monitor student progress, identify areas for improvement,

and in the future, use technologies to personalize learning, enable targeted interventions, and assess new initiatives' effectiveness.

Researching principals' roles in educational reform is essential for several reasons. Effective school leadership is directly linked to improved student achievement and overall school performance, making it crucial to understand how principals can best lead reforms to enhance educational outcomes. As the educational landscape evolves with new challenges, such as technological advancements and changing societal needs, it becomes vital to explore how school leadership can adapt and drive positive change (Lee & Mao, 2023). Acknowledging principals' pivotal role in implementing policy changes and examining their capabilities and attitudes can inform the development of better training and capacity building programs for both current and aspiring school leaders.

This research aims to examine how school principals' leadership competencies can be developed to implement educational reform programs.

To fulfil this aim, the following objectives are set:

- i. To examine how ethical leadership, technology adaptiveness, experiential learning affinity, and networking capability in school principals differ between good and poorly performing schools.
- ii. To assess the compound impact of ethical leadership, technology adaptiveness, experiential learning affinity, and networking capability in school principals on the academic performance of students.
- iii. To make policy recommendations for short, medium, and long-term reform in the educational sector based on the leadership capabilities of school principals.

II. LITERATURE REVIEW

The evolution of educational reform can be understood through three distinct paradigms: the first wave focusing on internal improvements, the second wave emphasizing accountability and marketization, and the third wave advocating for a contextualized and individualized approach [8].

The first paradigm of global educational reform, often referred to as the "first wave," focuses on internal improvements within educational institutions. This approach is characterized by a belief that improving internal processes will lead to better educational outcomes. Transitioning to the "second wave" of educational reform, there is a notable shift towards accountability and marketization. The emphasis here is on ensuring that educational institutions are not only effective internally but also competitive in a globalized context, reflecting the pressures of international competition and the demands of a rapidly changing economy. The "third wave" of educational reform introduces a more nuanced understanding of

educational needs, incorporating elements of globalization, localization, and individualization. The third wave aims to create a more holistic educational experience that prepares students for a globalized world while respecting local identities and values [4].

Western educationalists like John Dewey, Maria Montessori, Paulo Freire, Jean Piaget, Lev Vygotsky, Howard Gardner, and Nel Noddings have significantly promoted insights on how institutional education can develop children to grow up as responsible, problem solving, and independent adults. However, critics like Michel Foucault, Ivan Illich, John Taylor Gatto, Paulo Freire, Pierre Bourdieu, Herbert Marcuse, Noam Chomsky, Jean Anyon, and Henry Giroux have criticized institutional education as a source of perpetuating social class and indoctrination.

In the Western world, educational reform debates are largely characterized by a clash between conservative and neoliberal ideologies. Neoliberalism promotes market-driven approaches that prioritize efficiency and accountability, often sidelining the voices of Conservative educators and communities [40]]. Neoliberal perspective advocates for privatization and deregulation, claiming these measures enhance school performance through competition and standardized metrics. In contrast, conservatives defend traditional educational structures, emphasizing civic responsibility and community cohesion. They argue that the neoliberal focus on efficiency can detract from holistic student development, advocating for education that fosters responsible, engaged citizens rather than merely preparing a workforce. This ideological conflict significantly influences ongoing policy debates and will shape the future of educational practice and policy.

In Table 1.0, a brief overview is given of the educational reform programs of a few selected countries.

Table 1.0: Recent Educational Reform in Selected Countries (Compiled by authors)

Country	Recent Educational Reforms	Reference
United States of America	- Every Student Succeeds Act (ESSA) implementation (2015-2020) - Expansion of school choice programs - Increased focus on STEM education	(Mott, 2022)
United Kingdom	- Introduction of T-Levels (technical qualifications) in England (2020) - Curriculum reforms in Scotland (Curriculum for Excellence) - Reforms to make GCSEs more rigorous in England	(Helgetun & Menter, 2022)

France	- Baccalaureate reform (2021) - Lowering of mandatory school age to 3 years old (2019) - Reforms to improve teacher training	(Pin & van Zanten, 2021)
Ireland	- Implementation of Junior Cycle reforms (2015-2022) - Introduction of Computer Science as a Leaving Certificate subject (2018) - Expansion of STEM education initiatives	(Kenny, McCoy, & Mihut, 2020)
Lithuania	- Implementation of competence-based curriculum (2022-2023) - Reforms to improve inclusive education - Strengthening of digital literacy programs	(Raudienė, Kaminskienė, & Cheng, 2022)
Indonesia	- Merdeka Belajar (Freedom to Learn) policy (2020) - Curriculum simplification - Emphasis on character education	(Sundoro, Kalbuana, & Cahyadi, 2024)
Hong Kong	- Reforms to liberal studies curriculum (2021) - Implementation of national security education - Enhanced STEM education initiatives	(Yan & Brown, 2021)
China	- "Double Reduction" policy to reduce academic burden (2021) - Reforms to gaokao (college entrance exam) system - Expansion of vocational education	(Yan & Zhang, 2024)
Qatar	- Education for a New Era reforms (ongoing) - Enhanced focus on STEM and entrepreneurship education - Expansion of early childhood education	(Romanowski, Tok, Amatullah, Amin, & Sellami, 2024)
Thailand	- Thailand 4.0 education reforms - Implementation of coding in curriculum - Reforms to improve English language education	(Apsorn, Sisan, & Tungkunanan, 2019)
Chile	- New Public Education System implementation (2018-2025) - Reforms to higher education funding and access - Curriculum updates focusing on 21st-century skills	(De Falco, Hattemer, & Sierra Vásquez, 2024)

The above table shows that countries across the world are taking bold steps. As leaders, principals shape school culture, teacher professional development, and community engagement, directly affecting the sustainability of reforms [39]. Additionally, principals build relationships with

parents, communities, and stakeholders, securing the broader support necessary for sustained school success [3].

Building on the extant literature, four critical dimensions of leadership: ethical leadership, technology affinity, experiential learning affinity, and networking capability are identified for further review.

Ethical Leadership Capabilities in School Principals

Ethical leadership in school principals can play a role in fostering moral character and ethical decision-making among students. Rather than overlooking this aspect of principals, it is important to recognize that their ethical and moral compass can play both positive and negative impact on reform initiatives. Ethics literature provides a framework through which individuals can explore ethical principles and develop a deeper understanding of their responsibilities to themselves and others. The role of ethics education can be observed across various educational contexts, particularly the character-based education systems seen in Indonesia and Malaysia [7,14,28]. Ethical leadership is particularly relevant in religious education. For example in Islamic tradition, practices such as prayer and reading the Qur'an are integral to the learning process, reinforcing ethical values and moral integrity [19]. In many areas of Bangladesh, philanthropists donate to schools based on moral perspectives and governing bodies assess the ethical leadership of principals as evidence of their moral character.

Within the broader domain of ethical inclusiveness, esotericism in Bangladeshi school principals can be a critical factor as well, particularly with Sufism [21]. The exploration of esotericism reveals a complex interplay between spiritual traditions and socio-political movements [34]. One significant aspect of esotericism in Bangladesh is its historical association with Sufism, often regarded as a form of 'Islamic esotericism.' [37] discusses how Sufism has been reified within both Western romanticist contexts and Islamic reformist movements, highlighting the nuanced understandings that emerge from these interactions. Sufism has played a key role in establishing religious harmony in Bangladesh [1]. While Sufism has remained a dominant attribute of Bangladeshi citizens, reformist thinkers need to tread carefully in these areas.

Esotericism can be detrimental to robust STEM education as well as technology-driven, data-centric education [42]. There is a doubt that some school principals who are highly committed to esotericism may not be highly motivated to progress science and technology education. In some places, esotericism can shape cultural attitudes toward health, nature, and technology, making it difficult for students to embrace scientific principles that contradict their community's spiritual views. Due to the prevalent existence of esotericism in rural Bangladesh, educational reform initiatives cannot readily expect most principals to be more inclined to the opposite views of exotericism or empiricism. This is an area of ongoing debate among educational reform scholars. More research is needed to understand how ethical

leadership and esotericism in Bangladeshi school principals can impact educational reform for ethical and technological developments in students.

Technology Adaptiveness in School Principals

The integration of modern technology into educational practices is increasingly recognized as a critical factor for effective teaching and learning. School principals with higher technological literacy and a proactive approach to leveraging digital tools can be better positioned to lead educational reforms that embrace these advancements. [2] emphasize that effective technology leadership involves establishing priorities and guidelines for the use of educational technology, which is crucial for successful implementation. Similarly, [4] notes that while technology infrastructure is vital, the leadership capabilities of administrators are paramount in ensuring that technology becomes an integral part of the educational process [4]. This perspective is echoed by [14] who argue that principals must actively engage with technology, develop strategic plans, and allocate resources effectively to support technology integration in schools.

Research by Raman et al. indicates that principals who cultivate an organizational culture of continuous learning and support for technology use can significantly enhance teachers' technology integration efforts [32]. This is further supported by the work of Garland and Tadeja, which emphasizes that effective school leadership in the digital age directly correlates with improved student engagement and achievement [12]. Thus, principals who are adept at leveraging digital tools may not only facilitate the integration of technology but may also contribute to the overall success of educational reforms. Further research is needed to examine the relationship between technology affinity of school principals and educational reform implementation.

Experiential Learning Affinity in School Principals

Principals who advocate for hands-on, real-world learning experiences can be more successful in implementing educational reforms. This success is attributed to the enhancement of student engagement, the integration of technology, community involvement, and a focus on authentic learning experiences that prepare students for future challenges. Kolb highlights the importance of real-world experiences in enhancing life skills and empowering young adults, suggesting that such opportunities are crucial for successful transitions into the workforce [23]. This aligns with the findings of Einstein, who notes that internships and experiential learning are increasingly favored as they provide students with practical experiences that connect academic learning with real-world applications [11].

The integration of real-world contexts into learning not only enhances engagement but also equips students with the necessary competencies to navigate their future careers

effectively. Furthermore, the concept of real-world learning is increasingly recognized as vital for curriculum development and pedagogical strategies. Morley and Jamil discuss how real-world learning prepares students for diverse career paths by focusing on authenticity and practical application [26]. This perspective is echoed by [6] who identify key determinants of successful curriculum reforms, including the alignment of educational practices with real-world contexts. Since the last few years, educational reform programs have heavily focused on experiential learning, and it is crucial to examine if school principals who have been educated through traditional educational methods can lead reform initiatives focused on experiential learning.

Networking Capability of School Principals

The strength and composition of a principal's professional network, both within and outside their school, can significantly influence their capacity to gather support and resources essential for implementing educational reforms. Principals who actively engage in professional networks are better positioned to foster relationships that facilitate resource acquisition and support for educational reforms. Their ability to allocate resources effectively is enhanced by their engagement with both internal and external stakeholders [13].

Bridwell-Mitchell and Yurkofsky emphasize that principals must build relationships that foster agency and innovation, particularly in contexts where educational equity is a priority [5]. This indicates that the nature of the principal's network can either support or hinder their ability to enact meaningful reforms, depending on the relationships they cultivate and the logics they adhere to. Additionally, the role of trust within these networks cannot be overstated. [17] found that networking and collaboration among peers significantly contribute to the development of principals, which in turn impacts their effectiveness in leading educational reforms. [23] notes that principals who prioritize developing leadership capacities within their networks are more successful in fostering collaborative environments that support educational reforms. While all these insights are from the developed countries, not much is known about the situation in Bangladesh. Further research is needed on how Bangladeshi school principals use their networks inside and outside schools to implement educational reforms.

The above discussion covers the four attributes of principals that can be critical to implementing educational reform programs. There is a clear void in educational reform literature in this area. The following section presents the appropriate methodology to be adopted to fulfill the research aim.

III. METHODOLOGY

The purpose of this study is to investigate four key attributes: ethical leadership, technology adaptiveness, experiential learning affinity, and networking capability in school principals. The ultimate objective is to use these findings to inform the design of capacity-building programs for principals involved in educational reform initiatives.

The study shall adopt a mixed-method approach [31], integrating both qualitative and quantitative methods to provide a comprehensive understanding of school principals' attributes and their relationship to school performance. This approach is divided into three phases. The first phase involves the use of qualitative focus groups for scale development. The second phase is a pilot study aimed at testing and refining the instrument developed in the first phase. The final phase is a large-scale quantitative survey for comparative analysis.

The mixed-method approach shall be employed because it leverages the strengths of both qualitative and quantitative methodologies. The qualitative phase allows for a detailed exploration of the key attributes and ensures that the scales developed are relevant to the specific educational context being studied. The quantitative phase allows for a statistical comparison of the attributes of school principals in relation to school performance.

Phase I: Qualitative Study (Focus Groups)

The first phase of the study shall explore the four key attributes in depth and develop suitable scales to measure them later. This phase involves engaging 20 to 30 participants, including school principals, education experts, and policymakers. These participants shall be divided into three to four focus groups [44]. The discussions in the focus groups can be semi-structured, focusing on how the four attributes: ethical leadership, technology adaptiveness, experiential learning affinity, and networking capability relate to school performance.

The data collected from the focus group discussions will be analyzed using thematic analysis, which will help identify key themes and subthemes for each attribute. The outcome of this phase will be the development of an initial set of items for each attribute, which will later be used to construct the measurement scales. Appropriate literature shall be consulted to examine existing measures for the four attributes.

Phase II: Pilot Study

The second phase of the research shall involve testing and refining the scales developed after the qualitative phase. This phase includes a pilot study in which a draft questionnaire shall be administered to a sample of 50 to 100 school principals who were not part of the focus groups. The questionnaire shall include demographic questions, the

scales for the four key attributes, and questions related to school performance.

Several analyses will be performed on the data collected during the pilot study. Item analysis will be conducted to assess the clarity and quality of each question. Exploratory factor analysis will help examine the factor structure of the scales, ensuring that the items group together as expected. Reliability analysis, using Cronbach's alpha, will assess the internal consistency of the scales, ensuring that they measure the intended constructs reliably. Additionally, a subset of participants will participate in cognitive interviews to verify that the questionnaire items are clear and contextually relevant.

The outcome of this phase will be a refined and validated questionnaire, which will then be used in the main quantitative study.

Phase III: Quantitative Study

The final phase of the research shall involve conducting a large-scale quantitative study. A survey will be administered to a target sample of 300 to 400 school principals from both primary and secondary schools in Bangladesh. Appropriate sample size will be determined by a power analysis to ensure that the study has sufficient statistical power. Principals will be selected through a stratified random sampling method, which will ensure that the sample represents schools from different regions and types. The stratified sample shall include schools of different types, sizes, locations, and academic performance.

Data collection in this phase will focus on two key areas: the attributes of school principals and school performance. Data on the four key attributes will be collected using the validated scales developed in the earlier phases. Meanwhile, school performance data, particularly in subjects such as religion, physics, chemistry, and math, will be obtained from school records or educational authorities.

To analyze the data, several statistical techniques will be used. Confirmatory factor analysis will be employed to further validate the factor structure of the scales. Schools will be classified as either high-performing or low-performing based on student achievement data. Independent samples t-tests will be used to compare the four key attributes between principals from high-performing and low-performing schools. Effect size calculations will provide insight into the practical significance of any observed differences. Finally, multiple regression analysis will be conducted to examine the combined effect of the four attributes on school performance.

Ethical approval for the study will be sought from the appropriate institutional review board. Informed consent will be obtained from all participants, and their confidentiality will be safeguarded throughout the research process. The study will adhere to ethical research standards,

ensuring that all participants' rights and privacy are respected.

IV. EXPECTED OUTCOMES

The research study on the capabilities of school principals in Bangladesh promises to have a profound impact on educational reform at various levels, with distinct benefits emerging in the short, medium, and long term. Each phase of the study's outcomes is designed to progressively improve school leadership, ultimately contributing to enhanced educational quality and equity across the country.

Short-Term Outcomes (1-2 years): The research will provide actionable insights to shape educational policy and practice. The results can be used for developing professional development programs for school principals, emphasizing four key attributes: ethical leadership, technology adaptiveness, experiential learning affinity, and networking capability. Pilot programs in selected schools can be used to test these interventions to evaluate their effectiveness in enhancing leadership skills and school performance.

The findings can also inform guidelines to principal selection and promotion criteria. New assessment tools based on validated scales from the research can be created, incorporating these attributes into evaluations of potential and current school principals. Short-term training programs can also help current principals develop these qualities, making them central to educational reform in Bangladesh. Additionally, the research can enable educational authorities to make more informed choices in selecting and developing principals, ultimately fostering a more efficient and effective educational administration system.

Medium-Term Outcomes (3-5 years): In the medium term, research outcomes can help drive significant structural changes in the educational system. Integrating these attributes in B.Ed and M.Ed programs shall solidify the foundation for future school leaders. By narrowing the gap between high-performing and low-performing schools, these targeted interventions shall help reduce educational disparities across the country. A research stream to monitor and understand the performance of school principals can be developed within educational boards.

Long-Term Outcomes (6-10 years): The study can help determine the catalysts for a cultural shift in educational reform practice in Bangladesh, redefining the principal's role through capacity building. The goal is to foster a culture of continuous learning among school principals, enhancing their responsiveness to educational needs. Once there is a synergy between policy frameworks and implementation at schools, the reflection of these changes will lead to substantial improvements in educational quality. Long term changes can be expected in terms of reduced disparities between regions and socio-economic groups. All schools can adopt better leadership models, promoting a more

equitable education system. Economically, improved educational outcomes shall enhance workforce quality and better performance in higher education, benefiting the country's economic development.

V. CONCLUSION

Researching the role of school principals in Bangladesh is crucial for understanding how leadership influences the education sector's success across short, mid, and long terms. In the short term, principals immediately affect schools' daily operations, impacting teaching quality, student performance, and teacher morale. They implement policy reforms at the grassroots level, translating national strategies into practical actions. Research can illuminate the evolution of principals' leadership skills in the mid-term. In the long term, principals are key to institutionalizing changes that impact the education system. Their strategic planning, resource allocation, and alignment with national goals contribute to systemic improvements. Bangladeshi schools with different types of educational choices need reform by building on the insights from developed countries, while understanding the problems of policy borrowing. Local knowledge is essential to step ahead with any reform initiative.

By focusing on making educated principals effective leaders, the research has the potential to facilitate educational reform in Bangladesh. Emphasizing school principals as change drivers will ensure far-reaching improvements, establishing a foundation for sustained educational reform that enhances quality, equity, and opportunities for future generations.

The study has several limitations that need to be considered. One limitation is that the classification of schools based on student outcomes may not account for variations in student demographics, which could introduce some bias. Additionally, because the study is cross-sectional, it will not allow for the establishment of causal relationships. Another potential limitation is the reliance on self-report measures, which are susceptible to social desirability bias, as participants may present themselves more positively than they actually are.

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