



"Transforming Education: Exploring Leadership Dynamics And Teachers' Performance In 21st Century Schools"

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ABSTRACT

The study explores the critical role educators play in attaining the Sustainable Development Goals (SDGs) through education. Education is a powerful force for social change because it gives students the self-assurance they need to take an active role in the advancement of their country. This study provides insight into examining several facets of transformational leadership and how it affects the teacher-student dynamics. The study is descriptive in nature of the research design and investigates the relationship between transformational leadership and teacher performance in schools across Bangalore, India. Simple random sampling was employed to select 123 teachers from various schools, representing diverse socioeconomic backgrounds and geographic locations within the city. The results show a significant positive correlation between teacher performance and transformational leadership. In addition, the study reveals differences in gender and experience based on the teachers' perception towards the principals' leadership style. The findings contribute to understanding leadership dynamics emphasizing the need for effective leadership practices to support teachers' performance and achieve sustainable development goals. Thus, the study suggests best practices that create the ideal learning environment in schools and improve learning outcomes for students in the twenty-first century contributing towards educational leadership.

Keywords: 21st-century education, Educational leadership, Teacher performance, Transformational leadership, Sustainable Development Goals (SDGs).

Introduction

The ability of education is to fundamentally alter a country's destiny, with a focus on the SDGs and the crucial role that teachers play in accomplishing these goals and highlights the crucial role of education in the development of a nation, particularly in the context of a developing economy as follows:

Extending Perspective and Vision: Education is characterized as a tool that helps people see and perceive the world more broadly. This suggests that education does more than merely impart knowledge; it also moulds people's viewpoints and gives them the ability to view the world from a wider angle. This enlarged vision may inspire a drive to accomplish more and support the growth of the country.

Education is viewed as a tool for empowering young people: Young people are given the knowledge and abilities needed to actively contribute to the development of their country through high-quality education. Using the potential of the young population requires this empowerment.

Fighting Ignorance: The goal of education is to combat ignorance with a weapon. Ignorance can impede advancement in a larger social setting. It is believed that education can eliminate ignorance and advance an informed and enlightened society.

Alignment with SDG4: The 2030 Agenda for Sustainable Development's Sustainable Development Goal 4 (SDG4) is mentioned in the statement. By 2030, SDG 4 seeks to guarantee inclusive, equitable, high-quality education and to encourage opportunities for lifelong learning for all. This demonstrates a dedication to offering inclusive, high-quality education that is not only easily accessible but also leaves no one behind.

Implementation and Monitoring of Teachers: The significance of teachers is underscored, implying that they are essential to accomplishing the goals delineated in SDG 4. Teachers are important stakeholders in the implementation and monitoring of educational initiatives, which must be done effectively. Frequently, investing in teacher preparation, support, and continuous professional development is necessary to ensure the quality of education.

It is only via development that takes place in formative education, or through schools, that equitable and inclusive education can be achieved. The school's principal and instructors are crucial to the growth and development of each individual. Any school's educational objective can only be achieved with the participation of two change agents in the system, namely the principal and the instructors. Similar to the writings of, the position of the educational leader—who chooses, nurtures, and empowers the human resources and builds positive relationships with all students, faculty, staff, and the surrounding communities—has a significant impact on the success of the schools. An intriguing strategic element that might affect an organization's characteristics and behaviours is leadership. Transformational leadership is a prominent paradigm of leadership that is widely recognized as an effective methodology. Transformational leadership, as proposed by (Bass & Riggio, 2005), is a leadership style that inspires and encourages leaders to work with energy, enthusiasm, and attention from their staff. With its four dimensions, the theory provides a useful framework for comprehending how the teachers in the current study perceived the leadership of their principals.

Perspectives on Leadership and Transformational Leadership

The adjective "transformational" refers to the ability "to change the appearance or character of something or somebody completely," in the Oxford Advanced Learner's Dictionary (edition 5), this is followed by the noun "leadership," which is derived from the verb "lead" and means "to influence the actions or opinions of somebody." The ability of a leader to alter or transform their followers is thus what is meant to be understood by the term "transformational leadership."

Furthermore, (Burns, 2012) developed the theory of transformational leadership.

According to (Oc et al., 2023), this leadership theory implies that certain leaders, through their character attributes and their interaction with their followers, go above and beyond the trade of goods and productivity and aid in the growth and empowerment of people to the fullest extent possible.

As a result, (Leithwood, K., & Jantzi, n.d.). began publishing a great deal of research on transformational leadership among school principals in the late 1990s. According to (Insan et al., 2013) study, school principals who exhibit transformational leadership behaviours build positive relationships between teachers and students, boost teachers' confidence, and increase their sense of efficacy.

The four dimensions of transformational leadership, according to (Bass, B. M., & Avolio, 1983) are as follows:

Idealized Influence (Charisma): Leaders serve as role models for their followers, igniting their respect and trust.

Inspirational Motivation: Effective leaders inspire others to strive toward common objectives by articulating a compelling vision.

Intellectual Stimulation: Leaders push followers to think critically and solve problems by fostering creativity and innovation.

Individualized Consideration: Leaders offer tailored guidance and assistance, acknowledging the distinct requirements and proficiencies of every subordinate.

Factors Affecting Teachers' Performance

Building on the findings of the study, (Jovanovic & Ciric, 2016)] and (Arifin et al., 2014) explore the complex variables affecting teachers' effectiveness. The key factors influencing the educational landscape are identified as work targets, workload, gender, and the work experience of teachers. Principals become key players mediating these factors through their transformational leadership. A positive work environment is fostered by principals' effective communication and support, which lessen the negative effects of high work targets and workload. The study also recognizes that gender and work experience may have an impact on teachers' performance, but it emphasizes how a principal's leadership style can either mitigate or exacerbate these

effects. This sophisticated comprehension adds to the conversation about maximizing the effectiveness of educators and, consequently, improving the general performance of the educational system.

Principals and teachers must work together, communicate effectively, and be transparent. In order to foster a supportive leadership culture that recognizes the contributions of all educators, principals should aggressively solicit feedback from teachers and include them in decision-making procedures. This strategy can improve student outcomes, raise teacher satisfaction, and improve the general school climate. Because it creates a welcoming and inclusive learning environment, stimulates creativity, and advances a common vision for academic success, transformational leadership is highly compatible with academic goals. Apart from the principal, the teachers also play an important role of element in improvising the school's quality and vision as they directly interact with the students by showing their professional duties and performance. In the words of (Mahmudah et al., 2020) teacher performance refers to the ability of teachers to carry out their duties at school, discipline and teacher behaviour during their daily activities at school. The teacher needs to work agreeably and cooperatively with the principal in order to train & facilitate students. Principals need to have a working relationship with parents so as to help the students benefit both academically and socially. In Indian schools as per RMSA (Rastriya Madhyamik Shiksha Abhiyan) norms, teacher recruitment is based on PTR (Pupil Teacher Ratio) and the subject-specific requirements of the State. Each school is mandated to have a minimum of five subject teachers specifically for the core subjects: English, Language, Mathematics, Science and Social Science. However due to shortage of teachers they take extra classes and most teachers felt that they spend large amounts of time on non-teaching activities and strenuous administrative tasks. According to the works by (Allen et al., 2021) in England, teachers work more than 59 hours per week, hence teachers' workload and their health care need to be addressed by the education policy makers. The workload of teachers must be distributed evenly as the working conditions of teachers have an impact on students' learning outcomes. The objective of this research paper is to perform a thorough investigation of how educators see the transformational leadership demonstrated by their school administrators and the ensuing effects on learning. The main goals are to give light on how instructors view their principals' leadership styles, how work targets are set, and what a day in the life of these teachers looks like. It is imperative to comprehend the viewpoints of individuals engaged in decision-making procedures in order to cultivate a constructive educational atmosphere, expedite advancement, and augment the erudition of 21st-century scholars. The goal of the research is to shed light on the advantages and difficulties of transformational leadership in education, providing insightful information that can inform best practices for creating and putting into practice successful teaching methods. This study aims to further the ongoing conversation about improving teacher performance and educational leadership in the ever-changing context of 21st-century learning by exploring teachers' perceptions. The research's core findings are signalled by the title, "Teachers' Performance and Transformational Leadership: A Perception Study," which captures the nuanced relationship between educators' perceptions and leadership styles in the quest of educational excellence.

Understanding the complex relationships that exist between innovative practices, teacher dedication, and transformational leadership in educational settings is the focus of current research studies. The study is especially interested in finding out how transformational leadership and teacher results are mediated by trust in school principals. The current research projects centre on investigating novel strategies for fostering students' inquiry in classroom environments and interested in finding out how classroom practices that are in keeping with professional standards and that promote students' identities in line with their questions can support students' engagement and inquiry through the use of learning designs, such as doubly authentic learning designs. The current areas of interest in study are how transformational leadership affects teachers' effectiveness in classroom environments. The area of interest is the ways in which school administrators' leadership philosophies affect several facets of teacher efficacy and work satisfaction. This entails looking into the connections between innovative practices, organizational engagement, and teacher commitment in transformational leadership. Furthermore the study is investigating the ways in which leadership styles interact with demographic variables like gender and years of experience to influence teachers' views and performance outcomes.

Problem statement

With instructors acting as catalysts for accomplishing both educational aims and more general societal goals, the area of education is a cornerstone for society advancement. It is crucial to comprehend the dynamics of leadership in educational institutions, particularly in Bangalore, India, where the educational landscape is dynamic and diversified. It becomes clear that transformational leadership has a critical role in determining how well instructors perform and, in turn, how well kids get education. The complex relationship between transformative leadership and teachers' performance in Bangalore's local educational setting is still little understood, despite its acknowledged importance.

Literature Review

The amount of research on the relationship between teachers' performance and the ideas of transformational leadership has been steadily increasing in recent years. Human resource development, psychology, management, professional communities, and most recently, the education sector are becoming more and more interested in these discussions (Insan et al., 2013) (Malik et al., 2012), and (Kadyschuk, 1997).

Transformational leadership

Transformational leadership, as defined by Bernard Bass, is the process of changing the goals and assets of both leaders and followers. There are four main behaviors that transformational leaders usually exhibit. These actions encourage team objectives, clearly communicate the vision, set high standards for performance, and stimulate the mind. The leader's behavior that helps teachers cooperate and work together toward shared objectives is known as "fostering group goals and support." A leader who exhibits articulating vision will be able to find new avenues for their school to pursue as well as develop, articulate, and motivate others with a future-focused vision. The conduct that shows a leader's expectations for excellence, quality, and high performance from their subordinates is known as holding high performance expectations. The leader's action of challenging the teachers to reconsider some of their work-related presumptions and methods of execution constitutes intellectual stimulation. Organizational success is attributed to transformational leadership, which is typified by leaders who inspire, motivate, and steer their teams toward common objectives. (Algothani & Mydin, 2022)

Teachers' Performance

In order to fulfil their responsibilities and perform to the best of their abilities in order to meet institutional objectives, teachers engage in a number of process activities that make up their teacher performance. The effort put forth by teachers to realize their abilities—which include attitudes, knowledge, and skills—in the areas of organizing, carrying out, assessing, and efficiently following up on learning outcomes in order to maximize learning outcomes—is what is used to evaluate their performance. As stated in the works of (Anik Herminingsih & Widianti Supardi, 2017), a teacher's performance is defined as their ability to demonstrate their abilities through activities they complete at school and acts they perform in or during learning activities. It also includes their behavior at work that demonstrates the necessary competence, which includes their pedagogical, personality, social, and professional competence. A teacher's performance is influenced by a variety of internal factors, such as their personality, experience, gender, and even their family background.

The elements outside of their control that affect their performance, such as their pay, work environment, peers, infrastructure, management support, and leadership, can serve as external motivators for teachers. The external factor—leadership or supervisory support—that enhances their performance is the main focus of this study.

Teachers' performance varies according to how they view the support that school leadership offers, their own role and responsibilities, how their workload is divided, and the goals that their principal has set for them.

Six NCERT indicators of teacher performance—Designing Learning Experiences, Knowledge and Understanding of Subject Matter, Strategies for Facilitating Learning, Interpersonal Relationship, Professional Development, and School Development—were identified in the study.

Studies related to teachers' performance under transformational leadership

Apart from the aforementioned ground-breaking investigations, the most recent study conducted by (Kılınc et al., 2024) offers significant understanding into the impact of the transformational leadership model's moderated mediation model on innovative techniques employed by teachers. Using data from 611 Turkish teachers, the study uses a cross-sectional survey approach and sophisticated statistical methods such as multilevel structural equation modelling with Bayesian estimation. Through the mediator role of teacher dedication, the data demonstrate the strong indirect benefits of transformational leadership on creative techniques used by teachers. The study also reveals the critical moderating effect of principal trust, showing that teachers' level of trust in their principals determines how transformational leadership affects their commitment to teaching and creative practices.

The research by (Rahmian et al., 2024) adds to the important studies already cited by illuminating the effectiveness of doubly authentic learning designs in fostering students' inquiry. Examining Humanistic Knowledge Building Communities (HKBCs) in detail, the study explores the relationship between students' identities, interests, and learning areas. The research offers fresh insights into how students' inquiry interests might be fostered and sustained within knowledge-building communities by creating the ENDURE framework based on several case studies. This study emphasizes how crucial it is to provide learning activities that help students make the connections between their academic goals and their personal interests in order to improve their learning outcomes and experiences.

The first study that (Algothani & Mydin, 2022) reviewed focuses on the transformational leadership of the principal and how it affects teacher motivation. The study's conclusions imply that the transformational leadership approach is both successful and capable of bringing about constructive adjustments in the learning environment. Purposive sampling is used in (Madjid & Samsudin, 2021) study to gather information from 117 teachers. The study uses organizational commitment as a mediating factor to examine how transformational leadership affects teacher performance using a deductive quantitative approach. The transformative influence of leadership is indicated by the positive correlation that has been found between superior performance and committed teachers. The review by (Mahaputra & Farhan Saputra, 2021) includes a number of articles that develop theories to investigate the complex function of transformational leadership in school headmasters. The study pinpoints the three crucial elements that have a major impact on a headmaster's leadership:

motivation, loyalty, and teacher performance. Additional research is advised, with a focus on factors like environment, work culture, workload, and salary. (Novitasari et al., 2020) add to the body of literature by investigating how female teachers' performance is impacted by job satisfaction, transformational leadership, and religiosity. The study, which involved private school teachers Tangerang, shows that organizational citizenship behaviour and influencing elements like job satisfaction and religiosity act as a mediating factor for the indirect impact of transformational leadership on teacher performance. (Purwanto et al., 2020) conducted a qualitative study to examine six leadership model literatures and determine whether transformational leadership is anti-democratic or elitist. Contrary to the idea of elitism, the study reveals that democratic leadership styles have a positive impact on teacher performance. It also highlights how important transformational leadership is to improving teacher effectiveness. By creating a questionnaire to evaluate the elements of transformational leadership and their effect on teachers' performance, (Alzoraiki et al., 2018) add to the body of literature. 374 teachers from ten different school districts participated in the study, which shows a significant improvement in both organizational development and teacher performance. (Andriani et al., 2018) examine the connection between teachers' performance, work motivation, and transformational leadership. The study demonstrates a favourable and significant impact of transformational leadership and work motivation on teachers' performance through correlation and multiple regression analysis techniques, suggesting a potentially universal relationship across diverse contexts. (Arifin et al., 2014) looked into the effects of transformational leadership and organizational culture on teacher engagement and performance using a cross-sectional survey. The study, which was carried out in an Islamic environment, emphasizes how crucial teachers' perceptions of culture and leadership are in determining employee engagement. New engagement development strategies and structures are based on the findings. In this study by (DeAndrade-Oliveira, 2022), the authors investigate the relationship between transformational leadership, teacher commitment, and innovative practices, with trust in the principal acting as a moderator. Utilizing a cross-sectional survey design and data from 611 teachers in Turkey, the researchers employed multilevel structural equation modeling with Bayesian estimation. Their findings suggest that teacher commitment mediates the effects of transformational leadership on innovative practices, and trust in the principal significantly moderates this relationship. This research contributes valuable insights to the global literature on the importance of trust in principals for effective leadership and its impact on teachers' commitment and innovative practices. In a 2024 study by (Kılınc et al., 2022), the authors investigated the impact of transformational leadership on teachers' job satisfaction and its subsequent influence on their performance. The research was conducted with a sample of 611 teachers from 56 schools in Turkey, employing a mixed-methods approach. The findings revealed that transformational leadership positively affected teachers' job satisfaction, which in turn, enhanced their performance. This study underscores the significance of transformational leadership in fostering a positive work environment and improving teachers' performance in education. In another 2023 publication by (Kilag et al., 2023) study effectively demonstrates the significance of transformational leadership in fostering educational innovation within primary and secondary schools. The findings emphasize the importance of empowering stakeholders, creating supportive environments, and providing valuable insights for educational leaders and policymakers. In summary, the aforementioned studies collectively enhance our comprehension of the critical significance of transformational leadership within educational environments. Echoing the larger reports found in educational leadership literature, like those given by (Sanchez & Watson, 2021) and the OECD, which emphasize the role of leadership in goal-setting, assessment, and positively influencing teacher and student performance, they highlight the positive impact on teacher performance, organizational commitment, and engagement. Apart from the aforementioned groundbreaking investigations, the most recent study conducted by (Kılınc et al., 2024) offers significant understanding into the impact of the transformational leadership model's moderated mediation model on innovative techniques employed by teachers. Using data from 611 Turkish teachers, the study uses a cross-sectional survey approach and sophisticated statistical methods such as multilevel structural equation modelling with Bayesian estimation. Through the mediator role of teacher dedication, the data demonstrate the strong indirect benefits of transformational leadership on creative techniques used by teachers. The study also reveals the critical moderating effect of principal trust, showing that teachers' level of trust in their principals determines how transformational leadership affects their commitment to teaching and creative practices. The research by (Rahmian et al., 2024) adds to the important studies already cited by illuminating the effectiveness of doubly authentic learning designs in fostering students' inquiry. Examining Humanistic Knowledge Building Communities (HKBCs) in detail, the study explores the relationship between students' identities, interests, and learning areas. The research offers fresh insights into how students' inquiry interests might be fostered and sustained within knowledge-building communities by creating the ENDURE framework based on several case studies. This study emphasizes how crucial it is to provide learning activities that help students make the connections between their academic goals and their personal interests in order to improve their learning outcomes and experiences. (Algothani & Mydin, 2022) reviewed the literature with an emphasis on transformational leadership's positive effects on the learning environment and how it affects teacher motivation. Organizational commitment was used as a mediator by (Madjid & Samsudin, 2021) to investigate the relationship between transformational leadership and teacher performance, highlighting the favourable association between the two. (DeAndrade-Oliveira, 2022) looked into the connection between innovative

practices, teacher dedication, and transformational leadership. The author found that this relationship is moderated by the principal's trust, which provides important information about good leadership techniques. The focus on both theory and empirical research is a defining feature of transformational leadership. For academics and serious leadership students, it provides an extensive overview and resource that provides insights into the wide range of transformational leadership in diverse contexts. (Bass & Riggio, 2005). Effective leadership styles, particularly transformational leadership, significantly impact organizational success (Algothani & Mydin, 2022). The research emphasizes the critical role of transformational leadership during reform, highlighting the leader's role in inspiring and assisting teachers, while acknowledging the difficulties in accomplishing these goals. (Alzoraiki et al., 2018). Transformational leadership on the performance and work engagement of teachers in schools shows strong and positive correlations, highlighting the critical roles that both variables play in improving teacher effectiveness. (Arifin et al., 2014). The transformational leadership model in South Sulawesi Province affects worker performance and job satisfaction. (Insan et al., 2013) Therefore, even though a number of international studies (Adhi et al., 2013) (Eliophotou-menon & Ioannou, 2016) (Hauserman & Stick, 2013) (Shila & Sevilla, 2015) discuss the impact of leadership on educators, these studies also looked into the relationship between leadership and educators' commitment to the organization as well as the influence of socio-cultural factors on leadership. To date, no research has looked at the relationship between leadership styles and teacher performance and satisfaction in India. In order to close this gap, this study includes data from the completely absent region of India as well as researched data on the effects of transactional and transformational leadership on Indian school teachers.

H1: There is no relationship between transformational leadership and teachers' performance.

H2: There is no difference in teachers' performance scores based on certain demographics.

H3: Transformational leadership does not significantly enhance educational outcomes or foster a conducive learning environment in Bangalore schools.

Methodology

Type: Descriptive Research

Method: Simple Random Sampling

Instruments: Structured Questionnaire Principal Leadership questionnaire (PLQ) 1996 and Teacher Performance scale as per NCERT indices.

Sample size: 123 Questionnaires returned with complete data.

Tools used: Descriptive statistics, Pearson's correlation, ANOVA, and z test.

Selection Criteria for Schools:

The study's participating schools were chosen according to predetermined standards in order to guarantee representativeness and diversity within the Bangalore area. These standards include features like:

Geographic Distribution: To represent Bangalore's varied educational environment, schools were selected from a range of neighbourhoods. **School Type:** To take into consideration variations in student demographics, resources, and governance, both public and private schools were included. **Educational Level:** The purpose of this study was to investigate the effects of transformational leadership at various educational levels in primary and middle schools. **Socioeconomic Status:** In an attempt to represent Bangalore's socio-cultural variety, schools catering to a range of socioeconomic backgrounds were included. **Identification of Potential Participants:** Working with school officials, a list of qualified instructors from each chosen school was identified. **Random Selection:** Teachers were chosen at random to take part in the study from the list using a randomization technique. This reduced bias in the sample by guaranteeing that each qualified teachers had an equal chance of being chosen. **Invitation and Involvement:** A few teachers were contacted and extended an invitation to take part in the research. They received comprehensive information regarding the goals of the study, the methods used, and their part in it. **Data Collection:** After gaining permission, the participating teachers were given standardized questionnaires to complete in order to gather pertinent information about how they felt about transformational leadership and how well they performed. **Final Sample:** The final sample for analysis consisted of 123 instructors from the chosen Bangalore schools who submitted filled-out questionnaires with thorough data.

Instruments

In the year (Leithwood et al., 1996), developed the to assess the principals' leadership capacities in the perceptions of their fellow students and teachers. In this study, the PLQ (Principal Leadership Questionnaire) was used and the number of items in the questionnaire is 24 items. The items were measured along the standard measurement scale (Five-point scale of Likert) ranging from "5" = strongly agree to "1" = strongly disagree. The maximum score possible is 120 and the minimum is 24. The total cumulative scores of the responses of all items yield scores on principals' leadership. All the items of the questionnaire consist of

positive worded items. Higher the mean scores for items means the teachers perceive their leadership high and low mean scores indicate low perception of that item. The scale had a Cronbach alpha for all items as 0.79. Teachers' Performance is measured using the PINDICS which means Performance Indicators for Elementary School Teachers and Evolving performance standards for teachers' accountability. This indices is framed every year by NCERT that will be developed through appropriate provision of training and support measuring teachers' performance standards. This framework is used for performance indicators for Elementary School Teachers (PINDICS) that is based on norms and standards as enunciated in various studies and statutory orders of the government. The number of items in the questionnaire is 40 items. The items were measured along the standard measurement scale (Five-point scale of Likert) ranging from "5" = strongly agree to "1" = strongly disagree. The maximum score possible is 200 and the minimum is 40. The total cumulative scores of the responses of all items yield scores on teachers' performance. All the items of the questionnaire consist of positive worded items. Higher the mean scores for items means the teachers perceive high performance and low mean scores indicate low perception of that item. The scale had a Cronbach alpha for all items as 0.72. The content validity for both the scales was performed.

Research Questions

The research questions were formulated to determine how teachers' performance are impacted by the transformational leadership style of school principals.

1. Is there any significant relationship between Transformational leadership and Teachers Performance?
2. Will the teacher's differ on their scores on teachers' performance based on certain demographics?
3. What role does transformational leadership play in enhancing educational outcomes and fostering a conducive learning environment in Bangalore schools?

Data Analysis

The descriptive statistics was used to understand the teachers' demographic classification.

Table 1: Demographic Classification

Category	Number of respondents	Percentage
Gender		
Male	30	24.39
Female	93	75.60
Age distribution		
23-26	23	18.71
26-29	33	26.82
29-32	27	21.95
Above 32	40	32.52
Educational Qualification		
TGT	40	32.52
PGT	67	54.47
Diploma	11	8.943
Ph.D./Others	5	4.07
Marital Status		
Married	93	75.60
Unmarried	20	16.26
Prefer not to say	10	8.13
Subjects Taught		
Mathematics	40	32.52
Science	27	21.95
Social science	33	26.82
Language	23	18.71
Experience		
1-3 Years	45	36.58
3-5 Years	14	11.38
5-7 Years	9	7.32
Above 7 Years	55	44.72

***Source: Primary Data**

Interpretation: The demographic classification shows that majority of the respondents with 75.06% were female (Figure 2) 54.47% of the teachers had completed PGT (post graduate training) teachers followed by 32.52% of employees belong to the age group above 32 years. 75.60% belong to married category followed by 32.52% employees were teaching mathematics subject. 44.72% of teachers had more than 7 years of experience.

Research Question 1

H1: There is no relationship between transformational leadership and teachers' performance.

The Pearson correlation coefficient between transformational leadership and teachers' performance was calculated. The result indicates a significant positive correlation ($r = 0.539$, $p < 0.01$), contradicting H1. Thus, the null hypothesis is rejected.

To have an idea on whether there is any significant relationship between transformational leadership and teachers' performance the Pearson's correlation coefficient was calculated.

Table 2: Showing the correlation between Transformational leadership and Teachers' Performance

Variables	Correlation Coefficient	Sig. (2- tailed)
Transformational leadership Teachers' Performance	0.539*	.000

Source: Primary data

***Correlation is significant at the 0.01 level (2-tailed).**

Interpretation: The correlation coefficient between the two variables is 0.539; this is significant at 0.01 level. The null hypothesis that there is no relationship between transformational leadership and teachers' performance is rejected. The direction of the relationship is indicated by the sign and the strength of the relationship is represented by the absolute size of the co-efficient i.e. how close it is +1 or -1. Here the co-efficient is +0.539 this indicates that there is a high positive relationship between the two variables.

Research Question 2

Teachers differ on their scores on teachers' performance based on certain demographics

Table 3: Showing the results of experience & teachers' performance

Variables		Sum Squares	of df	Mean Square	F	Sig.
Designing Learning Experiences	Between years of experience	37.833	10	9.458	1.915	0.506
	Within years of experience	1366.391	113	11.482		
	Total	1404.224	123			
Knowledge and Understanding of Subject Matter	Between years of experience	187.254	10	37.450	2.291	0.001*
	Within years of experience	2327.024	113	19.720		
	Total	2514.278	123			
Strategies for Facilitating Learning	Between years of experience	41.965	10	4.196	2.915	.002*
	Within years of experience	1599.361	113	14.15		
	Total	1641.326	123			
Interpersonal Relationship	Between years of experience	53.382	10	15.794	3.891	.015*
	Within years of experience	1497.944	113	4.458		
	Total	1551.326	123			
Professional Development	Between years of experience	11356.192	10	3166.480	4.238	
	Within years of experience	40092.692	113.001*	92.561		
	Total	51448.883	123			
School Development	Between years of experience	25.729	10	8.576	2.903	0.954
	Within	2741.981	113	17.354		

	years of experience					
	Total	2767.71	123			

***Source: Primary data**

***Denotes the significance at 5%**

Interpretation: The ANOVA table shows that there is a significant difference among the years of experience between the groups and the teachers' performance. The F ratio (1.915) is not significant ($p= 0.506$) at the 0.05 levels of Designing Learning Experiences, the null hypothesis is accepted. The F ratio (2.291) is significant ($p= 0.001$) at the 0.05 levels of Knowledge and Understanding of Subject Matter, so the null hypothesis is not accepted followed by the F ratio (2.915) is significant ($p= 0.002$) at the 0.05 levels of Strategies for Facilitating learning is significant and hence the null hypothesis is rejected. The F ratio (3.891) is significant ($p= 0.015$) at the 0.05 levels of Interpersonal Relationship, so the null hypothesis is not accepted. The F ratio (4.238) is significant ($p= 0.001$) at the 0.05 levels of Professional Development, so the null hypothesis is not accepted. The F ratio (2.903) is not significant ($p= 0.954$) at the 0.05 levels of School Development, the null hypothesis is accepted. Based on the results of the Knowledge and Understanding of Subject Matter, there is a significant difference and so the post- Hoc test is conducted.

Table 4: Knowledge and Understanding of Subject Matter

SMEAN (Level of education)	N	Subset for alpha= 0.05	
		1	
Postgraduate with teacher education	67	17.6	
Graduate with teacher education	40	17.3	
Diploma/others	11	12.5	
Ph. D/Others	5	7.3	
Sig.		0.141	

***Source: Primary data**

Interpretation: The highest score of 17.6 was obtained by the teachers who are graduates with teacher education and the least scores was 15.3 obtained by the teachers holding Ph.D degree. The mean score difference is 10.3. This shows that there is vast difference in the teachers' performance based on their educational qualification.

H2: There is no difference in teachers' performance scores based on certain demographics.

ANOVA tests were conducted to compare teachers' performance scores across different demographic factors. The analysis revealed significant differences in teachers' performance scores based on years of experience and gender. Post-hoc tests may be conducted to identify specific differences between groups.

Table 5: Differences on teachers' performance & Gender Using z-test

Designing Learning Experiences						
Variables	n	Mean	SD	Mean Diff	z	p
Male	30	14.2676	2.89313	0.8972	-1.802	0.73
Female	93	15.1648	3.43920			
Knowledge and Understanding of Subject Matter						
Variables	n	Mean	SD	Mean Diff	z	p
Male	30	16.7465	3.76343	1.1656	-1.740	0.84
Female	93	17.9121	4.56228			
Strategies for Facilitating Learning						
Variables	N	Mean	SD	Mean Diff	z	p
Male	30	14.8169	3.80717	1.282	-2.082	0.039*
Female	93	16.0989	3.99181			
Interpersonal Relationship						
Variables	N	Mean	SD	Mean Diff	z	p
Male	30	16.9114	2.32236	-.56663	-2.454	.044*
Female	93	17.4780	1.93458			
Professional Development						
Variables	N	Mean	SD	Mean Diff	z	p
Male	30	14.4666	2.99313	0.9972	-1.811	0.86
Female	93	15.1749	3.56920			
School Development						
Variables	N	Mean	SD	Mean Diff	z	p
Male	30	16.9114	2.32236	1.1781	-1.755	.089
Female	93	17.4780	1.93458			

***Source: Primary data**

***Denotes the significance at 5%**

Interpretation: The table 5 reveals that the mean, standard deviation and the mean difference scores on all of the dimensions of teachers' performance. Based on the z test, the result shows that there exists a significant difference between the Strategies for Facilitating Learning and the Interpersonal Relationship dimensions of teachers' performance and the gender of the teachers. As the p values of these two dimensions are below 0.05 the null hypothesis is rejected and we can infer that the male and female teachers have a variation where female teachers' try to create more of a learning environment for the students and build interpersonal relationships with the students more compared to their male counterparts.

Research Question 3

H3: In Bangalore schools, transformational leadership has no appreciable impact on improving academic performance or creating a positive learning atmosphere. The results of the analysis demonstrated that transformational leadership significantly improves the performance of teachers. This goes against H3, indicating that transformative leadership can improve learning outcomes and create a positive learning atmosphere. Overall Interpretation: According to the analysis, transformational leadership has a favourable impact on teachers' work, which in turn improves learning outcomes and creates a supportive learning environment. This shows that, in the context of 21st-century education, good leadership is essential to encouraging academic brilliance. The study underscores the significance of the principal-teacher interaction in educational results and the necessity for ongoing research and initiatives to improve school leadership practices. A culture of excellence that optimizes the potential of educators and eventually benefits society at large can be fostered by stakeholders through the investment in leadership development programs and the creation of supportive, collaborative educational settings.

Discussions

The study's findings, are in consistent with the earlier studies that highlight the important link between teachers' performance and administrators' transformative leadership. It has been repeatedly shown that transformational leadership, which inspires and motivates followers toward shared objectives, improves organizational outcomes, such as teacher effectiveness and student accomplishment ((Bass and Riggio 2005, Alghani and Mydin 2022)). In light of the most recent research and body of literature, principals can employ a number of ways to raise the calibre of instruction in their schools. For instance, study lessons and off-the-job training have been found to be successful strategies for teachers' professional development (Hyer & Gardner, 2017) Furthermore, as was also discussed in the discussion, classroom action research prove Principals can encourage a culture of continuous improvement and assist instructors in improving their teaching methods by offering chances for professional development and collaborative learning (Hyer & Gardner, 2017) Furthermore, as discussed the classroom action research provides teachers with an organized way to evaluate their methods, pinpoint the difficulties that their students are facing, and put evidence-based interventions in place to help those (Kılınç et al., 2022), Teachers can actively participate in reflective practice through principal-facilitated action research projects, which can result in iterative changes in teaching and learning outcomes (DeAndrade-Oliveira, 2022). Furthermore, a more dynamic and productive school culture can be created by utilizing the varied experiences and strengths of teachers. In order to facilitate teacher cooperation, mentorship, and peer learning—which allows educators to exchange best practices and work on sustainable goal 4 for quality education principals can play a critical role in setting these up (Hargreaves & Fink, 2004). Principals can foster a healthy work environment that supports teacher motivation and well-being by encouraging a sense of camaraderie and shared purpose among staff members (Sanchez & Watson, 2021) The gender disparities in teachers' assessments of their own performance are also discussed, highlighting the necessity of gender-sensitive leadership strategies. Gender differences in leadership preferences and communication styles have been shown in earlier research (Badia et al., 2013). Female leaders typically display a greater propensity for transformational and relational leadership activities. By identifying and utilizing the capabilities of both male and female teachers, principals can maximize their combined influence on student results by taking use of these findings. Further studies should examine more closely how teachers in various demographic groups perceive the leadership styles of principals. Focus groups and interviews are examples of qualitative methods that can offer extensive insights into the preferences and experiences of teachers with regard to leadership practices (Nadav et al., 2023). In addition, longitudinal research may investigate the long-term effects of suggested interventions on student outcomes and school pedagogies, providing insightful information to practitioners and educational policymakers alike.

Implications and Recommendations

The following recommendations can be made in light of the findings in order to help enhance the teachers' efficiency. Invest in Ongoing Professional Development: Principals should place a high priority on providing teachers with chances for on-the-job training, study lessons, and collaborative learning communities. Teachers' topic knowledge, pedagogical abilities, and instructional tactics can all be improved by giving them access to pertinent workshops, seminars, and online courses. Encourage Reflective Practice: To identify areas for improvement and apply evidence-based interventions, teachers should be encouraged to participate in reflective practice and classroom action research. In order to better address the needs of diverse learners, principals might assist teachers in carrying out action research projects, examining student data, and

improving their teaching strategies. Encourage a Collaborative School Culture: By encouraging cooperation, mentorship, and peer learning opportunities, you can help staff members develop a culture of collaboration and shared accountability. To encourage teachers to share ideas and best practices, principals can organize collaborative planning sessions, lesson studies, and professional learning communities. Acknowledge and Make Use of Teachers' Strengths: Recognize the teachers' varied backgrounds, specialties, and abilities within the school community. By giving teachers leadership responsibilities, organizing peer mentorship programs, and creating chances for teacher-led projects and creativity, principals may take advantage of the special skills and passions that each teacher possesses. Adopt Gender-Sensitive Leadership Practices: Acknowledge and resolve gender disparities in educators' experiences and perspectives in the classroom. It is recommended that principals implement leadership techniques that are inclusive, gender-sensitive, and foster equity, fairness, and respect for all employees. A more accepting and encouraging school climate can be created by offering leadership development opportunities that are customized to the requirements and preferences of both male and female teachers. Monitor and Assess Interventions: Put in place a methodical procedure to keep an eye on and assess the success of suggested initiatives and interventions. To evaluate the long-term effects of professional development programs and leadership practices, principals should gather information on teacher effectiveness, student results, and indications of the school atmosphere. Frequent systems for assessment and feedback can guarantee accountability and support efforts towards continual development.

Conclusion

The study used a quantitative methodology to look at the connection between teachers' performance in primary and middle schools in Bangalore and the transformational leadership displayed by school principals. By using tool like z-test, ANOVA, and correlation, the study sought to shed light on the relationships that exist between teacher performance and leadership style. Transformational leadership and teacher performance have a moderate association coefficient value of 0.569, according of the Pearson correlation test. This implies that principal leadership quality can have a good or negative impact on teacher performance, pointing to a complex relationship that needs more research. Furthermore, gender disparities in teaching styles are highlighted by the z-test results, which show that female teachers, in comparison to their male counterparts, typically provide a more positive learning atmosphere. This emphasizes how gender may influence educational practices and how gender-sensitive leadership strategies are necessary to accommodate a range of teaching philosophies and pedagogical preferences. The study's result emphasizes how crucial strong principle leadership is in influencing teacher performance and, in turn, student outcomes. Fostering a pleasant learning environment and promoting academic success can be achieved by teachers who are empowered and inspired to thrive professionally by a strong and transformative leadership style. On the other hand, poor leadership can stifle educators' passion and make it more difficult for them to provide high-quality instruction, which will eventually affect how well students learn and behave.

Disclosure Statement

Ethical Approval: This study did not receive formal ethics approval. On the other hand, every participant was made aware of the goal of the study, and precautions were taken to protect their privacy and confidentiality.

Informed Consent: All respondents were made aware of the nature and goal of the study before they agreed to participate. Every participant gave their verbal agreement, signifying that they were voluntarily participating in the study.

Conflicts of Interest: With relation to the publishing of this research, the authors have disclosed no conflicts of interest.

Funding: There was no outside funding or assistance given to this study.

Data Collection: Teachers in elementary and middle schools in Northern Bangalore provided on-the-spot data. The participants were given a structured questionnaire, and precautions were made to ensure their privacy and confidentiality.

Sample Selection: A lottery was used to choose the study's participating schools, and the final sample consisted of 123 instructors from each of the two schools. Unfilled response sheets were not included in the analysis.

Respect for Ethical Standards: Despite the lack of formal ethics approval, the research was carried out in a way that guaranteed participant confidentiality and well-being.

AI Support: During the research procedure, the authors made use of an AI language model.

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