IMPACT OF TEACHER LEADERS ON THEIR CLASSROOM CLIMATE AT HIGHER EDUCATION LEVEL

BY

Sara Aqiq

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> **Submitted by:** Sara Aqiq   **Registration #:** 781-Ph.D/Edu/F18

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Name of Discipline

Dr Saira Nudrat   _____
Name of Research   Signature of Research Supervisor
Supervisor

Prof. Dr. Muhammad Riaz Shad   _____
Name of Dean (FSS)   Signature of Dean (FSS

Maj Gen Shahid Mehmood Kayani HI (M) (Retd)   _____
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                              Date

AUTHOR'S DECLARATION

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Daughter of **Muhammad Aqiq**

Registration # 781-Ph.D/Edu/F18

Discipline **Education**

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ABSTRACT

Thesis Title: Impact of Teacher Leaders on their Classroom Climate at Higher Education Level

This study aims to investigate the Impact of Teacher Leaders on their Classroom Climate at higher education level. The primary objectives of the study were; to explore Teacher Leaders at higher education level and to assess the classroom practices of teacher leaders at university level. Further the major objectives were; to analyze the impact of Teacher Leaders on their Classroom Climate at university level, to explore the views of Students regarding leadership attributes of Teacher Leaders and their Classroom Climate practices and the last objective was to design a model for Higher Education to facilitate the Teacher Leaders. Basically, this research has Mixed method approach so the explanatory sequential design was adopted as research design. Moreover, population of the first phase were teachers of public sector universities situated in Islamabad where only Management Sciences and Social Sciences faculties were selected to get data. Stratified sampling technique was used to select the sample size of Ist phase for this purpose teachers from each faculty were targeted as sample of the study, so the sample size was 284 from the total population 1014 of the study. In the second phase of the study purposive sampling technique was adopted to select only those students who were studying from Teacher Leaders to get more detailed information about the leadership attributes of teacher leaders and their impact on classroom climate practices, for this purpose 2 students of each Teacher Leader were selected to share their views about leadership attributes of teacher leaders and classroom practices to maintain healthy environment. In Data collection procedure questionnaires were adapted from REACH Model of Teacher Leaders (Merideth,2000) and Classroom Climate Measurement model (Sriklaub, Wongwanich & Wiratchai, 2014.) to get data from university teachers in the first (quantitative) phase of the study. After the completion of Ist phase, 2nd qualitative phase was started to get detailed responses from the students of Teacher Leaders, for this purpose Semi-structured interviews were conducted. Interview questions were based on the pervious used questionnaires to authenticate and explain the quantitative results. In data analysis session Percentage, regression and thematic analysis were employed to compile the results. Major finding of the study revealed that Teacher Leaders have positive impact to maintain Classroom Climate at higher education level, further the qualitative results uncover comprehensive insights into the pivotal role of teacher leaders in shaping an enriching classroom climate that fosters academic and personal growth among students. The major recommendation of this study is for higher education institutions to prioritize and implement professional development programs that focus on strengthening teacher leadership skills, with an emphasis on adaptive teaching methods, fostering student autonomy, promoting collaboration, and utilizing engaging learning materials to significantly enhance the classroom climate and student development. Lastly keeping in view, the results obtained from different sources "Transformative Educational Ecosystem" Model were designed for Higher Education Institutions to facilitate Teachers as Leaders.

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DEDICATION

This thesis is dedicated to my Parents specially my Abu G, whose prayers and guidance brought success in my Life.

CHAPTER 1

INTRODUCTION

Teacher leadership is widely diagnosed as a crucial element for college success and instructor professionalization (Boles & Troen, 1994; Dozier, 2007; Greenlee, 2007; Lieberman, 1987; Smith, 1999). Although lacking a unique definition, it encompasses instructors extending influence past classrooms thru collaboration and decision-making involvement, often underdeveloped in faculties.

Teachers require opportunities to collaborate outside in their school rooms to decorate their management potential (Dozier, 2007). While some perceive teacher leadership as formal administrative roles, others see it as any possibility for teachers to contribute to selection-making processes (Donaldson & Johnson, 2007). Regardless of the definition, it is broadly prevalent that teacher leadership ability is lacking in most faculties (Greenlee, 2007). The Institute for Educational Leadership (2001) gives a revolutionary definition, suggesting that trainer management isn't always solely approximately energy but includes instructors searching for extra challenges and growth opportunities beyond the study room.

Teacher leaders play a pivotal role in enhancing the educational landscape, extending their impact beyond the confines of their classrooms to contribute to the broader learning community and drive educational reform (Katzenmayer & Moller, 2009). Mangin and Stoelinga (2010) highlight that such leaders not only engage in reflective practices and share their knowledge with students but also actively participate in the decision-making processes that shape school-wide initiatives, all the while maintaining exemplary teaching practices. The direct involvement of teachers in shaping student outcomes underscores the necessity of their engagement in the process of meaningful educational change (Terry, 2018). Positioned at the heart of the school community, teachers are tasked with nurturing an environment that promotes learning and leadership among all stakeholders (Dozier, 2007). Opportunities for teachers to expand their leadership capabilities

beyond the classroom setting not only foster professional development but also empower them to take initiative and drive progress (Moller, 2009). In today's educational context, teachers are expected to assume a variety of leadership roles to address the diverse needs of students, colleagues, and the profession at large (Harrison & Killion, 2007). Whether serving as resource providers, instructional specialists, or mentors, their overarching objectives remain to demonstrate best practices, influence positive change, and enhance collaboration within the school community. However, the push for teacher leadership is often met with challenges, as many educators may not possess the skills or confidence required for these roles. This gap underscores the importance of developing teachers' leadership abilities and their contributions to the effectiveness of their organizations. Identifying or encouraging individuals to step forward and embrace leadership roles is crucial in promoting collaborative efforts and establishing a supportive educational environment (Dozier, 2007).

1.1   Context of the study

The shift towards greater accountability in education has underscored the importance of advancing both the quality of teaching and the level of student success within schools. This shift became more pronounced following the adoption of the No Child Left Behind Act in 2001, placing increased demands on educational administrators to lead comprehensive enhancements in school performance (Beachum & Dentith, 2004). The conventional model, which positioned principals as the sole figures of leadership, has given way to a more inclusive understanding. Currently, leadership is viewed as a shared responsibility, engaging various stakeholders both inside and outside of the school setting (Hargreaves & Fink, 2006).

In the past, the roles were clearly divided, with teachers focusing on delivering lessons and principals managing the school's operational environment to support the educational process, a practice referred to as instructional leadership. However, recent analyses have revealed that the surge in administrative responsibilities, driven by stringent accountability standards, has significantly hampered principals' abilities to dedicate themselves to instructional leadership (Camburn, Rowan, & Taylor, 2003; Gronn & Rawlings-Sanaei, 2003; Murphy & Louis, 1999; Timperley, 2005). This challenge has sparked a movement toward cultivating leadership abilities among teachers and integrating them into the decision-making framework, identified as effective

strategies for enhancing teaching efficacy and elevating student academic achievements (Crowther et al., 2002; Lambert, 1998; Sledge & Morehead, 2006).

The intricate link between how teachers perform and the success of their students is significantly shaped by the organizational atmosphere prevalent in schools (Hoy, Hannum, & Tschannen-Moran, 1998). Within the sphere of research on teacher leadership, considerable emphasis has been placed on understanding the elements that either facilitate or impede its emergence (York-Barr & Duke, 2004). According to York-Barr and Duke (2004), these elements can be grouped into three primary categories: the overarching school ethos, the nature of roles and relationships, and the organizational framework. A pivotal aspect in nurturing the growth of teacher leaders is the ability of school leaders to establish a supportive environment, an aspect deeply embedded in the broader concepts of school ethos and classroom environment.

Although the concepts of classroom environment and school culture are individually distinct (Denison, 1996; Houtte, 2005; Hoy, 1990), this research zeroes in on the classroom environment specifically, and its interplay with teacher leadership. By delving into this connection, the aim is to uncover common elements that influence both teacher leadership and classroom environment, thus enriching our comprehension of how these dynamics intermingle and affect each other. Such an inquiry could unveil universally applicable elements that bolster both effective teacher leadership and a nurturing classroom environment.

Teaching is undeniably the cornerstone of student learning. While fostering teacher leadership is suggested as a method to boost student achievement, it remains to be seen whether the classroom practices of teacher leaders markedly differ from their peers without leadership roles in ways that could influence student performance. Further investigation is warranted to explore the classroom practices of teacher leaders, including their instructional methods, classroom governance strategies, and educational philosophies, to identify potential mediators that could impact student learning outcomes. By comparing these practices between teacher leaders and their non-leadership counterparts, the research aims to resolve existing discrepancies in findings and pinpoint precise elements that connect teacher leadership with educational success (Phillips, 2009).

Investigating the concept of teacher leadership within the realm of classroom instruction might highlight distinct behaviors that set teacher leaders apart from their peers without leadership

roles, aligning with theoretical expectations. Initial exploratory case studies could pave the way for more extensive quantitative research involving broader participant groups (Phillips, 2009). The outcomes of such studies could significantly influence educational practices by identifying behavioral differences in the classroom that potentially affect student learning. This knowledge could enhance school administrators' insights into how leadership traits in teachers influence their classroom behavior and offer strategies for boosting the effectiveness of both teacher leaders and those not in leadership positions (Hlerbran, 2010; Thronton, 2010).

Turning schools into entities that prioritize learning for all members is a fundamental aim of embracing teacher leadership. Moving away from hierarchical management structures, the model of teacher leadership advocates for shared responsibilities and self-directed actions, aligning more closely with the educational needs of the 21st century. It is widely acknowledged that teachers possess the capacity to extend their impact beyond their classrooms, taking on leadership roles within their schools. Nevertheless, achieving this effectively requires teachers to deepen their understanding of leadership principles and to hone the skills necessary to positively influence their colleagues, school leaders, and other educational partners (Khalid, 2007).

Teacher leaders are instrumental in driving school reforms and improvements by fostering advancements at the teaching and learning level. Their responsibilities might encompass overseeing progress initiatives, selecting curricula, participating in leadership meetings, offering peer support, involving parents and the community, and evaluating educational research. Typically, such leaders are seasoned educators held in high regard by their colleagues for their instructional prowess and commitment to learning and achievement. Through both formal and informal roles—such as acting as union representatives, leading departments, or mentoring—they exercise their leadership within the educational setting (Khalid, 2007).

Teacher leadership has been instrumental in advancing not only classroom progress but also school-wide improvement, directly contributing to enhanced student achievement (Tang & See, 2009). Existing literature suggests that teacher leadership can positively impact classroom management. Previous studies by Hickey and Harris (2005), Siti Aida (2011), and Tan (2011) indicate that practicing teacher leadership can improve teachers' classroom management skills (Khalid, 2007).

According to Susan Lovett (2017), teacher leaders exhibit a steadfast commitment to enhancing students' learning outcomes. Their leadership activities are driven by a strong sense of moral purpose. They cultivate collaborative partnerships with colleagues, united by their shared interest in resolving pedagogical challenges to support student learning. Teacher leaders recognize the expertise of their colleagues and actively engage in reciprocal learning processes. This often involves observing classrooms to assist colleagues in planning their instructional strategies. By modeling reflective practices akin to action researchers, teacher leaders make their own learning visible and enrich their interactions with colleagues by incorporating insights from research.

In the past, teachers enjoyed autonomy over their classrooms, making decisions about teaching methods and curriculum (Lovett, 2017). However, this autonomy was largely due to the structure of one-room schoolhouses. With globalization, there has been a shift towards greater collegiality and collaboration in the teaching profession. The study aims to analyze the role of teachers as leaders within the classroom context.

Teacher leaders can be characterized as exemplary individuals with ample experience and garner respect from their colleagues and students (Leithwood, 2014). They are known for their organization, trustworthiness, innovation, and confidence, all of which contribute to facilitating the learning process. These leaders exemplify integrity, possessing strong communication and interpersonal skills, demonstrating high levels of professionalism, and exhibiting a deep passion for student learning. Additionally, they exhibit an unwavering commitment to their students and proactively strive to instigate positive change within the school environment.

According to Hunzicker (2017), teacher leaders in the classroom leverage data and other relevant evidence to inform their decision-making processes. They draw upon significant research to identify new opportunities and mobilize their students around common goals. These leaders are adept at recognizing the resources necessary to facilitate academic progress and diligently monitor and evaluate student progress. It is imperative for teachers in today's classrooms to assume leadership roles, aiming to enhance the performance of every student and the overall performance of the school. Teacher leaders often take on additional responsibilities beyond their contractual duties and actively engage in initiatives within the school community, driven by their dedication to the improvement of educational outcomes.

Classrooms are the foundational spaces where the dynamic exchange between teachers and students occurs, serving as the heart of educational institutions (Smith, 2019). Within these environments, interactions shape the learning experiences and perceptions of both educators and learners (Jones, 2018). The classroom's atmosphere profoundly influences how members of the learning community feel about participating in educational activities (Brown, 2017). Therefore, establishing a conducive environment is crucial for fostering effective teaching and learning processes (Johnson, 2020).

A conducive classroom environment encompasses various aspects, including the physical setup and arrangement of the space. This involves considerations such as the layout of desks and seating arrangements, ensuring accessibility and comfort for both students and teachers (Johnson, 2020). The availability of appropriate furniture and resources further contributes to creating a supportive learning environment that enhances engagement and collaboration among students (Brown, 2017).

However, beyond the physical aspects, the emotional and psychological climate established by teachers plays a pivotal role in shaping the overall classroom environment (Jones, 2018). Teachers' leadership and instructional practices significantly influence the atmosphere within the classroom, impacting students' motivation, behavior, and sense of belonging (Brown, 2017). Effective leadership involves creating a sense of safety, trust, and respect, fostering positive relationships among students and between students and teachers (Johnson, 2020). Moreover, teachers' ability to provide emotional support, encouragement, and guidance contributes to a nurturing classroom climate conducive to learning (Smith, 2019).

Classrooms serve as more than mere physical spaces for instruction; they are dynamic environments where teaching and learning intersect. By attending to both the physical arrangements and the emotional atmosphere, teachers can cultivate a positive classroom climate that promotes engagement, collaboration, and academic success among students. Thus, understanding and nurturing the multifaceted aspects of classroom environments are essential for fostering effective teaching and learning experiences (Jones, 2018).

A positive Classroom Climate is associated with numerous beneficial educational outcomes, including increased academic success, higher achievement levels, and reduced

maladaptive behavior among students (Haynes & Comer, 1994; McEvoy & Welker, 2000). Additionally, it contributes to greater job satisfaction for teachers and administrators (Taylor & Tashakkori, 1995), and facilitates smoother transitions for students moving to new schools (Freiberg, 1998). The extensive focus of research on Classroom Climate underscores its crucial role in students' academic achievement and well-being, with particular attention given to the influence of teacher leaders in fostering a positive environment (Collins & Parson, 2010).

As interest in the impact of Classroom Climate on student outcomes grew, there was a concurrent advocacy for a less hierarchical form of school-based leadership. This approach emphasized the involvement of experienced teachers as teacher-leaders within their schools and broader educational community (Nguyen, Harris, & Ng, 2019). Instead of solely relying on traditional hierarchical structures centered around school principals, this model sought to leverage the expertise and leadership capabilities of seasoned educators to drive positive change and innovation in teaching and learning practices.

By empowering teacher-leaders to take on leadership roles, schools can tap into a wealth of knowledge and experience to create a supportive and conducive learning environment. Teacher-leaders play a vital role in shaping Classroom Climate through their leadership style, instructional practices, and interpersonal relationships with students and colleagues (Amedome, 2018). Their ability to cultivate a positive atmosphere within classrooms not only enhances academic outcomes but also fosters a sense of belonging and engagement among students, ultimately contributing to a thriving educational community.

In summary, the relationship between Classroom Climate and leadership underscores the critical role of teacher-leaders in creating environments conducive to student success and well-being. By embracing a more collaborative and inclusive approach to school leadership, educators can harness the collective expertise and leadership potential of teachers to drive continuous improvement and innovation in education.

Classroom climate plays a crucial role in the development of learners, fostering engagement and success in learning (Reyes et al., 2012). It is influenced by the efforts of teachers in managing the classroom and the active participation of students (Brekelmans et al., 2005). Enhancing classroom climate is instrumental in improving students' knowledge, but for it to be

effective, teachers must consider students' individual needs and backgrounds, aligning with the principles of learner-cantered teaching (Land & Hannafin, 2000; Narum, 2004; Khammanee, 2004).

In some educational contexts, such as Thailand, there has been a shift towards learner-cantered learning management, departing from traditional teacher-cantered approaches (Sengdonpai, 2007; Chaokiratipong, Namfa, & Thaithae, 2002). This shift emphasizes teachers' roles as facilitators and mediators rather than just instructors, encouraging active student participation and knowledge creation. Evaluation methods have also evolved to focus on diagnosing student learning needs and fostering improvement (Allen, 2004; Huba & Freed, 2000).

Classroom climate serves as a qualitative indicator of the overall quality of the school environment, reflecting the quality of interpersonal relationships within the school community (Zakariya, 2020). A positive classroom climate is essential for an effective educational process, allowing students to express themselves, be encouraged to participate actively, and foster their creativity, ultimately contributing to their holistic development.

Teachers indeed play a pivotal role in shaping the classroom climate, which significantly influences the success of the educational process (Taylor & Tashakkori, 1995). The classroom climate is deeply impacted by the individual educational and management style employed by the teacher, which is often influenced by their personality and personality traits (Louis et al., 2010).

Teachers' personalities and traits manifest in various aspects of their teaching, including their instructional methods, classroom management strategies, and interactions with students. For example, a teacher with a warm and nurturing personality may create a supportive and inclusive classroom environment where students feel valued and motivated to participate actively in learning activities. On the other hand, a teacher who is authoritative and strict may establish a more structured classroom environment with clear expectations and boundaries (Taylor & Tashakkori, 1995).

Additionally, teachers' authority within the classroom significantly shapes the dynamics of student-teacher interactions and the overall atmosphere (Louis et al., 2010). Effective classroom management requires teachers to strike a balance between exercising authority and fostering a

positive learning environment where students feel safe, respected, and empowered to engage in learning (Taylor & Tashakkori, 1995).

Furthermore, teachers' ability to adapt their teaching styles and approaches to meet the diverse needs of their students is essential for creating an inclusive and conducive learning environment (Louis et al., 2010). By recognizing and accommodating students' individual learning preferences, strengths, and challenges, teachers can promote equity and facilitate student success (Taylor & Tashakkori, 1995).

In summary, teachers' roles in shaping the classroom climate are multifaceted and extend beyond simply delivering content. Their interactions, instructional strategies, and management techniques significantly influence the learning experiences and outcomes of their students. Therefore, fostering a positive classroom climate requires intentional efforts on the part of teachers to leverage their personalities and authority effectively while prioritizing the needs and well-being of their students.

1.2   Rationale of the study

Teacher leadership has emerged as a vital factor in enhancing educational quality, particularly in creating a positive and productive classroom climate. International research has demonstrated that teacher leaders play a critical role in improving instructional practices, fostering collaboration, and enhancing student engagement and well-being (Wenner & Campbell, 2017; York-Barr & Duke, 2004). These leaders influence not only curriculum delivery but also the overall emotional and social environment of the classroom, contributing significantly to learners' academic performance and psychological safety (Seah & Edwards, 2021; Wang, Hall, & Rahimi, 2022). However, the bulk of these studies are concentrated at the primary and secondary levels, with relatively limited empirical evidence on how teacher leadership operates within higher education settings.

In the context of Pakistan, the issue becomes even more pronounced. Despite ongoing educational reforms and increasing focus on teacher development, the concept of teacher leadership in universities is still under-researched. Aqiq and Nudrat (2024), in their study on classroom climate strategies used by teacher leaders at the university level, emphasized the importance of these strategies in shaping positive learning environments. Their findings show that

demographic and institutional factors influence how teacher leaders cultivate classroom climates. Similarly, the RAND evaluation of the *Teach For Pakistan* (TFP) program (Schweig et al., 2025) offers compelling evidence that teacher leaders significantly enhance student learning outcomes and classroom climate by fostering engagement and socio-emotional development.

Furthermore, research by Lashari and Phulpoto (2022) highlights that transformational leadership in Pakistani public sector universities contributes to a healthier institutional climate and better teacher retention, both of which are strongly linked to classroom dynamics. Despite these valuable insights, there remains a clear research gap: few studies explicitly explore how teacher leaders at the higher education level impact the classroom climate from a localized, empirical standpoint.

The role of teacher leaders has gained increasing attention in educational research over the past decade. Numerous studies have highlighted how teacher leadership contributes to improved instructional practices, collaborative school culture, and enhanced student outcomes (Wenner & Campbell, 2017; York-Barr & Duke, 2004). However, much of this research has primarily focused on school-level (primary and secondary education) settings, leaving a significant gap in understanding the influence of teacher leadership at the higher education level (Fairman & Mackenzie, 2015).

Recent studies (e.g., DeMatthews, 2020; Ng, 2019) emphasize that in university settings, leadership is not only a formal administrative function but also an informal, classroom-based activity where faculty members can shape learning environments. Teacher leaders at the higher education level have the potential to foster more inclusive, engaging, and supportive classroom climates, which are critical factors for student motivation, retention, and success. Despite this recognition, empirical research explicitly linking teacher leadership to classroom climate in higher education remains limited and fragmented.

Moreover, as higher education institutions increasingly prioritize active learning, student engagement, and mental well-being, understanding how teacher leadership behaviors impact classroom dynamics becomes even more vital (Seah & Edwards, 2021). Recent evidence suggests that classrooms led by teacher leaders tend to demonstrate higher levels of trust, collaboration, and academic resilience among students (Wang, Hall, & Rahimi, 2022). These findings underscore the

need for further exploration into how teacher leadership qualities influence not just academic outcomes, but also the emotional and psychological atmosphere of the classroom.

sGiven the shift toward learner-centred pedagogy, rising student diversity, and increasing emphasis on psychological well-being in Pakistani universities, it becomes essential to explore how teacher leaders can influence the academic and emotional environment of their classrooms. This study, therefore, focused to bridge this gap by investigating the impact of teacher leadership on classroom climate at the higher education level in Pakistan. By doing so, it contributes to both international discourse and local policy, offering evidence-based recommendations for fostering more inclusive and engaging learning environments in Pakistani universities.

1.3   Statement of Problem

In the education system, teachers play a fundamental and crucial role, serving as the backbone of the entire industry. The quality of education relies heavily on their capabilities and effectiveness, and their roles have evolved substantially in the 21st century. No longer confined to traditional instructional roles, teachers today are expected to adopt multiple responsibilities, including that of teacher leaders (Katzenmeyer & Moller, 2009). Teacher leadership has been linked to improved student outcomes, enhanced school performance, and transformative classroom environments (Harris, 2003; York-Barr & Duke, 2004).

However, in Pakistan, where the education sector faces numerous challenges, the scope of teacher leadership remains significantly underutilized and under-researched. This gap persists despite increasing evidence that effective teacher leadership positively influences classroom climate and contributes to overall institutional success (Bashir & Jalal, 2018; Wenner & Campbell, 2017). Unlike developed countries, where teacher leadership roles are supported by structured development programs and leadership pathways, Pakistan's education system lacks comprehensive teacher development initiatives that equip educators for leadership. Additionally, monitoring mechanisms and incentives are often insufficient, creating a barrier to achieving global educational standards (Rahman, 2019).

Despite growing global recognition of teacher leadership in shaping effective learning environments, higher education in Pakistan lacks sufficient focus on developing such leadership at the undergraduate (BS) level. Most existing researches emphasize on primary and secondary

education, leaving a significant gap in understanding how teacher leaders influence classroom climate in universities. To address this issue, the current study aims to analyze leadership qualities of teacher leaders and their impact on classroom climate. The study further seeks to develop a practical model for fostering teacher leadership to improve teaching and learning outcomes in higher education institutions.

1.4   Research Objectives

1. To identify Teacher Leaders among university teaching faculty based on their leadership qualities.

2. To assess the Classroom Climate strategies of Teacher Leaders at higher education institutions

3. To analyze the impact of Teacher Leaders on their Classroom Climate at higher education level.

4. To explore the views of students regarding leadership attributes of Teacher Leaders and their Classroom Climate practices at Higher Education Level.

5. To design a framework for enhancing leadership qualities and fostering a positive classroom climate among teaching faculty at higher education level.

1.5   Research Hypotheses

$H^0 1$ There is no significant impact of Teacher Leaders on their Classroom Climate at higher education institutes.

$H^0 1.1$ There is no statistically significant impact of Risk-taking on Management of Learning activities at higher education level.

$H^0 1.2$ There is no statistically significant impact of Risk- taking on Encouragement of Students participation at higher education level.

$H^0 1.3$ There is no statistically significant impact of Risk- taking on Student's support for learning at higher education level.

$H^01.4$ There is no statistically significant impact of Effectiveness on Management of Learning activities at higher education level.

$H^01.5$ There is no statistically significant impact of Effectiveness on Encouragement of Students participation at higher education level.

$H^01.6$ There is no statistically significant impact of Effectiveness on Student's support for learning at higher education level.

$H^01.7$ There is no statistically significant impact of Autonomy on Management of Learning activities at higher education level.

$H^01.8$ There is no statistically significant impact of Autonomy on Encouragement of Students participation at higher education level.

$H^01.9$ There is no statistically significant impact Autonomy on Student's Support for Learning at higher education level.

$H^01.10$ There is no statistically significant impact of Collegiality on Management of Learning   activities at higher education level.

$H^01.11$ There is no statistically significant impact of Collegiality on Encouragement of Students participation at higher education level.

$H^01.12$ There is no statistically significant impact Collegiality on Student's Support for Learning at higher education level.

$H^01.13$ There is no statistically significant impact of Honor on Management of Learning activities at higher education level.

$H^01.14$ There is no statistically significant impact of Honor on Encouragement of Students participation at higher education level.

$H^01.15$ There is no statistically significant impact Honor on Student's Support for Learning at higher education level.

1.6   Research Questions

1. Who are Teacher Leaders among teaching faculty at higher education level?

2. What are the most Practicing Classroom Climate strategies adopted by Teacher Leaders at higher education level?

3. What are the views of students about the leadership attributes exhibited by teacher leaders and their classroom climate practices at the higher education level?

   3.1 How do teacher leaders in higher education demonstrate risk-taking by seeking challenges and implementing innovative teaching practices?

   3.2 What strategies do teacher leaders employ to ensure professional effectiveness in teaching methodologies and student learning outcomes?

   3.3 How do teacher leaders exercise autonomy in decision-making related to curriculum design and classroom management?

   3.4 In what ways do teacher leaders promote collegiality and foster a   collaborative environment among faculty members?

   3.5 How do teacher leaders exemplify honor and ethical conduct in their leadership roles within higher education institutions?

   3.6 How effectively a teacher can manage the classroom activities by using various teaching learning techniques?

   3.7 What are the ways and means the teacher can adopt to encourage the students for active participation?

   3.8 In our education system how can a teacher support their students to achieve learning outcomes?

4. What components should be included in a framework aimed at enhancing leadership qualities and fostering a positive classroom climate among educators at the Higher Education level?

Table 1.1   Research Objectives and their related Hypothesis & Research Questions

Objective No	Objective	Hypothesis	Research Question
1	To identify Teacher Leaders among the university teaching faculty based on their leadership qualities.	N/A-	Who are Teacher Leaders among teaching faculty at higher education level?
2	To assess the Classroom Climate strategies of Teacher Leaders at higher education institutions	N/A-	What are the most Practicing Classroom Climate strategies adopted by Teacher Leaders at higher education level?
3	To analyze the impact of Teacher Leaders on their Classroom Climate at higher education level.	There is no significant impact of Teacher Leaders on their Classroom Climate at higher education institutes.	N/A-
4	To explore the views of students regarding leadership attributes of Teacher Leaders and their Classroom Climate practices at Higher Education Level.	N/A	What are the views of students about the leadership attributes exhibited by teacher leaders and their classroom climate practices at the higher education level?

| 5 | To design a framework for developing Teacher Leadership Qualities and fostering a positive Classroom Climate among teaching faculty at Higher Education Level. | N/A- | What components should be included in a framework aimed at developing teacher leadership qualities among educators at the higher education level? |

1.7   Theoretical Framework

The concept of teacher leadership has undergone distinct phases of evolution, as outlined by Silva, Gimbert, and Nolan (2000), with a subsequent phase added by Berry, Byrd, and Wieder (2013). Initially, teacher leaders held formal administrative roles, focusing on operational efficiency and management within schools. Subsequently, their roles expanded to include facilitating professional development, mentoring, and expertise in curriculum development. The third phase saw teacher leaders playing a pivotal role in school-wide reforms, particularly in fostering professional learning communities and enhancing instructional practices.

In the fourth phase, identified by Berry et al. (2013), teacher leadership encompasses attributes from previous phases while emphasizing the need for support and incentives to adapt teaching practices to meet the demands of the 21st-century classroom. These demands include embracing innovative instructional techniques such as blended learning, flipped classrooms, and leveraging technology effectively.

In this study, the REACH model of teacher leadership and the Classroom Climate Measurement model were chosen as the theoretical foundation. The REACH model, proposed by Merideth (2000), highlights five key attributes of teacher leaders: Risk-taking, Effectiveness, Autonomy, Collegiality, and Honor. These attributes are instrumental in shaping the classroom climate and influencing students' learning experiences in higher education settings.

The REACH model underscores the importance of teacher leaders in fostering a positive and enriching classroom environment by embodying these attributes. By embracing risk-taking,

demonstrating effectiveness, exercising autonomy, fostering collegial relationships, and upholding honor, teacher leaders contribute significantly to creating a conducive learning atmosphere that promotes student engagement and achievement. This theoretical framework provides a comprehensive understanding of how teacher leadership influences classroom dynamics and student outcomes in the context of higher education.

1. Risk Taking: The attribute of risk-taking underscores teacher leaders' willingness to explore innovative approaches and strategies in their teaching practices (Merideth, 2000). It involves embracing new ideas, technologies, and teaching methods, even if they deviate from conventional norms. In the research context, risk-taking suggests that teacher leaders who are open to experimenting with creative teaching methodologies may cultivate a dynamic and engaging classroom climate. This willingness to take risks can spark student curiosity, foster a culture of exploration, and lead to a vibrant learning environment.

2. Effectiveness: Effective teacher leaders exhibit a strong ability to attain their educational goals and positively influence student learning outcomes (Merideth, 2000). They adeptly employ teaching strategies that align with their students' needs and preferences. Within the study's framework, the effectiveness attribute implies that teacher leaders who succeed in enhancing student understanding and academic achievement can contribute to a classroom climate characterized by a sense of accomplishment, motivation, and active participation.

3. Autonomy: Autonomy pertains to the degree of independence displayed by teacher leaders in their decision-making and instructional practices (Merideth, 2000). Teacher leaders with a high level of autonomy are capable of making informed choices tailored to their students' unique requirements and the classroom context. In the context of the research, autonomy suggests that teacher leaders who have the freedom to adapt their teaching methods based on insights and observations can foster a flexible and responsive classroom climate. This attribute encourages student-centered learning and personalized interactions.

4. Collegiality: Collegial teacher leaders prioritize collaboration and communication among their peers (Merideth, 2000). They actively engage in sharing best practices, offering constructive feedback, and cultivating a sense of camaraderie within the educational community. Within the research framework, collegiality implies that teacher leaders who promote a collaborative atmosphere can contribute to a classroom climate characterized by

mutual support, respect, and a sense of belonging. This attribute encourages open dialogue, peer learning, and the exchange of diverse perspectives.

5. Honor: Teacher leaders who embody the attribute of honor uphold strong ethical principles, integrity, and a sense of responsibility towards their profession and their students (Merideth, 2000). They serve as role models by demonstrating honesty, fairness, and a commitment to fostering a positive learning environment. In the research context, the honor attribute suggests that teacher leaders who exemplify ethical behavior can contribute to a classroom climate marked by trust, respect, and a strong sense of shared values. This attribute cultivates a safe and inclusive learning environment where students feel valued and supported.

In conclusion, the attributes outlined by the REACH model—risk taking, effectiveness, autonomy, collegiality, and honor—provide a comprehensive theoretical framework for understanding how teacher leaders shape the classroom climate in higher education. Each attribute contributes distinct qualities that collectively create an environment conducive to meaningful learning experiences and positive student outcomes (Merideth, 2000).

In essence, teacher leaders are individuals who possess a diverse range of skills exhibited both within and beyond the confines of the classroom, aiming to influence student learning and drive school improvement efforts. Classroom climate, on the other hand, encapsulates the collective emotions and dynamics between teachers and students during a learning session, shaped by various factors such as teaching methods and student engagement levels. This climate is continually shaped and maintained throughout the learning process. Initially, it is set in motion by the teacher's approach to organizing the learning activity, and subsequently, it is influenced by ongoing interactions and behaviors within the classroom. As students actively participate, they contribute to shaping the classroom climate, ultimately impacting the effectiveness of student learning (Brophy-Herb et al., 2007; McCombs & Whisler, 1997; Saft & Pianta, 2001, as cited in Buyse et al., 2008).

Another theoretical framework utilized in this study is the Classroom Climate Measurement model, introduced by Sriklaub, Wongwanich, and Wiratchai in 2015. This model adopts a learner-centered approach and was developed through an extensive review of research focused on learner-

centered practices in classrooms and the role of teachers in cultivating a favorable and productive climate.

The Classroom Climate Measurement model places a strong emphasis on comprehending the emotions and behaviors exhibited by both teachers and students. By delving into these aspects, the model aims to enhance the overall effectiveness of the learning climate. At its core, this model is grounded in the principles of Classroom Climate Enhancement, which consists of three key elements:

The basis of our study, exploring the influence of Teacher Leaders on Classroom Climate in Higher Education, is grounded in three important classroom management strategies. These strategies provide a solid foundation to understand how teacher leaders shape the classroom environment and, in turn, impact the experiences of students:

1. Managing Learning Activities: This strategy is at the core of our study's foundation. It involves effectively organizing and guiding various learning tasks and activities in the classroom. By skillfully managing these activities, teacher leaders ensure that students aren't just passive listeners but actively engaged, motivated, and deeply involved in their learning journey. This approach reflects how teacher leaders can create an atmosphere that encourages participation, critical thinking, and a clear sense of purpose among students.

2. Encouraging Student Participation: Another crucial element is the promotion of student participation. Teacher leaders act as catalysts, fostering a classroom environment where students feel empowered and valued for sharing their thoughts, ideas, and insights. By nurturing this culture of participation, teacher leaders help students take ownership of their learning and encourage collaboration among peers. This aspect highlights how teacher leaders can shape a classroom where students engage openly, respect one another, and actively contribute.

3. Supporting Students During Learning sessions: The third strategy highlights the pivotal role teacher leaders play in supporting students throughout their learning journey. This support can come in the form of guidance, answering questions, and creating a safe space for expressing thoughts. This emphasizes that teacher leaders contribute to a nurturing classroom climate where students are comfortable taking intellectual risks and expressing

themselves freely. This environment not only enhances learning but also aligns with the idea of teacher leaders as mentors who facilitate growth.

By incorporating these strategies as a theoretical foundation, this research comprehensively explores how teacher leaders, through their actions, influence the classroom climate. Through effective management, encouraging participation, and providing student support, this study seeks to uncover valuable insights into the diverse ways' teacher leaders impact the Higher Education learning environment.

To strengthen the theoretical grounding of this study, the following table presents a comparison of the study's key dimensions with relevant established theories and models. This alignment highlights how concepts from the REACH Model and Classroom Climate Measurement Model correspond with broader theoretical frameworks. It also provides a basis for understanding the study variables within a wider scholarly context. This study draws on established models of teacher leadership and classroom climate to provide a comprehensive understanding of how leadership qualities influence the learning environment in higher education. By integrating the REACH Model and the Classroom Climate Measurement Model, the study connects leadership behavior with classroom dynamics. The following table aligns these dimensions with other relevant theories to strengthen the conceptual foundation of the research.

Table 1.2 Theoretical Framework and its supporting theories

Teacher Leadership Attributes (*Merideth, 2000*)	Corresponding Theories / Models	Key Features
Risk Taking	Transformational Leadership Theory (Bass, 1985)	Intellectual stimulation, encouraging innovation and experimentation
	Innovative Leadership Theory (Moolenaar et al., 2010)	Encouraging experimentation, creative problem-solving, embracing change

	Servant Leadership Theory (Greenleaf, 1977)	Taking initiative for the betterment of learners, leading with courage and humility
Effectiveness	Teacher Effectiveness Framework (Stronge, 2018)	Planning, instructional delivery, assessment, professional competence
	Marzano's Model of Teaching Effectiveness (2003)	Classroom strategies, teacher reflection, and student achievement outcomes
	Instructional Leadership Model (Hallinger, 2003)	Clear goals, academic emphasis, classroom supervision
Autonomy	Self-Determination Theory (Deci & Ryan, 1985)	Professional independence, intrinsic motivation, decision-making power
	Empowerment Theory (Zimmerman, 1995)	Decision-making authority, self-direction, and confidence in professional roles
	Participative Leadership Theory (Lewin et al., 1939)	Involving teachers in decision-making, promoting independence and responsibility
Collegiality	Distributed Leadership Theory (Spillane, 2006)	Collaboration, shared responsibilities, team-based leadership
	Professional Learning Community (PLC) (DuFour, 2004)	Shared vision, collaboration, and reflective dialogue among peers
	Collective Leadership Theory (Leithwood & Mascall, 2008)	Leadership as a shared function across staff to improve teaching and learning
Honor	Ethical Leadership Theory (Brown & Treviño, 2006)	Respect, integrity, fairness, professional values

	Moral Leadership Theory (Sergiovanni, 1992)	Acting with integrity, ethical responsibility, and fostering trust
	Virtue Ethics in Education (Carr, 2007)	Emphasizing respect, fairness, and moral character in professional practice
Classroom Climate Strategies *(Kaint Sriklaub et al., 2015)*	**Corresponding Theories/Models**	**Key Features**
Manage Learning Activities	Classroom Management Theory (Kounin, 1970)	Instructional flow, smooth transitions
	Time-on-Task Theory (Carroll, 1963)	Efficient use of instructional time, task engagement, and pacing of activities
	Effective Teaching Framework (Danielson, 2007)	Classroom procedures, instructional delivery, lesson structure
Encourage Student Participation	Constructivist Theory (Vygotsky, 1978)	Active learning, peer interaction, scaffolding participation
	Engagement Theory (Kearsley & Shneiderman, 1999)	Participation through meaningful tasks, collaboration, and active involvement
	Social Constructivism (Bruner, 1996)	Learning through dialogue, peer interaction, and scaffolded support
Support Student's Learning	CLASS Framework (Pianta et al., 2008)	Emotional and instructional support, responsiveness, student-centered guidance
	CARE Framework (Wentzel, 2012)	Teacher-student relationships, emotional support, encouragement
	Humanistic Education Theory (Rogers, 1969)	Learner-centered environment, empathy, individualized attention

Rationale for adapting models as theoretical foundation: The selection of Meredith's (2000) and Kanit Sriklaub's (2015) models as the theoretical foundation for this study is grounded in their relevance to understanding the dynamics of teacher leadership and its effects on classroom climate. Meredith's model emphasizes the multifaceted nature of leadership within educational contexts, highlighting how leadership practices can be structured to enhance teaching and learning environments. This is crucial given that Burch and Spillane (2015) stress the importance of teacher leadership in fostering student engagement, which directly relates to classroom dynamics.

Additionally, Kanit Sriklaub's model contributes to the discussion by offering insights into the specific attributes and behaviors that characterize effective teacher leaders. This aligns with Grissom et al. (2016), who call for empirical evidence that links teacher leadership practices to measurable educational outcomes. By utilizing these models, the study aims to explore and articulate the connections between teacher leadership, classroom climate, and student engagement, thereby addressing gaps in existing literature and providing a comprehensive framework for understanding these relationships in higher education settings.

Overall, these models not only fill significant gaps in the research but also provide a structured approach that is essential for analyzing the impact of teacher leadership on educational practices and outcomes, fostering a more nuanced understanding of how to create supportive and effective learning environments.

1.8   Conceptual Framework

The conceptual framework of this study is constructed upon two pivotal variables: **Teacher Leaders (IV)** and **Classroom Climate (DV)**, which together form the core focus of the research. To delve into the intricate interplay between these variables, the study draws upon two influential theoretical frameworks: the **REACH model of Teacher Leadership** and the **Classroom Climate Measurement model**.

At the foundation of this conceptual framework stands the REACH model of Teacher Leadership, conceptualized by Merideth in 2000 within her work *Leadership Strategies for Teachers*. This model illuminates five essential attributes that characterize teacher leaders,

collectively shaping the classroom climate in higher education settings. These attributes encompass **risk-taking, effectiveness, autonomy, collegiality, and honor**.

Firstly, risk-taking teacher leaders are innovators who willingly explore unconventional teaching approaches, introducing creativity and dynamism into the classroom. Their willingness to experiment stimulates a vibrant and engaging learning atmosphere. Secondly, teacher leaders who demonstrate effectiveness in their teaching strategies contribute to student motivation and achievement, fostering a sense of purpose and accomplishment among learners. Thirdly, autonomy empowers teacher leaders to tailor their instructional methods to cater to the diverse needs of individual students, fostering adaptability and personalized learning experiences.

Moreover, the attribute of collegiality underscores the significance of collaboration and open communication among teachers and students alike. Teacher leaders who prioritize collegiality promote a classroom environment characterized by mutual respect, shared knowledge, and diverse perspectives. Lastly, the attribute of honor emphasizes ethical behavior and integrity. Teacher leaders who embody honor create a culture of trust and shared values, thereby nurturing a safe and supportive learning environment.

Complementing the REACH model, the conceptual framework also integrates the Classroom Climate Measurement model, developed by Sriklaub, Wongwanich, and Wiratchai in 2015. This model is rooted in a learner-centered approach and emphasizes the emotions and behaviors of both teachers and students within the classroom context. At its core are three fundamental principles: **managing learning activities, encouraging student participation, and providing support during learning sessions**.

The principle of managing learning activities underscores the strategic organization and facilitation of diverse learning tasks to ensure student engagement and active participation. Encouraging student participation, the second principle, involves creating an inclusive classroom environment where students feel empowered to contribute their thoughts and insights, thereby fostering collaboration and ownership in the learning process. The third principle, supporting students during learning sessions, highlights the critical role of teacher leaders in providing guidance, addressing queries, and cultivating a safe space for open expression, thereby nurturing a positive and productive learning climate.

Justification of Conceptual framework: The integration of these two models is methodologically and theoretically justified. The **REACH model** provides a multidimensional understanding of teacher leadership attributes, identifying the personal and professional qualities that enable teachers to influence their classroom environment. However, leadership qualities alone cannot fully explain the nuances of classroom dynamics. Similarly, the **Classroom Climate Measurement model** captures the processes and outcomes of classroom interactions but does not account for the antecedent role of teacher leadership. By combining these two frameworks, the conceptual framework establishes a **comprehensive, empirically testable structure** that links teacher leadership directly to classroom climate outcomes. This integrated framework is grounded in theory, validated through expert consultation, and operationalized to align with the study's objective to **design a model for enhancing teacher leadership qualities and fostering a positive classroom climate**. It allows the study to systematically explore how each leadership attribute— risk-taking, effectiveness, autonomy, collegiality, and honor—translates into practical classroom strategies, shaping students' experiences, participation, and learning outcomes. The dual-theory approach ensures that the framework is both **holistic and actionable**, bridging the gap between leadership traits and classroom impact in higher education settings.

In summary, this conceptual framework unites the REACH model and the Classroom Climate Measurement model, forming a solid theoretical foundation for the study *"The Impact of Teacher Leaders on Classroom Climate at Higher Education Level."* By investigating the dynamic interactions between teacher leadership attributes and classroom climate principles, the study aims to uncover the nuanced ways in which teacher leaders influence and enhance the learning experiences of students in higher education. With this framework, the research proceeds toward systematically analyzing the influence of teacher leaders on classroom climate, generating insights that can guide both policy and practice in higher education institutions.Therefore, the study would be proceeded in following directions:
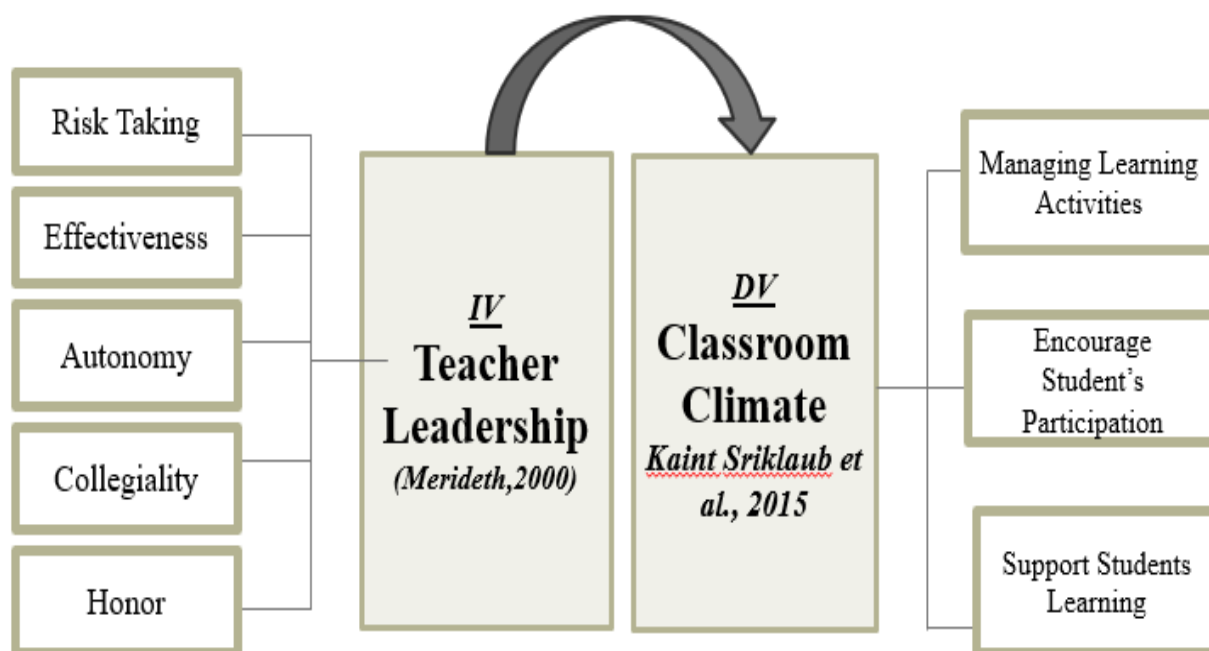
Figure 1 Conceptual Framework

1.9   Significance of the study

The role of teachers in society is indispensable, serving as the conduit for passing on intellectual traditions and technical skills to future generations, thus ensuring the continuity of civilization. Teachers are pivotal contributors to a nation's future, with their training, dedication, and effectiveness forming the backbone of the educational system.

The benefit of studying the "Impact of Teacher Leaders on Classroom Climate in Higher Education" encompasses various facets that hold implications for multiple stakeholders within the education system.

Firstly, this research holds significant importance for educational policy and planning. By gaining insights into how teacher leaders shape the classroom climate, policymakers can develop effective strategies to promote teacher leadership and cultivate a conducive learning environment. Recognizing the value of teacher leaders will facilitate the formulation of policies supporting their growth and integration into educational institutions, ultimately leading to positive educational reforms. Secondly, the study's findings can greatly contribute to teacher professional development

programs. By identifying the practices and characteristics of effective teacher leaders, training programs for educators can be tailored in a targeted and comprehensive manner. Providing teachers with leadership skills will empower them to improve their classroom management, teaching methods, and overall effectiveness in creating positive learning experiences for students.

Moreover, understanding the impact of teacher leaders on the classroom climate can profoundly affect student learning outcomes. A positive classroom climate has been correlated with enhanced academic performance, heightened student engagement, and increased satisfaction levels. Therefore, by fostering more engaging and supportive learning environments through effective teacher leadership, students' educational experiences can be enriched. Furthermore, recognizing the significance of teacher leadership can positively impact teacher recruitment and retention. When educators have opportunities to assume leadership roles and make a difference beyond their classrooms, it can lead to increased job satisfaction and greater commitment to the teaching profession. This, in turn, can attract and retain talented educators, contributing to a more competent and motivated teaching workforce. In addition to its impact on individual classrooms, teacher leadership also plays a pivotal role in shaping the culture and climate of entire educational institutions. Teacher leaders' ability to foster collaboration, support innovation, and promote a positive working environment can significantly contribute to a school's overall success and reputation.

The study's significance extends to enhancing overall educational quality. By examining the impact of teacher leaders, educational institutions can implement targeted interventions that improve teaching practices, classroom management, and the overall learning experience for students. Moreover, the research holds value in advancing the field of educational research. By contributing to the existing body of knowledge on teacher leadership and its influence on the classroom climate, it can serve as a foundation for further research and exploration in this critical area of education. The significance of this study lies in its potential to provide a viable roadmap for stakeholders in the education sector, particularly in Pakistan's higher education institutions. By systematically exploring the impact of teacher leadership on classroom climate, this research offers insights that can inform policy and practice, thereby enhancing educational quality and student outcomes. The findings will equip university administrators, educators, and policymakers with evidence-based strategies for fostering effective teacher leadership and supportive learning

environments. Moreover, this study addresses the existing gaps in the literature regarding teacher leadership's role in enhancing classroom climates, making it a critical resource for developing targeted interventions that align with international educational standards (Wenner & Campbell, 2017; Muijs & Harris, 2006). Ultimately, the research aims to empower educators and institutional leaders to cultivate a culture of collaboration and innovation, ensuring that the educational experiences provided are both meaningful and impactful for all stakeholders involved.

Finally, the outcomes of this study hold promise for both educators and students alike. This research bears significant implications, particularly in advancing the understanding of teacher leadership and its impact on student performance and classroom dynamics. By shedding light on various leadership styles and their effects, this study contributes valuable insights to the educational landscape. Moreover, the findings of this research are pertinent to higher education administrative practices. Administrators can leverage the results to inform their decision-making processes and enhance their administrative responsibilities with evidence-based approaches. For educators, this study serves as a source of knowledge, encouraging them to delve deeper into leadership research to align their practices with their individual attributes and contextual factors. Understanding the nuances of leadership styles can empower teachers to cultivate effective classroom climates conducive to learning. Furthermore, the insights garnered from this study can enlighten teachers about students' needs and preferences, enabling them to tailor their instructional approaches accordingly. Students, in turn, gain clarity on their roles within the classroom and are encouraged to actively engage in learning activities, fostering a more enriching educational experience.

In conclusion, the significance of this study lies in its potential to bring about positive changes in the education system. By shedding light on the crucial role of teacher leaders and their impact on the classroom climate, the study can lead to the recognition and support of teacher leadership, creating positive learning environments that benefit both teachers and students alike.

1.10 Delimitation

The study would be delimited to the following aspects:

1. Geographical Delimitation: The study is limited to public universities in Islamabad, Pakistan. This delimitation is justified due to financial and social restrictions, which may

make it difficult to conduct research across multiple locations. Focusing on universities in one specific city allows for better resource management and accessibility during data collection.

2. Targeted Participants: The study is delimited to only teaching faculty and students in the fields of Social Sciences and Management Sciences. This choice is logical because it helps maintain a specific focus on disciplines that are relevant to the research topic. By selecting a specific population, the study can gather more in-depth and targeted insights from individuals who directly experience the impact of teacher leaders in these particular fields.

3. Cost and Time Efficiency: Limiting the research to public universities helps manage the financial aspect of the study. Public institutions may have more accessible data and resources compared to private universities, which could require additional expenses and permissions for data collection. Additionally, focusing on specific faculties reduces the time and effort required for data gathering and analysis, ensuring a more efficient research process.

4. Consistency and Comparisons: Delimiting the study to a specific location and disciplines allows for better consistency in data collection and analysis. It reduces potential variations that might arise from different cultural contexts or diverse academic backgrounds. Moreover, it enables meaningful comparisons within the selected faculties, providing valuable insights into the impact of teacher leaders within these specific academic domains.

5. Practicality and Feasibility: Delimiting the study to public universities in Islamabad and specific disciplines makes the research more feasible within the available resources and time frame. Conducting a broader study involving multiple locations and academic fields might exceed the scope of the current research project. By choosing a more manageable scope, the study can be executed effectively, yielding relevant and meaningful results.

In summary, each aspect of the delimitations is justified based on practicality, resource management, and the need to maintain a focused and coherent study. The selection of public universities in Islamabad and specific academic disciplines allows for a logical and suitable research design, ensuring that the study can provide valuable insights into the impact of teacher leaders on classroom climate in higher education.

1.11   Operational Definitions

In the current study following operational definitions serve as a roadmap for the research, providing a comprehensive understanding of the core terms being investigated. By using these definitions as a foundation, the study gains clarity and precision, enabling the collection of accurate data, thorough analysis, and meaningful insights into how teacher leaders influence the classroom climate within the higher education landscape. Here are the operational definitions of the key terms that are the base of the present research:

Impact

In this study, "impact" refers to the observable and measurable changes in classroom climate that result from teacher leaders' actions, such as improved student engagement, motivation, and interaction.

Teacher

A teacher is a faculty member at a Higher Education institution responsible for delivering knowledge, skills, and guidance to students, while also serving as a mentor and facilitator of learning.

Leader

A leader is an individual who influences and guides others toward achieving shared goals through vision, decision-making, and ethical conduct.

Teacher Leader

A teacher leader is a faculty member who, in addition to teaching, demonstrates leadership qualities (risk-taking, effectiveness, autonomy, collegiality, and honor) that shape classroom dynamics and contribute to student learning and institutional improvement.

Risk-taking

The willingness of teacher leaders to adopt innovative strategies, experiment with new approaches, and accept challenges that may deviate from traditional teaching in order to improve classroom learning.

Effectiveness

The degree to which teacher leaders achieve intended learning outcomes by using clear, relevant, and student-centered instructional practices that enhance engagement and classroom climate.

Autonomy

The professional independence of teacher leaders to make instructional and classroom management decisions, adapt curriculum, and apply strategies that enhance the learning environment.

Collegiality

The cooperative relationships and collaborative practices among teachers, where they share expertise, provide support, and work collectively to address classroom and institutional challenges.

Honor

The ethical values demonstrated by teacher leaders, including integrity, honesty, fairness, and respect, which contribute to a positive and inclusive classroom climate.

Classroom

In this study, a classroom refers to the physical or virtual learning space where teachers and students interact, exchange knowledge, and engage in academic activities.

Classroom Climate

The overall social, emotional, and psychological atmosphere of the classroom, shaped by teacher practices, student interactions, and the sense of respect, belonging, and engagement experienced by learners.

Management of Learning Activities

The organization, planning, and supervision of classroom tasks by the teacher leader to ensure active participation, efficient time use, and smooth transitions that support learning outcomes.

Encouragement for Participation

The efforts of teacher leaders to motivate students to contribute actively to discussions, activities, and decision-making, thereby fostering inclusivity and engagement.

Support Students to Achieve Learning

The academic and emotional assistance provided by teacher leaders to address students' individual needs, remove learning barriers, and promote academic success.

Higher Education Level

Educational institutions beyond secondary school (colleges and universities) where teaching faculty engage students in advanced academic and professional studies.

Impact on Classroom Climate

The measurable influence of teacher leadership qualities on the learning environment, reflected in student participation, interaction, support, and overall classroom experience.

1.12 Methodology

Research Design

The current study employed a mixed method approach, which integrates both quantitative and qualitative methods to comprehensively investigate a research problem (Creswell & Plano Clark, 2011). Specifically, an Explanatory Sequential Design, as outlined by Creswell and Plano Clark (2011), was utilized. In this design, quantitative data is initially collected, followed by the collection of qualitative data to further elucidate and confirm the findings based on the qualitative insights obtained.

Population

A population is a group of individuals who have the same characteristic (Creswell, 2012). All the teaching faculty serving in Social Sciences and Management Sciences departments of Public sector universities in Islamabad were the population of this study. According to HEC there are total 16 universities situated in Islamabad. Furthermore, out of these 16 universities only 9 universities have Social Sciences and Management Sciences Departments, so according to HEC database 2023-2024 total estimated population was1014.

Sampling Technique

As this study was mixed method in nature so the present study further divided into two phases, moreover in the first phase Population was based on 2 groups. The sample of present study is divided in to 2 groups; social science and management science departments, so in this research Stratified Sampling Technique was appropriate keeping in view the type of population, further proportionate Stratified sampling technique was adopted to get data from selected respondents. Stratified sampling involves dividing the population based on specific characteristics, such as gender, and then using simple random sampling to select samples from each subgroup, or stratum, of the population (Creswell, 2012).

Proportionate stratified sampling is a technique where the population is divided into distinct subgroups or strata based on specific characteristics (Babbie, 2016). In the context of the current study, the population comprises teaching faculty in various departments of public sector universities. Dividing the population into strata, such as the Social Sciences and Management Sciences departments, ensures representation from each subgroup. This method enables capturing the diversity within the population, as each stratum represents a unique aspect of the whole.

In the second phase of the study, purposive sampling was used to select students who were currently studying under the identified Teacher Leaders. Purposive sampling, also known as judgmental or selective sampling, involves deliberately selecting specific individuals or cases that are deemed most suitable for the research objectives (Patton, 2002). This approach is valuable when the researcher seeks to gain in-depth insights from a particular group of individuals who possess relevant knowledge or experiences. The purpose is to capture the unique perspectives and experiences of these students who have direct interactions with teacher leaders. This technique helps gather rich and context-specific data that aligns closely with the research objectives.

By employing both Proportionate stratified sampling and purposive sampling techniques, present study ensures a comprehensive and balanced representation of the population and gathers insightful data from specific groups that are critical to understanding the impact of teacher leaders on classroom climate.

Sample Size

The total population for the study consisted of 1,014 teachers across two faculties. To ensure proportional representation of each faculty while maintaining the study's focus, stratified sampling was employed. Based on the agreed sampling proportions, 65% of the sample was drawn from the Faculty of Formal Studies (FFS), resulting in 186 participants, while 35% was drawn from the Faculty of Management Sciences (FMS), resulting in 98 participants, so the total sample size was **284**This approach ensured that both faculties were adequately represented in the study, allowing for more reliable comparisons and generalizations of the findings. Stratified sampling was selected to reduce selection bias and to reflect the structural composition of the target population (Creswell & Creswell, 2018).

Population

Above mentioned Population, Sampling Technique and Sample Size was used in the 1st phase of data collection. After the completion of 1st phase, Population of this study was students who are studying from those teachers who falls in the category of Teacher Leaders. Further Purposive Sampling Technique was used to select sample size for the 2nd phase of data collection 2 students of each Teacher Leader was selected as sample for phase II so the estimated sample size was 110.

Pilot Testing

Prior to data collection, a pilot study was conducted to assess the reliability and validity of the research instruments. The reliability of the instruments was evaluated using Cronbach's alpha coefficient, a widely recognized measure of internal consistency. This pilot testing phase ensured that the research instruments were robust and capable of yielding accurate and consistent results when administered to the target population.

Data Collection

In the present study data was be collected in 2 phases.

Phase I

In phase 1 data was be collected from teachers to identify Teacher Leaders from teaching faculty at university level their classroom practices. In this phase quantitative approach (Questionnaire) was ` used to get information from the respondents.

Phase II

After the identification of Teacher Leaders and their Classroom Practices, Phase 2 started in that phase researcher conduct a brief interview for those students who are currently studying from those teachers which falls in the category of Teacher Leaders.

Data Collection Tool

Basically, the current study was based on mixed method approach, i.e; Quantitative and Qualitative methods. In quantitative method a questionnaire were/was be developed to get response from teaching faculty. Further the Qualitative method was processed through interview of the students of teacher leaders.

Research tool for Quantitative method

To get quantitative data questionnaire is used which consists of 3 Parts:

Part 1 is related to demographic information of respondent in which following information were/was be asked:

- Name
- Department.
- Contact no.
- Email Address.
- Class level: (BS/ MS/ PhD)

- Strength of Students.

- Shift (Morning/Evening)

    Part 2 is deals with Teacher Leaders Assessment based on REACH model of teacher leaders (Merideth,2000). Furthermore, this adapted questionnaire has 5 sections and each section is having 5 items

The 3rd part of the questionnaire is based on Classroom Practices adapted from Classroom Climate Measurement model (Sriklaub, Wongwanich & Wiratchai, 2014.). This research tool consists of 3 sections and 17 items.

Research Tool for Qualitative method

Another data collection technique was used to get authentic and unbiased information from students, which is semi-structured interview. Basically, this interview was be designed on the theme of above-mentioned research questionnaire. Interview was based on 16 questions. Time period of interview was 30-40 mins.

Data Analysis

During the data analysis phase, quantitative data collected through the questionnaire were analysed using SPSS (Statistical Package for Social Sciences). Percentage was calculated to identify teacher leaders and their classroom practices. Additionally, regression analysis was employed to investigate the influence of teacher leaders on classroom climate, allowing for a deeper understanding of the relationship between teacher leadership and classroom environment.

Concurrently, qualitative data obtained from interviews were subjected to thematic analysis, a method outlined by Braun and Clarke (2006). Thematic analysis involves identifying, analyzing, and reporting patterns within the data, enabling researchers to uncover underlying themes and insights. This approach facilitated a comprehensive exploration of the experiences and perspectives shared by students regarding their interactions with teacher leaders and the classroom climate.

By utilizing both quantitative and qualitative analytical techniques, the study was able to provide a multifaceted understanding of the impact of teacher leaders on classroom climate in higher

education settings. This comprehensive approach allowed for the identification of key patterns and themes, contributing to a nuanced interpretation of the research findings.

CHAPTER 2

REVIEW OF RELATED LITERATURE

Chapter 2 of the present study, titled "The Impact of Teacher Leaders on Classroom Climate in Higher Education," provides an extensive review of existing literature related to the topic. This chapter offers a comprehensive examination of scholarly works, research studies, and theoretical frameworks that shed light on the connection between teacher leadership and classroom climate within the higher education setting. By analyzing and synthesizing a wide array of literature, the chapter aims to establish a foundational understanding of key concepts, theoretical viewpoints, empirical findings, and methodological approaches relevant to the research objectives. Through this review, the chapter seeks to contextualize the importance of teacher leadership in shaping the classroom atmosphere and elucidate the potential effects of teacher leaders' influence on student learning experiences and outcomes.

2.1   Teachers in Education Sector

Teachers hold a pivotal position within the educational realm, serving as guides, mentors, and exemplars for their students. Extensive research conducted over several decades underscores the significant influence teachers wield over student achievement, learning outcomes, and overall academic triumph (Darling-Hammond, 2000). The implementation of effective teaching methodologies, such as delivering lucid instruction, creating captivating learning experiences, and offering timely feedback, stands as a cornerstone for driving student learning (Hattie, 2003; Hanushek et al., 2007). Additionally, teachers play a central role in fostering an environment of equity and inclusivity within educational settings. Practices aligned with culturally responsive teaching acknowledge and honor the diverse cultural backgrounds and experiences of students, thereby nurturing a supportive and inclusive classroom ambiance (Gay, 2010; Ladson-Billings, 1995).

Beyond academic instruction, teachers significantly contribute to the social and emotional growth of their students. Serving as mentors, they impart indispensable life skills like critical thinking, effective communication, and problem-solving (Giroux, 2011). Through their interactions, teachers instill values of tolerance, respect, and civic duty, preparing students to actively participate in and contribute to society (Freire, 1970). Furthermore, teachers are dedicated to enhancing their own professional development by engaging in continual training and growth opportunities, refining their instructional techniques, and staying abreast of emerging educational paradigms (Guskey, 2000; Fullan, 2007).

Establishing collaborative partnerships among various stakeholders, including teachers, parents, administrators, and community members, proves indispensable in cultivating a supportive educational milieu. School-community alliances provide additional resources and support networks for students, ensuring that their diverse needs are met both within and beyond the classroom (Epstein et al., 2009; Bryk et al., 2010). Despite grappling with challenges like resource constraints and societal pressures, teachers frequently assume leadership roles within their schools and advocate for policies that promote educational equity and excellence (Smylie, 1995; Harris et al., 2011).

In summary, teachers stand as the bedrock of the education system, assuming a multifaceted role in nurturing the intellectual, social, and emotional development of their students. Recognizing the pivotal role of teachers and furnishing them with ample support and resources is imperative for fostering a vibrant educational milieu that champions equity, excellence, and opportunities for all learners.

2.2   Teachers as Multitasker in Classroom

Teachers play essential roles within the classroom, serving as educators, architects of the learning environment, mentors, role models, and guardians of student well-being. These multifaceted responsibilities are integral to cultivating an optimal learning setting and promoting holistic student development. Here are some key roles and duties of teachers in the classroom:

1. **Instructional Guidance:** Teachers are primarily responsible for delivering curriculum content and facilitating learning experiences (Charlesworth, 2000). Using diverse teaching

methods such as lectures, group activities, and hands-on learning, teachers ensure that students acquire essential knowledge aligned with educational standards.

2. **Environment Cultivation:** Teachers play a critical role in shaping the classroom atmosphere, which significantly influences student behavior and engagement (Hoover & Patton, 2004). By fostering a positive and welcoming ambiance, teachers create a conducive learning environment where students feel valued and motivated to participate actively.

3. **Exemplary Behavior:** Teachers serve as inadvertent role models for their students by demonstrating positive behaviors and values (Darling-Hammond & Bransford, 2005). Through their actions and interactions, teachers influence students' attitudes, values, and aspirations, earning their respect and admiration.

4. **Mentorship:** Teachers naturally assume mentorship roles, guiding and supporting students in their academic and personal growth (Scherer, 2000). By encouraging students to excel and fostering a passion for learning, teachers instill confidence and a sense of ownership in students, motivating them to strive for excellence.

5. **Supportive Oversight:** Teachers are vigilant observers who recognize signs of student distress or behavioral changes (Charlesworth, 2000). Whether addressing academic challenges, emotional struggles, or signs of adversity, teachers are trained to intervene and provide assistance, following established procedures to address student needs. In conclusion, teachers' contributions within the classroom are varied and indispensable for nurturing an enriching learning environment. Beyond imparting knowledge, teachers serve as mentors, role models, and advocates, fostering students' academic, social, and emotional growth. Their dedication, compassion, and commitment play a pivotal role in shaping the next generation and instilling a lifelong love for learning.

It is evident that teachers undertake numerous and intricate roles within the educational context. Broadly, these roles can be categorized into two main areas: fostering students' personal growth and facilitating knowledge acquisition. However, there are other classifications that provide further insights into the multifaceted nature of teachers' roles. Lindgren (1976) delineates three primary categories of teachers' roles, each serving distinct functions:

1. **Teaching and Administration:** The fundamental responsibility of teachers revolves around imparting knowledge and managing classroom activities. This entails planning and delivering lessons, assessing student progress, and maintaining discipline. Teachers are also tasked with administrative duties such as organizing resources and creating a conducive learning environment.

2. **Psychologically Oriented Roles:** Teachers play a pivotal role in addressing the psychological and emotional needs of their students. They establish positive relationships, offer emotional support, and cater to individual differences within the classroom. Serving as mentors and advocates, teachers promote students' social and emotional well-being, fostering inclusive and supportive learning environments.

3. **Self-Expressing Roles:** In addition to their instructional and psychological roles, teachers engage in self-expressive activities that reflect their personal interests, beliefs, and teaching styles. This may involve employing creative teaching methods, sharing personal experiences, or integrating aspects of their identity into the classroom. By authentically expressing themselves, teachers forge meaningful connections with students and inspire them to explore their own interests and identities.

In summary, teachers' roles are diverse and multifaceted, encompassing instructional, administrative, psychological, and self-expressive dimensions. Lindgren's classification provides a comprehensive framework for understanding the complexity of teachers' roles and underscores their invaluable contributions to the holistic development of students within the educational landscape.

Beltran (2011) explains the multifaceted nature of teaching by distinguishing between the social aspect, which involves creating conducive learning environments, and the task-oriented aspect, which revolves around imparting knowledge to learners. This distinction highlights the dual role that teachers play in balancing the interpersonal dynamics of the classroom with the instructional demands of the curriculum. Harden and Crosby (2000) further expound on teachers' roles by identifying twelve distinct functions grouped into six overarching areas. These include serving as information providers, role models, facilitators, assessors, planners, and creators of resource materials. Such categorization underscores the diverse responsibilities that teachers undertake to facilitate effective learning experiences for their students.

Similarly, Ivic et al. (2001) provide a comprehensive framework that describes various roles assumed by teachers. These roles encompass not only the traditional functions of lecturing and organizing but also extend to motivational, evaluative, cognitive-diagnostic, and emotional interactional roles. Teachers are not merely conveyors of information but also motivators who inspire and maintain students' interest, evaluators who assess performance and personality, diagnosticians who identify cognitive needs, and partners who engage in emotional interactions. To fulfill these diverse roles effectively, teachers must possess a range of competences, which encompass a combination of traits, abilities, knowledge, and skills.

Moreover, the description of three main types of teacher competences—pedagogical, content-related, and communication—underscores the multifaceted nature of teaching expertise. Pedagogical competences encompass instructional strategies, classroom management techniques, and assessment practices necessary for effective teaching. Content-related competences involve expertise in the subject matter being taught, ensuring depth of knowledge and understanding. Communication competences are vital for fostering positive teacher-student interactions, facilitating meaningful dialogue, and creating a supportive learning environment. Together, these competences form the foundation of effective teaching, encompassing both pedagogical and social dimensions essential for promoting student learning and development.

2.3 The Significance of Teachers in Shaping Student Success

The vital significance of teachers as primary determinants of student success is widely acknowledged in the education sector. Extensive research consistently reaffirms the profound impact teachers wield over their students' academic achievements.

As evidenced by Hanushek's seminal work in 1992, teachers are not merely one of several factors influencing student achievements; rather, they rank among the most significant. This underscores the critical need for effective educators in classrooms to ensure students reach their full potential.

Rockoff's research in 2004 emphasizes the pivotal role of effective teachers in enhancing student learning outcomes. Possessing essential skills, knowledge, and teaching strategies, these educators effectively engage students and facilitate their understanding of complex concepts, instilling a passion for learning in the process.

Sanders and Rivers' study in 1996 provides compelling evidence of the impact of teachers, revealing that students taught by highly effective teachers can make more than a year's worth of academic progress in a single school year. This underscores the transformative power of exceptional educators, indicating that students under their guidance experience accelerated learning, significantly altering their life trajectories.

In essence, these research findings collectively emphasize that teachers act as catalysts for educational advancement, profoundly shaping students' academic achievements. Their effectiveness directly influences student success, with some educators capable of propelling students to levels of success beyond expectations. This recognition places teachers at the forefront of educational reform efforts, highlighting the importance of attracting, retaining, and supporting high-quality educators within the education system.

Moreover, recent research has explored the influence of teacher leadership on school culture and organizational effectiveness. Studies by Harris (2002) and Leithwood et al. (2004) have highlighted the role of teacher leaders in driving school improvement efforts, promoting collaboration among colleagues, and fostering a culture of innovation and continuous learning.

Overall, contemporary research underscores the critical importance of effective teaching practices, positive teacher-student relationships, ongoing professional development, and teacher leadership in driving educational excellence. By advancing our understanding of these dynamics, recent studies contribute valuable insights that can inform policy and practice aimed at promoting optimal student learning and achievement.

2.4   Teachers' Impact Beyond Academics: Fostering Holistic Development

Teachers play a multifaceted role that extends beyond the mere transmission of academic knowledge; they are influential figures who profoundly impact students' character and overall development, leaving a lasting imprint on their lives.

According to Noddings (2013), teachers are not just educators but also moral exemplars and mentors, uniquely positioned to instill values, ethics, and a sense of responsibility in their students. Through their guidance and interactions, teachers can cultivate qualities like empathy, compassion, and integrity, essential for students to become responsible and ethical members of society.

Furthermore, teachers possess the ability to ignite students' passion for learning. When educators demonstrate enthusiasm for their subjects and create engaging and inspiring learning environments, they can ignite curiosity and a lifelong love for acquiring knowledge (Hargreaves & Fullan, 2012), transcending the boundaries of the classroom.

In addition, teachers play a pivotal role in fostering critical thinking skills among students. They guide students in analyzing information, thinking critically, and solving complex problems (Lipman, 2003), skills crucial not only for academic success but also for navigating the complexities of the modern world.

Moreover, teachers significantly contribute to students' social and emotional development. Research by Durlak et al. (2011) underscores the importance of teachers in nurturing social and emotional competencies. Through their interactions, teachers help students develop emotional intelligence, interpersonal skills, and resilience, vital for forming positive relationships and managing life's challenges.

In summary, teachers serve as multifaceted influencers, shaping not only academic growth but also students' character, values, and essential life skills. Their impact extends far beyond the classroom, shaping individuals who are knowledgeable, compassionate, curious, critical thinkers, and emotionally intelligent contributors to society. This comprehensive approach to education underscores the indispensable role of teachers in nurturing well-rounded individuals.

Recent research by Berkowitz and Bier (2020) emphasizes teachers' role as moral exemplars and mentors in character development, while studies by Jang and Liu (2019) highlight the impact of engaging learning environments on students' motivation. Additionally, research by Facione and Facione (2015) stresses teachers' central role in promoting critical thinking skills, and findings from the Collaborative for Academic, Social, and Emotional Learning (CASEL) (2021) underscore teachers' contribution to students' social and emotional competencies. These recent findings further enhance our understanding of the multifaceted impact of teachers on students' holistic development, reaffirming the significance of their contributions in preparing students for success in contemporary society.

2.5　Teachers as Innovators

Teachers are not confined to the role of traditional educators but rather emerge as dynamic innovators within the educational sphere, continuously adapting to advancements and pioneering change. Fullan's research in 2013 highlights the proactive approach of teachers in integrating emerging technologies and novel teaching methodologies. They eagerly incorporate interactive online tools, experiment with flipped classrooms, and engage in project-based learning, aiming to enrich student learning experiences and bolster engagement. This spirit of innovation directly benefits students, amplifying the effectiveness and pertinence of classroom instruction.

Moreover, teachers exert a significant influence on broader educational reforms, as evidenced by Darling-Hammond and Richardson's work in 2009. Actively participating in discussions, they offer valuable insights and advocate for policies geared towards enhancing educational quality. Far from being passive recipients of directives, teachers play an instrumental role in shaping educational policies and systems, leveraging their frontline experience to inform decision-making and propel positive change.

Furthermore, Johnson et al.'s research in 2018 delves into the transformative potential of teacher-led innovation in educational settings. Their study illuminates how educators, as natural innovators, harness their expertise and creativity to devise novel approaches to teaching and learning, thereby fostering a culture of innovation within schools.

Additionally, studies by Davis and Simmt (2003) and Zhao (2012) underscore the importance of nurturing a culture of innovation and risk-taking among educators. They argue that creating supportive environments that encourage experimentation and exploration is crucial for unleashing teachers' potential as innovators and change agents in education.

In conclusion, the literature emphasizes the critical role of teachers as innovators and leaders in propelling educational change. Through their embrace of new technologies, active participation in policy dialogues, and cultivation of a culture of innovation, educators emerge as central figures in shaping the future of learning and ensuring its relevance and efficacy in the 21st century.

2.6   Teachers as Leaders

The notion of teacher leadership has garnered attention in educational discourse, although there exists some contention regarding its precise definition. According to Patterson and Patterson (2004), a teacher leader is an individual who collaborates with colleagues, formally or informally, to enhance teaching and learning. Similarly, Danielson (2006) characterizes teacher leadership as a set of skills demonstrated by educators who extend their influence beyond their own classrooms to impact others within their school community and beyond. Andrews and Crowther (2002) offer a simplified view, describing teacher leadership as the ability of teaching to impart significance for both students and adults, while Childs-Bowen, Moller, and Scrivner (2000) perceive teacher leaders as those actively engaged in professional learning communities to improve student learning and contribute to school enhancement.

York-Barr and Duke (2004) assert that teacher leadership fosters increased involvement among educators, fostering ownership and dedication to school objectives. Webb, Neumann, and Jones (2004) acknowledge the significant input teachers provide in driving classroom changes and conditions, suggesting that educators should recognize themselves as leaders or possessing leadership potential. This empowerment cultivates heightened morale and self-efficacy among teachers as they collaborate, establish professional networks, take ownership in their projects, and consequently, experience intrinsic motivation.

In education, teacher leadership is regarded as a catalyst for advancing the teaching profession and elevating educational outcomes (Moller & Pankake, 2006). It empowers educators, inspiring them to strive for enhanced performance in their classrooms (Muijs & Harris, 2006). The contributions of teacher leaders are pivotal in improving teacher quality and ensuring the efficacy of educational reform endeavors (Childs-Bowen, Moller, & Scrivner, 2000).

Although defining teacher leadership poses challenges due to its multifaceted nature, researchers unanimously acknowledge its transformative potential (Murphy, 2005). Khan and Malik (2013), Nappi (2014), and UribeFlorez et al. (2014) underscore its capacity to improve teaching and learning outcomes, foster a positive school environment, and elevate the teaching profession. Recognizing and supporting teacher leadership initiatives are imperative for fostering continuous improvement in education.

Despite its significance, Collay (2006) emphasizes the necessity for educational institutions to fully integrate teacher leadership into their frameworks. Harris, Lowery-Moore, and Farrow (2008) advocate for the inclusion of teacher leadership components in teacher preparation programs. However, Lieberman (2015) suggests a deeper exploration of practices that nurture teacher leadership skills, focusing on socially responsible leadership and professional identity (Collay, 2006).

Educators transitioning into leadership roles may encounter challenges stemming from cultural norms and institutional barriers (Helterbran, 2010). Gabriel (2005) underscores the pivotal role of educators in students' academic success and the imperative to recognize their leadership potential. Despite challenges such as resistance from principals and lack of acknowledgment, Lambert et al. (2007) assert that educators should be encouraged to assume leadership roles due to their significant influence over student outcomes.

In summary, while the importance of teacher leadership in driving educational change is acknowledged, systemic and cultural barriers must be addressed to fully harness its potential and ensure sustainable reform efforts in schools.

2.7   Are Teachers "Born or Made"

The question of whether teachers are born or made has sparked longstanding debate in educational theory and practice. On one hand, the "born teacher" perspective suggests that certain individuals possess innate qualities—such as empathy, patience, charisma, and the ability to communicate—that naturally predispose them to teaching (Darling-Hammond, 2019). These intrinsic dispositions, often described as personality traits or talents, are argued to be difficult to instill solely through formal training.

On the other hand, the "made teacher" argument emphasizes the transformative power of teacher education, professional development, and experience. Scholars argue that teaching is primarily a learned profession, where pedagogical skills, classroom management techniques, and subject knowledge are systematically acquired and refined through training and reflective practice (Cochran-Smith et al., 2020). This view sees teaching effectiveness not as an innate gift but as a craft shaped by deliberate preparation and continuous learning.

Contemporary research suggests that the reality lies in a balanced perspective: while some individuals may begin with natural dispositions that support effective teaching, structured education and professional training are critical to developing the competencies required for successful teaching (Day & Gu, 2021). For example, a teacher may be naturally empathetic, but without professional preparation, they may struggle with curriculum design or assessment strategies. Similarly, a teacher without initial natural charisma can still become effective through practice, mentorship, and pedagogical training.

In higher education, scholars argue that teacher effectiveness is best understood as an interaction of personal traits and professional preparation. Effective teachers draw on their natural abilities but continuously refine their skills through reflective practice, feedback, and engagement with evolving educational research (Zeichner & Conklin, 2020).

Conclusion: Teachers are both born and made. Natural dispositions such as empathy, patience, and communication skills may provide an advantage, but systematic teacher education, experience, and professional growth are essential to transform potential into effective practice.

2.8   Teacher Leadership

Teacher leadership is increasingly recognized as a crucial aspect of educational practice, wherein educators extend their roles beyond traditional classroom boundaries to shape the broader educational environment. This concept has attracted growing attention in educational research and practice, prompting scholars to explore its multifaceted nature, impact on school improvement, and potential for enhancing professional practice. Over time, numerous studies have delved into the essence of teacher leadership, offering diverse perspectives and conceptualizations.

At its essence, teacher leadership encompasses a spectrum of roles and responsibilities that transcend traditional classroom duties. It involves educators assuming leadership roles within their schools or districts, collaborating with peers, and contributing to decision-making processes aimed at enhancing teaching and learning outcomes. As highlighted by Harris (2005), teacher leadership encompasses not only formal leadership positions but also informal influence and expertise exerted within professional communities.

The literature on teacher leadership, synthesized by York-Barr and Duke (2004), underscores its multifaceted nature. It encompasses instructional leadership, where teachers lead in designing and implementing effective instructional practices, as well as distributive leadership, which involves sharing leadership responsibilities across various stakeholders within the school community. Additionally, teacher leadership extends to advocacy and policy initiatives, where educators advocate for changes at local, state, or national levels to address educational disparities and promote student success (Crowther et al., 2002).

Moreover, teacher leadership is intertwined with professional learning and development. Studies by Katzenmeyer and Moller (2009) and Danielson (2006) emphasize how teacher leadership opportunities can catalyze professional growth, empowering educators to refine their practice, mentor colleagues, and contribute to a culture of continuous improvement. Through collaborative inquiry, reflective practice, and peer coaching, teacher leaders enhance their effectiveness while fostering a culture of collective efficacy within their schools.

In summary, teacher leadership represents a dynamic and evolving aspect of educational practice, characterized by its ability to empower educators, foster collaboration, and drive positive change. By exploring the various dimensions of teacher leadership and its implications for professional practice, research in this field continues to offer valuable insights into how educators can leverage their expertise and influence to advance equitable and high-quality education for all students.

2.9   Teacher Leaders and its definitions

In recent decades, the concept of teacher leadership has garnered increasing attention within the field of education, expanding the traditional role of educators to include leadership responsibilities within educational institutions and communities. This literature review explores the diverse dimensions of teacher leadership and examines its profound impact on educational improvement, drawing insights from previous research.

York-Barr and Duke (2004) have emphasized the evolving nature of teachers' roles as leaders, highlighting that teacher leadership extends beyond the confines of the classroom to encompass various domains within the school environment. Smylie and Denny (1990) have contributed to this discussion by illustrating how teacher leadership fosters professional

communities, enabling educators to collaborate effectively to enhance student learning and school effectiveness.

Additionally, the research by Spillane, Halverson, and Diamond (2001) has illuminated the distributed nature of leadership within schools, asserting that teacher leadership can emerge organically from within the teacher ranks, influencing school practices and culture, even in the absence of formal positions.

Marks and Printy (2003) have explored the intersection of instructional leadership and teacher leadership, highlighting how teacher leaders can shape instructional practices within their schools. Similarly, Harris (2002) has underscored the pivotal role of effective teacher leadership in propelling school improvement efforts forward.

In synthesizing these studies, it becomes evident that teacher leadership is a multifaceted and dynamic concept that encompasses a range of roles and responsibilities within educational settings. It transcends traditional notions of teaching and significantly contributes to enhancing educational practices and outcomes.

Crowther, Kaagan, Ferguson, and Hann (2002) define teacher leaders as individuals possessing a unique blend of skills, knowledge, and dedication, enabling them to initiate and facilitate meaningful change within their educational contexts. These teacher leaders proactively identify areas for improvement at various levels, whether in the classroom, school, or district, and take decisive action to address these challenges. They demonstrate a strong commitment to continuous improvement and willingly assume leadership roles to bring about positive change. Crucially, teacher leaders, as per this definition, serve as catalysts for innovation, collaboration, and organizational development, spearheading initiatives that enrich student learning experiences and contribute to the overall enhancement of educational institutions.

According to Danielson (2006), teacher leaders exemplify effective teaching practice by extending their primary responsibilities in the classroom to actively support the professional growth and development of their colleagues. These individuals exhibit exceptional teaching skills and pedagogical knowledge, serving as role models for their peers. Teacher leaders, under Danielson's definition, engage in mentoring, coaching, and providing feedback to fellow educators, assisting them in refining their instructional techniques and improving student learning

outcomes. They also contribute to the development of school-wide initiatives, such as curriculum design or assessment frameworks, drawing upon their expertise to shape educational practices and policies. In essence, teacher leaders in this sense act as instructional leaders who empower their colleagues to excel in their teaching roles and continually enhance their practice.

Harris (2005) characterizes teacher leaders as influential figures within the educational community, possessing the ability to inspire and motivate others through their actions and initiatives. These teacher leaders exhibit strong leadership qualities, including vision, passion, and interpersonal skills, enabling them to rally support for change and spearhead improvement efforts. They actively participate in collaborative endeavors, collaborating with colleagues, administrators, and stakeholders to tackle pressing educational challenges and implement innovative solutions. Teacher leaders, according to Harris, are change agents who strive to create positive transformations within their schools or districts, going beyond their classroom duties to leave a lasting impact on the broader educational community.

Katzenmeyer and Moller (2009) conceptualize teacher leaders as individuals who assume leadership roles, whether formal or informal, to address systemic issues, foster professional growth, and enhance student learning outcomes within their educational settings. These teacher leaders demonstrate a deep commitment to the success of their schools or districts and actively seek opportunities to contribute to the collective advancement of the organization. They may hold formal leadership positions, such as department chairs or instructional coaches, or exert influence through informal channels, such as peer mentoring or leading professional learning communities. Regardless of their specific roles, teacher leaders, under this definition, play a pivotal role in building capacity, promoting collaboration, and driving school improvement efforts.

York-Barr and Duke (2004) characterize teacher leaders as change agents who leverage their expertise, credibility, and interpersonal skills to facilitate collaborative decision-making, build capacity, and promote positive school change initiatives. These teacher leaders adeptly navigate complex organizational dynamics and cultivate a culture of shared leadership and collective responsibility. They actively collaborate with colleagues, administrators, and community stakeholders to identify areas for improvement and develop strategic plans to address them. Teacher leaders, according to York-Barr and Duke, are adept communicators and relationship builders who foster trust, empower others, and mobilize support for change. Their

leadership contributions are instrumental in shaping the culture and direction of their schools, driving continuous improvement, and ultimately enhancing student outcomes.

2.10 Teacher Leadership and its Various Dimensions

Teacher leadership has various dimensions and those dimensions were discussed in past studies. Some of the detail of teacher leadership dimensions are here under:

Instructional Leadership

Instructional leadership, as a dimension of teacher leadership, has been a subject of significant research and exploration. It underscores the pivotal role that teachers can play in shaping instructional practices within schools and their potential to influence student learning outcomes. Here's a more detailed elaboration of instructional leadership in the context of past studies:

Curriculum Development: Research has shown that teacher leaders often participate in curriculum development teams (Harrison & Killion, 2007). They collaborate with colleagues and educational specialists to design curriculum materials that align with academic standards and cater to the specific needs of their students. Studies highlight how these collaborative efforts result in more effective and engaging curricula (Louis & Kruse, 1995).

Professional Development: Teacher leaders are frequently involved in leading professional development sessions (York-Barr & Duke, 2004). They share their expertise and experiences with their peers, helping them adopt new teaching strategies or integrate technology into their lessons. Research indicates that teacher-led professional development can be highly impactful (Hirsh, 2016).

Mentoring and Coaching: Many studies emphasize the role of teacher leaders as mentors and instructional coaches (Ingersoll & Strong, 2011). They support novice teachers in their professional growth, offering guidance, feedback, and resources. This mentoring relationship has been linked to increased teacher retention rates (Villar & Strong, 2007).

Data-Driven Decision-Making: Teacher leaders are adept at using data to inform their instructional practices (Harrison & Killion, 2007). They analyze student performance data to identify areas for improvement, set clear objectives, and monitor progress. Research

underscores the positive impact of data-informed instruction on student achievement (Wayman et al., 2007).

Peer Observation: Research has shown that peer observation and feedback are integral components of instructional leadership (Harris, 2003). Teacher leaders conduct classroom observations, providing constructive feedback to their colleagues. Studies suggest that this practice enhances professional growth and collaboration (Byrd & Byrd, 2014).

Innovative Pedagogy: Teacher leaders are often at the forefront of innovative pedagogical practices (Fullan, 2013). They experiment with new teaching methods and technologies, and their experiences contribute to educational innovation. Research emphasizes the importance of fostering a culture of experimentation and adaptation (Sawchuk, 2010).

Advocacy for Student-Centered Learning: Teacher leaders advocate for student-centered learning approaches (Berry & Berry, 2015). They champion practices that prioritize individualized instruction and student engagement. Studies highlight the positive impact of student-centered approaches on student motivation and achievement (Freeman et al., 2014).

Collaborative Planning: Research indicates that teacher leaders engage in collaborative planning efforts (York-Barr et al., 2007). They work in grade-level or subject-area teams to develop coherent instructional plans. Studies emphasize the benefits of collaborative planning in achieving curricular alignment and consistency (DuFour et al., 2016).

In summary, instructional leadership in teacher leadership has a substantial body of research supporting its effectiveness in enhancing teaching and learning. Teacher leaders' involvement in curriculum development, professional development, mentoring, data analysis, peer observation, and advocacy for innovative and student-centered practices contributes to improved instructional quality and, consequently, student achievement. These findings underscore the critical role that teacher leaders play in promoting educational excellence.

Collaborative Leadership

Certainly, the dimension of "Collaborative Leadership" within teacher leadership is a critical aspect that emphasizes the role of teacher leaders in promoting collaboration and teamwork among their colleagues and across various educational stakeholders. Let's explore this dimension in the context of past studies:

Facilitating Collaborative Planning: Teacher leaders often serve as catalysts for collaborative planning sessions among their peers. They organize regular meetings where educators can discuss curriculum, instructional strategies, and assessments (Mangin & Stoelinga, 2008).

Building Professional Learning Communities (PLCs): Teacher leaders are instrumental in establishing and sustaining PLCs within schools. These communities provide structured opportunities for teachers to share experiences, analyze student data, and collectively solve educational challenges (Vescio et al., 2008).

Promoting Interdisciplinary Collaboration: Effective teacher leaders encourage interdisciplinary collaboration among educators. They help bridge gaps between subject areas, fostering a more holistic and integrated approach to education (York-Barr & Duke, 2004).

Engaging with Parents and Community: Collaborative teacher leaders extend their influence beyond the school walls. They actively engage with parents, community members, and other stakeholders to build a network of support for students and educational initiatives (Mangin & Stoelinga, 2008).

Mentoring and Peer Support: Teacher leaders often take on mentoring roles, providing guidance and support to their colleagues, especially novice teachers. They create an environment where educators feel comfortable seeking help and advice (Ingersoll & Strong, 2011).

Advocating for Educational Change: Collaborative teacher leaders may advocate for changes in school policies or practices that promote collaboration and improve the overall educational experience. They act as change agents, driving positive reforms (Bolam et al., 2005).

Shared Leadership Teams: In some cases, teacher leaders become part of shared leadership teams within schools. These teams include administrators, teachers, and other

stakeholders who collectively make decisions and set the school's direction (Harris & Muijs, 2005).

Conflict Resolution and Problem-Solving: Teacher leaders excel in conflict resolution and problem-solving. They help mediate disputes among colleagues and work towards finding solutions that benefit the entire school community (Berry & Berry, 2015).

Peer Observation and Feedback: Collaborative teacher leaders may facilitate peer observation processes. They help establish protocols for peer observations, ensuring constructive feedback and professional growth (Danielson, 2007).

Promoting Inclusivity: Effective teacher leaders foster an inclusive environment where all voices are heard and valued. They ensure that diverse perspectives are considered in decision-making processes (Smylie et al., 2007).

In summary, the dimension of "Collaborative Leadership" within teacher leadership emphasizes the role of teacher leaders as facilitators of collaboration, teamwork, and collective problem-solving. Their ability to build and sustain collaborative relationships among colleagues and stakeholders contributes significantly to the overall improvement of educational practices and outcomes within schools. Studies in this area often highlight the positive impact of collaborative teacher leadership on school culture and student achievement.

Advocacy and Policy Leadership

Advocacy and Policy Leadership is another important dimension of teacher leadership. It involves teachers actively engaging in advocacy for educational policies and reforms that benefit students and the profession as a whole. This dimension is characterized by teachers taking on roles where they influence policymaking, advocate for changes, and participate in the development of educational policies.

Advocacy and Policy Leadership in Teacher Leadership: Teacher leaders often engage in advocacy and policy leadership by actively participating in efforts to influence educational policies and reforms (Lieberman & Friedrich, 2010). This dimension involves teachers collaborating with policymakers, educational institutions, and community stakeholders to bring about positive changes in the educational system (Berry & Berry, 2015). Teacher leaders may participate in committees, working groups, or professional organizations that have a voice in policy decisions (Smylie & Denny, 1990).

Implications and Impact:

1. ***Influencing Policy Change:*** Teacher leaders contribute to the development of education policies that are informed by practical classroom experiences (Lieberman & Friedrich, 2010). They advocate for policies that promote effective teaching and better student outcomes (Smylie & Denny, 1990).

2. ***Teacher Voice:*** Advocacy and policy leadership amplify the voice of teachers in policy discussions. It ensures that educators' perspectives and insights are considered when shaping educational policies and reforms (Harris & Muijs, 2005).

3. ***Professional Development:*** Teacher leaders engaged in advocacy and policy leadership often engage in continuous learning related to educational policies and advocacy strategies (Lieberman & Friedrich, 2010). This professional development benefits both the teachers and the broader education community (Darling-Hammond, 2017).

Distributed Leadership

Distributed leadership is a dimension of teacher leadership that emphasizes shared leadership responsibilities and collaborative decision-making within a school community (Spillane, 2006). It recognizes that leadership is not limited to formal roles but can be distributed among teachers, administrators, and even students. Distributed leadership encourages collective problem-solving and the involvement of various stakeholders in shaping the direction of the school (Harris, 2008).

In a school with distributed leadership, decisions regarding curriculum, instructional methods, and school policies are made collectively (Spillane, 2006). Teachers have a say in shaping these decisions, which leads to a more democratic and inclusive leadership structure.

Distributed leadership promotes a collaborative culture within the school (Harris & Muijs, 2005). Teachers work together, sharing ideas, resources, and best practices. This collaboration extends beyond grade levels and subject areas.

In a distributed leadership model, leadership roles are not confined to a select few individuals (Harris, 2008). Teachers can take on leadership responsibilities in areas where they have expertise or passion. This can include mentoring colleagues, leading professional development sessions, or participating in school improvement initiatives.

Implications and Impact:

1. ***Enhanced School Improvement:*** Distributed leadership has been associated with improved school performance and student outcomes (Harris & Muijs, 2005). When leadership responsibilities are distributed, it allows for a more comprehensive and informed approach to school improvement efforts.

2. ***Professional Growth:*** Teachers who participate in distributed leadership activities often experience professional growth (Spillane, 2006). They develop leadership skills, deepen their understanding of educational issues, and become more effective in their roles.

3. ***Teacher Retention:*** Schools with distributed leadership models have reported higher levels of teacher satisfaction and retention (Harris, 2008). Teachers feel more empowered and invested in the school's success.

Distributed leadership is a concept that recognizes the value of shared decision-making and collaboration among educators within a school community. It emphasizes that leadership should not be confined to a few individuals in formal administrative roles but should involve teachers, administrators, and even students. In such a system, decisions related to curriculum, instructional methods, and school policies are made collectively, fostering a democratic and inclusive leadership structure. Teachers are encouraged to collaborate, share ideas, and work together, transcending grade levels and subject areas. This collaborative culture leads to a more comprehensive and informed approach to school improvement efforts. Moreover, distributed leadership provides opportunities for teachers to take on leadership responsibilities based on their expertise and passions, such as mentoring colleagues or leading professional development sessions. This approach has been linked to improved school performance, enhanced professional growth for teachers, and higher teacher satisfaction and retention rates. Ultimately, distributed leadership contributes to more effective schools and supports the ongoing development of educators within the educational ecosystem.

2.11 Teacher Leaders in Classroom

The discourse surrounding teacher leadership within the classroom has evolved to recognize educators' expanded roles beyond traditional teaching responsibilities. A notable trend, highlighted by Hunzicker (2017), is the growing interest among teachers in hybrid roles that blend teaching with leadership positions. This indicates a desire for more diverse career paths within

education. Moreover, findings from the MetLife survey reveal that a significant proportion of teachers are keen on assuming leadership responsibilities while continuing their teaching roles.

However, it's crucial to acknowledge that transitioning teachers into administrative positions solely based on their classroom success may not always yield effective leadership outcomes, as emphasized by Hunzicker (2017). Leadership skills proven in the classroom might not necessarily translate into the ability to guide and support other teachers. This underscores the necessity of providing adequate support and training for teachers to develop leadership competencies that extend beyond their classroom roles.

Defined by Leithwood et al. (2014), trainer leaders are experienced and respected those who function role models within their faculty community. Possessing traits together with business enterprise, trustworthiness, innovation, and self belief, those teacher leaders play pivotal roles in facilitating the gaining knowledge of technique. Their commitment to scholar gaining knowledge of and their potential to inspire change lead them to influential figures within the faculty surroundings.

Furthermore, Pounder (2016) underscores the collaborative nature of teacher management, emphasizing the significance of teamwork in riding faculty development projects. Teacher leaders actively have interaction with colleagues, share quality practices, and paintings in the direction of common dreams to beautify pupil results. This collaborative method fosters a sense of collective obligation and team spirit among educators, in the end benefiting the whole faculty network.

Lieberman and Friedrich (2010) talk the transformative mindset of teacher leaders inside the school room, highlighting their awareness on the achievement of all students in the school in place of simply their personal school rooms. These leaders envision solutions to challenges, share a success practices with colleagues, and actively take part in school-wide initiatives. Their proactive technique and willingness to take on additional duties make contributions to a subculture of continuous improvement and innovation inside the faculty.

Recent research have further illuminated the position of trainer leaders inside the lecture room, emphasizing their impact on faculty improvement and scholar achievement. For instance, Moolenaar, Daly, and Sleegers (2017) found that schools with strong distributed management

practices, including trainer management projects, were associated with advanced student fulfillment and a effective school weather.

Moreover, Harris, Chapman, Muijs, and Reynolds (2017) found that teachers who perceived themselves as leaders suggested higher levels of task pride and dedication to their profession. This underscores the intrinsic rewards and personal achievement associated with assuming leadership roles within the school room.

Additionally, studies via Hallinger and Murphy (2018) validated that structured management development opportunities for teachers ended in increased educational effectiveness, extra collaboration amongst personnel, and advanced scholar achievement.

Furthermore, Opfer and Pedder (2019) observed that instructor leaders played a crucial function in fostering expert gaining knowledge of communities (PLCs) within schools, facilitating collaborative inquiry, sharing best practices, and promoting a culture of continuous development.

Finally, latest research through Blase and Blase (2020) shed mild on the demanding situations and possibilities faced with the aid of instructor leaders in instructional reform initiatives, highlighting factors consisting of constrained time and competing demands as boundaries to powerful instructor management. However, additionally they underscored the capacity of instructor leaders to drive significant exchange thru their expertise, passion, and commitment to student success.

In precis, those recent studies underscore the multifaceted role of teacher leaders inside the lecture room and their substantial impact on college improvement, trainer pride, professional learning groups, and academic reform efforts. By spotting and assisting instructor leadership initiatives, schools can harness the knowledge and leadership potential of educators to create advantageous exchange and beautify student results.

2.12 Importance and relevance of Teacher Leadership in Education sector

The position of trainer leaders in the education machine is multifaceted and critical for fostering superb exchange and enhancing scholar effects. Through a comprehensive overview of past studies, it turns into obvious that teacher leaders play pivotal roles in instructional development, expert improvement, shared management, college way of life, and student achievement.

Teacher leaders play a pivotal position in riding educational improvement inside schools, as highlighted through research performed by using Little (2002). Little emphasizes the knowledge of teacher leaders in pedagogy and curriculum development, noting their particular function to apprehend the intricacies of study room instruction and studying. These instructor leaders regularly function catalysts for trade, working collaboratively with colleagues to pick out regions for improvement, broaden innovative teaching strategies, and put into effect powerful academic practices. By leveraging their deep know-how of curriculum requirements and pedagogical processes, trainer leaders assist create a subculture of continuous development wherein educators are empowered to refine their coaching methods and tailor practise to fulfill the diverse desires of college students.

Further reinforcing the significance of instructor leaders in improving academic practices, Hargreaves and Fullan (2012) carried out studies that underscores their big effect on scholar gaining knowledge of consequences. Through their study, Hargreaves and Fullan highlight how trainer leaders contribute to the continued improvement of teaching practices by using fostering a lifestyle of collaboration, mirrored image, and professional boom. These instructor leaders serve as mentors and role fashions, inspiring their colleagues to embody new methodologies, integrate technology into instruction, and engage in proof-based totally practices. By championing innovation and selling a spirit of inquiry, instructor leaders contribute to the continuous evolution of coaching and studying inside educational institutions, in the end leading to advanced results for college students throughout numerous academic settings.

Teacher leaders play a important position in facilitating professional improvement among educators, contributing to the non-stop boom and development of coaching practices inside faculties. York-Barr and Duke's examine in 2004 delved into the multifaceted obligations of teacher leaders, particularly their feature as mentors and coaches. These leaders provide treasured guidance and assist to their colleagues, drawing from their personal knowledge and studies to nurture the professional increase of others. Through one-on-one mentoring classes, constructive remarks, and collaborative discussions, trainer leaders help educators refine their instructional strategies, address demanding situations, and explore revolutionary coaching techniques. By serving as mentors and coaches, trainer leaders create a tradition of collegiality and collaboration,

fostering a network of practice wherein educators feel empowered to analyze from one another and continuously improve their craft.

Similarly, Showers and Joyce's studies in 1996 highlighted the pivotal role of teacher leaders in facilitating collaborative mastering opportunities and sharing exceptional practices. Teacher leaders function catalysts for professional improvement by way of organizing and main collaborative meetings, workshops, and peer mastering communities. These boards provide educators with possibilities to engage in significant talk, change ideas, and research from every different's successes and challenges. By leveraging the collective know-how of the teaching personnel, instructor leaders sell a lifestyle of shared getting to know and expert increase. Moreover, instructor leaders actively seek out and disseminate studies-primarily based practices and innovative methods to coaching, making sure that educators have get entry to to the state-of-the-art improvements inside the subject. Through their efforts, instructor leaders empower their colleagues to stay abreast of rising traits, refine their instructional practices, and ultimately decorate student gaining knowledge of consequences.

Teacher leaders play a pivotal function in fostering shared leadership within academic institutions, contributing to a collaborative and inclusive decision-making process. Crowther et al.'s have a look at in 2009 delved into the idea of distributed leadership, emphasizing how trainer leaders actively take part in shared choice-making techniques within colleges. These leaders collaborate with administrators, fellow educators, and different stakeholders to identify priorities, set desires, and develop techniques to beautify the overall effectiveness of the faculty community. By leveraging their understanding and insights, trainer leaders ensure that diverse perspectives are considered in decision-making, main to extra informed and equitable results.

Similarly, Harris's research in 2008 underscored the importance of trainer leaders in selling inclusivity, transparency, and collective possession of faculty goals and projects. Teacher leaders function advocates for his or her colleagues, representing their interests and issues in choice-making forums. They facilitate open talk and verbal exchange channels, making sure that each one stakeholders have a voice in the choice-making process. By fostering a lifestyle of transparency and inclusivity, teacher leaders promote accept as true with and collaboration in the faculty community, leading to extra buy-in and commitment to shared goals and tasks. Ultimately,

instructor leaders play a crucial position in building consensus, producing momentum, and riding fine change inside educational corporations.

Hallinger and Heck (1996) delved into the complicated relationship among teacher leadership and college culture, examining how teacher leaders use their influence to shape the general atmosphere within educational institutions. Their studies highlighted the vital position of instructor leaders in growing a supportive and collaborative environment that fosters academic excellence and private growth. Through collaborative tasks, teacher leaders were found to promote a experience of network among team of workers individuals, contributing to a positive school subculture that permeates at some stage in the mastering network.

Similarly, Louis et al. (2010) explored the dynamic interaction among teacher leadership and school lifestyle, emphasizing the big impact of teacher leaders in molding the ethos of tutorial institutions. Their findings illustrated how teacher leaders serve as architects of tremendous faculty cultures, adeptly navigating interpersonal relationships and organizational dynamics. By offering visionary management and rallying stakeholders towards shared desires, instructor leaders domesticate an surroundings where absolutely everyone thrives. Louis et al.'s studies highlighted the transformative influence of instructor leadership in creating college cultures that inspire excellence and assist holistic development.

Marks and Louis (1997) performed an in depth study inspecting the correlation among teacher leadership and student success. Their research explored various sides of trainer leadership and its relationship with student achievement metrics. Through empirical evaluation, Marks and Louis exposed compelling proof suggesting a high quality link between instructor leadership roles and advanced pupil results. This underscores the significance of empowering teachers to take on management roles inside colleges, as their involvement in leadership activities seems to advantage student success.

Likewise, Leithwood et al. (2004) centered on how instructor leadership practices impact pupil engagement and educational performance. Their studies aimed to pick out particular ways in which trainer leaders make contributions to scholar fulfillment each inside and outside the classroom. Through rigorous evaluation and longitudinal research, Leithwood and his group identified key leadership practices related to accelerated pupil engagement and academic

fulfillment. Their findings emphasized the crucial role of instructor leaders in shaping the learning surroundings, fostering excellence, and selling pupil fulfillment.

These studies together underscore the importance of teacher leaders in diverse aspects of the training system, consisting of educational development, expert development, shared management, faculty tradition, and ultimately, scholar success.

2.13   Need and importance of Teacher Leadership in Higher Education

Teacher leadership in higher education has been a subject of sizable studies, with past studies dropping light on its significance and relevance inside instructional establishments. One seminal examine with the aid of Kowalski et al. (2008) tested the position of instructor leaders in promoting academic improvement and fostering a tradition of collaboration in better education settings. The researchers observed that instructor leaders, thru their know-how and collaborative efforts, considerably contributed to enhancing coaching fine and scholar mastering outcomes (Kowalski et al., 2008).

Further studies by using Harris and Muijs (2005) delved into the effect of instructor management on institutional innovation and educational excellence. Their observe revealed that instructor leaders played a crucial function in driving institutional exchange, championing revolutionary teaching practices, and advancing the organization's recognition for academic excellence (Harris & Muijs, 2005).

Moreover, studies through Darling-Hammond et al. (2009) and Smylie et al. (2010) explored the relationship between teacher management and scholar fulfillment in higher schooling. These studies highlighted the big affect of instructor leaders on scholar engagement, retention, and usual academic fulfillment, emphasizing the crucial function they play in selling scholar achievement (Darling-Hammond et al., 2009; Smylie et al., 2010).

In addition to its effect on teaching and pupil consequences, instructor leadership in better schooling has also been related to leadership development and succession making plans. Research by Hargreaves et al. (2012) tested how instructor management packages and initiatives function valuable systems for nurturing destiny educational leaders and cultivating a pipeline of management expertise within institutions (Hargreaves et al., 2012).

Overall, past research underscore the multifaceted importance of teacher leadership in better schooling, emphasizing its function in educational development, institutional innovation, pupil achievement, and management improvement. By drawing insights from these research, higher education establishments can higher recognize the cost of teacher management and leverage it to decorate the pleasant and effectiveness of academic programs and offerings.

Teacher management holds great importance and relevance in better education, gambling a pivotal role in shaping the educational panorama and fostering institutional excellence. Here are numerous key motives highlighting its significance:

- **Enhancing Teaching and Learning:** Teacher leaders in higher education institutions contribute to enhancing teaching quality and student learning outcomes. Through their expertise, innovation, and commitment to pedagogical excellence, they drive continuous improvement in instructional practices, curriculum development, and student engagement strategies (Smith et al., 2015; Darling-Hammond et al., 2009).

- **Promoting Collegiality and Collaboration:** Teacher leaders serve as catalysts for fostering a culture of collegiality, collaboration, and professional growth among faculty members. By facilitating collaborative initiatives, sharing best practices, and promoting interdisciplinary dialogue, they create opportunities for knowledge exchange and collective learning, thereby enriching the academic environment (Harris, 2008; Smylie et al., 2010).

- **Driving Institutional Innovation:** Teacher leaders play a crucial role in driving institutional innovation and responding to emerging trends and challenges in higher education. They champion innovative teaching methodologies, technological advancements, and pedagogical research, contributing to the institution's adaptability and competitiveness in a rapidly evolving educational landscape (Hargreaves et al., 2012; Fullan, 2007).

- **Advancing Student Success and Engagement:** Teacher leaders are instrumental in advancing student success, retention, and overall academic achievement. Through mentorship, academic advising, and student support initiatives, they provide personalized guidance and support to students, helping them navigate academic challenges, identify opportunities for growth, and achieve their educational goals (Marks & Louis, 1997; Leithwood et al., 2004).

- **Fostering Leadership Development:** Teacher leadership programs and initiatives in higher education serve as valuable platforms for nurturing future academic leaders. By providing opportunities for professional development, leadership training, and mentorship, they empower faculty members to develop leadership competencies, assume leadership roles, and contribute to the broader governance and administration of the institution (York-Barr & Duke, 2004; Showers & Joyce, 1996).

- **Driving Institutional Excellence and Reputation:** Teacher leaders contribute to enhancing the reputation and academic standing of higher education institutions. Their commitment to excellence in teaching, research, and service not only elevates the institution's academic profile but also attracts top talent, fosters institutional pride, and enhances stakeholder confidence in the institution's mission and vision (Hargreaves & Fullan, 2012; Hallinger & Heck, 1996).

In summary, teacher leadership is integral to the fabric of higher education, driving academic innovation, promoting collaboration, advancing student success, and cultivating the next generation of academic leaders. By recognizing and harnessing the potential of teacher leaders, higher education institutions can realize their mission of providing transformative educational experiences and preparing students for success in a rapidly changing world.

2.14 Roles and Responsibilities of Teacher Leaders

An exploration of past studies reveals the intricate roles and responsibilities shouldered by teacher leaders within educational settings. One fundamental aspect is their role in instructional leadership, where teacher leaders serve as guides and exemplars of effective teaching practices. Little (2002) underscores this by highlighting how teacher leaders contribute to instructional improvement by not only implementing best practices themselves but also by sharing their expertise with colleagues. They often lead by example, modeling innovative teaching strategies, and providing support to peers in curriculum design and implementation. This instructional leadership role extends beyond individual classrooms, impacting the broader educational landscape within schools or departments.

Moreover, instructor leaders play a essential function in facilitating expert improvement opportunities for his or her peers. York-Barr and Duke (2004) talk how trainer leaders serve as mentors and coaches, guiding colleagues in reflective exercise and skill development. They create

areas for collaborative getting to know, encouraging instructors to have interaction in peer observation, comments, and shared hassle-fixing. Through these tasks, teacher leaders contribute to a way of life of continuous learning and growth, fostering a network of educators committed to enhancing their practice.

Collaborative choice-making is some other key obligation undertaken by using trainer leaders, as highlighted via Crowther et al. (2009). They participate in shared governance structures, representing the perspectives of their colleagues and advocating for educational and organizational upgrades. By engaging in collaborative selection-making procedures on the faculty or district stage, instructor leaders ensure that the voices of educators are heard and that selections are made with the nice hobbies of students and body of workers in thoughts.

Teacher leaders also make contributions significantly to organizational improvement efforts inside their institutions. Harris (2008) discusses how they promote a fantastic faculty culture, foster collegiality, and contribute to the improvement and implementation of school development plans. Their involvement in tasks aimed at enhancing organizational effectiveness enables create supportive and conducive surroundings for coaching and gaining knowledge of. Through their management, instructor leaders drive superb alternate and make a contribution to the general fulfillment of their educational establishments.

Furthermore, trainer leaders play a crucial function in pupil support and advocacy. Marks and Louis (1997) discover how teacher leaders effect scholar fulfillment via presenting instructional support, mentorship, and guidance. They endorse for the needs of students, ensuring that they have get entry to to assets and possibilities for achievement. Additionally, trainer leaders promote scholar engagement and create a wonderful school weather conducive to mastering, as mentioned via Leithwood et al. (2004). Their dedication to supporting student growth and well-being underscores their determination to serving the wider academic network.

In precis, trainer leaders adopt diverse roles and duties that embody academic leadership, professional development, collaborative choice-making, organizational development, and student help. Through their efforts, they make contributions to the non-stop development and success of educational establishments, shaping the reviews of both educators and college students alike.

2.15 Leadership Theories and Models

Teacher leadership is a multifaceted concept that has been explored through various theories and models in the field of education. These theories and models provide insights into the roles, characteristics, and impact of teacher leaders. Here's a literature review based on different theories and models of teacher leadership:

2.15.1 Distributed Leadership Theory

Distributed Leadership Theory presents a leadership paradigm that diverges from the conventional hierarchical model prevalent in organizations, including educational institutions. This framework suggests that leadership is not confined to one individual, like a principal or administrator, but rather dispersed among different individuals and positions within the organization. In the educational context, it underscores the importance of teachers, alongside formal leaders, in assuming substantial leadership responsibilities aimed at enhancing schools and fostering positive student outcomes.

Originators of Distributed Leadership Theory

The idea of distributed leadership gained prominence in the early 2000s as researchers started to explore leadership as a shared and distributed phenomenon within organizations, particularly in educational settings. The concept of Distributed Leadership Theory has evolved over time and does not have a single originator or founder. Instead, it has emerged from the work of multiple researchers and scholars who have contributed to the development and articulation of the theory. This theory has been shaped by insights from various fields, including educational leadership, organizational theory, and management.

While it's challenging to attribute the theory to a single originator, some scholars and researchers have made significant contributions to the development and popularization of Distributed Leadership Theory. These include:

1. **James P. Spillane (2006)**: Dr. James P. Spillane, a professor at Northwestern University, is often associated with research on distributed leadership. His work has focused on understanding leadership practices in educational settings and how leadership is distributed among different actors within schools.

2. **Peter Gronn**: Peter Gronn, an Australian researcher, has also made substantial contributions to the theory of distributed leadership. He has explored the concept in educational contexts, particularly in relation to how leadership is exercised in schools.

3. **Kenneth Leithwood**: Dr. Kenneth Leithwood is known for his research on educational leadership and has explored the concept of distributed leadership as part of his work. His research has examined the impact of leadership practices on student outcomes.

4. **Alma Harris (2008)**: Professor Alma Harris, a scholar in the field of educational leadership, has contributed to the understanding of distributed leadership and its implications for school improvement.

It's important to note that Distributed Leadership Theory has evolved as a collaborative effort, with contributions from numerous researchers and scholars worldwide. The theory has been shaped by empirical studies, case analyses, and observations in educational settings. As a result, it continues to develop and adapt as new research and practical experiences emerge.

Key features of Distributed Leadership Theory:

Here are the key components and details of Distributed Leadership Theory:

1. **Shared Leadership Responsibility**: Distributed leadership suggests that leadership responsibilities should be shared among multiple stakeholders, including teachers, principals, staff, and even students. This shared responsibility recognizes that individuals possess unique expertise and can contribute to leadership in different ways.

2. **Collaborative Decision-Making**: The theory promotes collaborative decision-making processes where multiple perspectives and expertise are considered when making important choices. This approach is believed to lead to more informed and effective decisions.

3. **Leadership Expertise**: Distributed leadership recognizes that leadership is not a one-size-fits-all concept. Different individuals within an organization may possess specific leadership expertise or skills that are valuable in particular contexts. For example, a teacher may excel in curriculum development, while an administrator may specialize in organizational management.

4. **Flexibility and Adaptability**: Distributed leadership is adaptable and context-dependent. It allows leadership roles to emerge organically based on the unique needs and challenges of the organization. This flexibility enables schools to respond effectively to changing circumstances.

5. **Teacher Leadership**: In education, teacher leadership is a central component of distributed leadership. It acknowledges that teachers have a deep understanding of classroom dynamics, curriculum, and instructional strategies. Therefore, teachers are well-positioned to take on leadership roles related to instructional improvement, mentoring, and collaboration with colleagues.

6. **Improved School Culture**: By involving a broader range of stakeholders in leadership roles, distributed leadership can contribute to a positive school culture. Collaboration, trust, and a sense of collective responsibility are often fostered, creating an environment conducive to learning and improvement.

7. **Student-Centered Approach**: Distributed leadership encourages a student-centered approach to decision-making. It emphasizes that leadership actions should ultimately benefit students and their learning experiences.

8. **Research Basis**: Distributed leadership theory is grounded in empirical research. Studies have shown that schools with a distributed leadership approach tend to have higher student achievement, improved teacher satisfaction, and more effective school improvement initiatives (Harris & Spillane, 2008).

In summary, Distributed Leadership Theory challenges the traditional top-down leadership model by emphasizing the shared responsibility and expertise of various stakeholders within an organization, including teachers. It is seen as a more collaborative, adaptable, and contextually relevant approach to leadership, particularly in the field of education, where teachers' insights and contributions are considered crucial to improving schools and student outcomes.

2.15.2 Transformational Leadership Theory: Origin, Core Concepts, and Recent Developments (1978–2025)

Transformational Leadership Theory, first introduced by James MacGregor Burns in 1978, was a pioneering approach that shifted the focus from transactional exchanges of rewards and

punishments to a more visionary and values-driven form of leadership. Burns emphasized that transformational leaders transcend self-interest to prioritize collective well-being and ethical conduct, inspiring followers to achieve extraordinary outcomes. His seminal work, *Leadership* (1978), laid the foundation for the theory, introducing the distinction between transformational and transactional leadership and highlighting the profound impact leaders can have on followers and organizations.

Bernard M. Bass (1985) further developed the theory by operationalizing its core dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Transformational leaders act as role models, inspire a shared vision, foster creativity, and provide personalized mentorship, thereby elevating followers' motivation, morale, and performance. Unlike transactional leadership, which focuses on routine management and contingent rewards, transformational leadership emphasizes inspiration, empowerment, and ethical guidance.

Core Components

1. **Idealized Influence / Charisma:** Leaders serve as ethical role models, earning trust and respect while exemplifying the values and principles they expect from their followers.

2. **Inspirational Motivation:** Leaders articulate a compelling vision of the future, igniting enthusiasm and commitment among followers.

3. **Intellectual Stimulation:** Leaders encourage creative problem-solving, critical thinking, and innovation, challenging the status quo to achieve improved outcomes.

4. **Individualized Consideration:** Leaders recognize individual needs and strengths, providing mentorship, support, and growth opportunities tailored to each follower.

Recent Developments (2023–2025)

Recent research has further expanded the application and understanding of transformational leadership across educational and organizational contexts:

- **Organizational Culture and Performance:** Assefa (2025) examined the interplay between transformational leadership and organizational culture, showing how leaders' transformational behaviors align with institutional values to boost overall performance.

- **Educational Settings**: Pennell (2023) explored the impact of transformational leadership on faculty performance in higher education, highlighting the importance of vision and intellectual stimulation in enhancing teaching and learning outcomes.

- **Work Engagement and Innovation:** Helalat et al. (2024) demonstrated that transformational leadership enhances employee engagement and innovative behaviors, particularly when organizational justice is perceived positively.

- **Team Dynamics:** Matsuo (2025) analyzed transformational leadership within team communities of practice, emphasizing its role in fostering collaborative learning, knowledge sharing, and collective problem-solving.

Implications for Practice

These developments reinforce that transformational leadership is adaptable and highly relevant in contemporary settings. Leaders who embody transformational qualities—through vision, ethical conduct, individualized support, and intellectual stimulation—can create environments that enhance engagement, innovation, and performance across educational, organizational, and team contexts. By inspiring and empowering individuals, transformational leaders cultivate dynamic, motivated, and high-performing teams capable of achieving extraordinary outcomes.

2.15.3 Instructional Leadership Model

The Instructional Leadership Model is an educational leadership framework that places a strong emphasis on the role of school leaders in improving teaching and learning. It originated in the field of educational leadership and has been influential in shaping the practice of school leaders.

Origin:

The concept of instructional leadership emerged in the mid-20th century as a response to the need for more effective school leadership. It gained prominence in the 1970s and 1980s as researchers and educators recognized that school principals could play a pivotal role in enhancing the quality of instruction. While several scholars contributed to the development of this model, one of the key figures associated with instructional leadership is Philip Hallinger. Hallinger's work in the 1980s and 1990s significantly advanced the understanding and application of instructional leadership.

Key features:

1. **Focus on Teaching and Learning:** Instructional leadership places a strong emphasis on the core mission of schools, which is to promote student learning. School leaders actively engage in activities that directly impact classroom instruction. They work closely with teachers to improve teaching practices, curriculum development, and the overall learning environment. This focus on teaching and learning is the hallmark of instructional leadership.

2. **Collaborative Decision-Making:** Instructional leaders recognize that effective decision-making in education requires input from multiple stakeholders. They encourage collaboration among teachers, parents, students, and other community members. In decision-making processes, diverse perspectives are valued, and decisions are made with the best interests of students in mind. This collaborative approach fosters a sense of ownership and shared responsibility for school improvement.

3. **Teacher Professional Development:** Effective instructional leaders are committed to the professional growth of their teaching staff. They provide opportunities for teachers to enhance their skills and knowledge through workshops, training sessions, and ongoing support. Professional development is tailored to address specific needs identified through data analysis and teacher evaluations. This investment in teacher growth contributes to improved classroom practices.

4. **Data-Driven Practices:** Instructional leaders use data as a compass for school improvement. They regularly collect, analyze, and interpret student achievement data to identify trends and areas for improvement. Data guides decisions related to curriculum adjustments, teaching strategies, and resource allocation. This evidence-based approach ensures that actions are aligned with the goal of enhancing student learning outcomes.

5. **Curriculum Development:** Leaders in the instructional model are actively engaged in curriculum development and alignment. They ensure that the curriculum is coherent, standards-based, and conducive to effective instruction. Curriculum decisions are made in collaboration with teachers and experts in the field to provide students with a well-rounded and rigorous educational experience.

6. **Teacher Evaluation:** Instructional leaders are responsible for fair and constructive teacher evaluations. They conduct regular classroom observations, provide feedback, and work with teachers to set professional goals. The evaluation process is designed to support teacher growth rather than merely assessing performance. It fosters a culture of reflection and continuous improvement.

7. **Building a Positive School Culture:** Effective instructional leaders understand the importance of school culture in promoting learning and well-being. They work to create a positive and inclusive school environment where all stakeholders feel valued and respected. A positive school culture enhances student engagement, motivation, and a sense of belonging, ultimately contributing to improved learning outcomes.

These key features collectively define the Instructional Leadership Model as a comprehensive approach to school leadership that prioritizes student learning, collaboration, data-informed decision-making, and continuous professional development. It recognizes that leadership is not solely the responsibility of one person but is distributed among various stakeholders, all working toward the common goal of improving education.

2.15.4 Path Goal Theory

The Path-Goal Theory of leadership, pioneered by Robert House in 1971, offers insights into how leaders can inspire and assist their followers in reaching their objectives. Over the years, this theory has undergone refinement and enrichment by several scholars. According to this framework, effective leaders excel in elucidating the path toward goal attainment, eliminating barriers, and offering the essential encouragement and incentives to drive their followers' motivation.

Key Features of the Path-Goal Theory:

1. **Leadership Styles:** Within the framework of this theory, various leadership styles are delineated, each tailored to suit the specific requirements of followers and situational contexts. These styles encompass directive leadership, characterized by clear guidance provision, supportive leadership, which manifests concern for followers' welfare, participative leadership, involving followers in decision-making, and achievement-oriented leadership, which entails setting ambitious objectives.

2. **Goal Clarity:** It is incumbent upon effective leaders to ensure that their followers possess a lucid comprehension of their objectives and the means to attain them. They furnish explicit expectations and guidance to mitigate ambiguity and foster clarity.

3. **Obstacle Mitigation:** Leaders are tasked with identifying and eliminating impediments obstructing their followers' progress towards their goals. This endeavor may entail furnishing additional resources, training, or assistance to surmount challenges.

4. **Support and Recognition:** Leaders must extend support and recognition to motivate their followers. Support encompasses coaching, mentoring, and emotional backing, while recognition can take both intrinsic forms, such as acknowledgment and commendation, and extrinsic forms, such as bonuses or advancement.

5. **Follower Diversity:** Acknowledging the diverse needs and traits of followers, effective leaders tailor their leadership approach accordingly. For instance, for highly skilled and motivated followers, a participative leadership style may be suitable, while for those lacking confidence or experience, a more directive approach may be warranted.

Application of the Path-Goal Theory

The Path-Goal Theory has been applied in various organizational settings to understand leadership effectiveness. It has been used to analyze leadership behaviors in different industries, such as education, healthcare, and business. In educational contexts, for example, the theory has been used to examine how school principals can support and motivate teachers to improve student outcomes.

This theory provides valuable insights into how leaders can adapt their behaviors to best support their followers in achieving their goals, ultimately leading to increased job satisfaction and performance.

2.15.5 Situational Leadership Model
Origin and History:

The Situational Leadership Model, pioneered by Paul Hersey and Ken Blanchard in 1969, emerged from their joint efforts documented in the book "Management of Organizational Behavior." Their seminal work emphasized the dynamic nature of leadership, emphasizing the need for leaders to

adapt their styles according to the unique requirements of their followers and the prevailing circumstances.

Key Features:

1. **Leadership Styles**: The model identifies four primary leadership styles:

    - **Telling (S1)**: This approach contains providing specific instructions and closely supervising tasks. It is most appropriate when followers have low competence and high commitment.

    - **Selling (S2)**: Here, leaders provide guidance and support but also explain their decisions. It suits situations where followers have some competence but may still need direction.

    - **Participating (S3)**: This style emphasizes collaboration and decision-making with followers. Leaders facilitate discussions and seek input. It is suitable when followers have moderate competence and variable commitment.

    - **Delegating (S4)**: In this style, leaders provide minimal direction and allow followers to make decisions. It is appropriate when followers have high competence and commitment.

2. **Adaptability**: One significant aspect of the model is its focus on the adaptability of leadership. Leaders are encouraged to evaluate the competence and commitment levels of their followers within a specific task or context and subsequently select the most suitable leadership approach.

Application in the Education Sector:

The Situational Leadership Model has several applications in the education sector:

1. **Differentiated Instruction**: Teachers can apply this model to adapt their teaching styles to the needs of their students. For example, when introducing a new concept, a teacher might initially use a "Telling" style and then transition to a "Participating" style as students gain competence.

2. **Teacher Leadership**: Teacher leaders can use situational leadership to guide their interactions with colleagues. For instance, when mentoring a new teacher, they might employ a "Selling" style to provide guidance and explanations.

3. **School Leadership**: School administrators can apply the model to lead their teams effectively. They may use different styles when working with teachers based on their experience and commitment to particular initiatives.

4. **Adaptive Leadership**: In rapidly changing educational environments, leaders may need to adapt their styles frequently. Situational leadership provides a framework for making these adjustments.

5. **Conflict Resolution**: Understanding situational leadership can aid in resolving conflicts within the school community. Leaders can assess the situation and apply the appropriate style to address the conflict constructively.

In summary, the Situational Leadership Model recognizes that effective leadership is contingent on the situation and the readiness of followers. It encourages leaders, including teacher leaders, to be flexible and adjust their styles to meet the evolving needs of their teams, ultimately promoting growth and success in the education sector.

2.15.6 Theory of Action

The Theory of Action within teacher leadership underscores a systematic method wherein educators collaborate to enhance teaching and learning practices. This approach entails deliberate actions and tactics aimed at improving student learning outcomes. Teachers, whether individually or collectively, exert influence on their peers and school environments to raise the bar for teaching excellence (York-Barr & Duke, 2004).

Origin and History:

The inception of the Theory of Action in teacher leadership stems from an extensive research corpus within the realm of education, particularly emphasizing collaborative methodologies and their influence on student learning. York-Barr and Duke (2004) formulated this theory by amalgamating insights gleaned from numerous studies spanning multiple decades. It arose in

recognition of the necessity for a structured framework to steer teachers toward enhancing their instructional methods collectively.

Key Features: The Theory of Action involves several key features:

- **Collaborative Planning:** Teachers work together to create detailed plans for improving teaching methods and student learning outcomes.

- **Data-Driven Decision Making:** Educators engage in data-driven decision-making by scrutinizing student data to pinpoint precise areas for improvement, which then informs their collaborative endeavors.

- **Professional Learning Communities:** Teachers form communities to share expertise, exchange ideas, and support each other's professional growth.

- **Shared Leadership:** The theory emphasizes the collective influence of teachers, where individuals contribute their unique strengths to elevate teaching standards.

- **Continuous Feedback:** Regular feedback loops ensure that implemented strategies are evaluated, allowing for necessary adjustments.

Educational Application: In educational contexts, the Theory of Action serves as a guiding framework for professional development initiatives and school improvement programs. It is applied in various ways:

- **Teacher Workshops:** Schools conduct workshops where teachers collaboratively develop action plans to address specific challenges in their classrooms.

- **Data Analysis Meetings:** Educators meet to analyze student performance data, identifying trends and devising strategies to enhance learning outcomes.

- **School Improvement Projects:** The theory guides schools in implementing comprehensive improvement projects, involving teachers, administrators, and other stakeholders.

In summary, The Theory of Action in teacher leadership, developed by York-Barr and Duke in 2004, focuses on a systematic and collaborative approach to improving teaching and learning practices. It emphasizes key features such as collaborative planning, data-driven decision-making,

professional learning communities, shared leadership, and continuous feedback. Teachers work together, utilizing student data and feedback, to enhance teaching methods and student learning outcomes. In educational contexts, the Theory of Action in teacher leadership, proposed by York-Barr and Duke (2004), finds practical application in several key areas. Teachers collaborate within professional learning communities, engaging in data analysis sessions and collaborative planning to enhance teaching strategies. This approach fosters a shared leadership model, where teachers collectively influence teaching standards and student learning outcomes. Workshops and school improvement projects are structured around this theory, emphasizing data-driven decision-making and continuous feedback loops. The model empowers teachers to play an active role in shaping educational practices, ensuring a more collaborative and effective learning environment.

2.15.7 Danielson's Teacher Leadership Model

Danielson's Teacher Leadership Model, introduced in 2006, emphasizes the pivotal role teachers play in shaping the educational landscape. Rooted in empowering educators, this model advocates for a multi-faceted approach to teacher leadership within schools.

Origin and History: Danielson's model evolved from the growing recognition of teachers as leaders beyond their classrooms. It aligns with the paradigm shift that positions teacher as key decision-makers and influencers within the educational community.

Key Features:

1. **Active Participation:** The model encourages teachers to actively engage in decision-making processes within their schools. This involvement ensures that educational policies and practices resonate with the practical insights of those directly involved in teaching.

2. **Curriculum Development:** Teacher leaders, according to this model, are instrumental in curriculum development. Their firsthand experience informs the creation of relevant, engaging, and effective curricula that cater to diverse learning needs.

3. **Mentoring and Support:** Experienced teachers are vital mentors, guiding newer educators. By sharing knowledge, classroom strategies, and insights, they foster a supportive learning environment, enhancing professional growth among colleagues.

Educational Application: In practice, Danielson's Teacher Leadership Model manifests in various ways. Teacher leaders participate in school-level committees, offering valuable perspectives on curriculum design and pedagogical approaches. They lead professional development sessions, sharing best practices and innovative teaching methods. Mentoring programs are established, creating a supportive network for new teachers.

Impact on Education: By actively involving teachers in decision-making and mentoring, this model enhances collaboration, boosts teacher morale, and ensures a more cohesive and supportive school environment. Through these collaborative efforts, student learning experiences are enriched, leading to improved academic outcomes.

In summary, Danielson's Teacher Leadership Model underscores the importance of teachers' active engagement in decision-making processes, curriculum development, and mentoring. This approach transforms schools into vibrant learning communities, fostering continuous professional growth and ultimately benefiting students' educational experiences.

2.15.8 Research Model regarding teachers functioning as leaders.

Crowther's Framework of Instructors as Leaders, introduced in 2008, presents a progressive perspective on teacher leadership. This framework envisions teachers as dynamic agents of change and innovation within the educational landscape.

Origin and History: Crowther's framework emerged from the need to recognize and harness the inherent leadership potential of teachers. It addresses the evolving challenges in education and acknowledges that teachers, through their expertise and dedication, can play pivotal roles in shaping the future of learning institutions.

Key Features:

1. **Agents of Change:** The framework positions teachers as proactive agents of change, capable of identifying challenges and implementing innovative solutions. It emphasizes their role in initiating transformative processes within their educational contexts.

2. **Leadership Skill Development:** Crowther's model underscores the importance of nurturing teachers' leadership skills. This involves providing training, mentorship, and opportunities for professional development, empowering teachers to lead effectively.

3. **Commitment to Positive Transformation:** Teachers are encouraged to channel their expertise and commitment toward positive transformations in their schools. This could involve curriculum enhancements, introducing progressive teaching methodologies, or fostering a culture of inclusivity and diversity.

Educational Application: In practical terms, Crowther's framework inspires the establishment of teacher-led initiatives and collaborative projects. It encourages schools to create platforms where teachers can voice their ideas, engage in action research, and implement innovative teaching practices. Such initiatives often lead to improved learning outcomes and a more cohesive educational environment.

Impact on Education: By recognizing teachers as leaders and fostering their skills and commitment, this framework contributes to a more vibrant and adaptive educational system. It fosters an environment of ongoing enhancement and creativity, leading to an improved quality of education delivered to students.

In summary, Crowther's Conceptual Framework of Teachers as Leaders elevates the role of teachers from instructors to proactive change agents. By developing their leadership skills and fostering a commitment to positive transformations, this framework empowers teachers to drive meaningful changes within their educational settings, fostering a dynamic and progressive learning environment.

2.15.9 Standards for Teacher Leaders (Teacher Leadership Exploratory Consortium, 2011)

In 2011, the Teacher Leadership Exploratory Consortium introduced the Teacher Leader Model Standards, offering a detailed framework that delineates the key functions and obligations of teacher leaders. These standards present a systematic outline of the critical competencies, expertise, and attitudes expected from teacher leaders, with the goal of offering a precise guide for fostering impactful teacher leadership across educational contexts.

Origin and History: The development of these standards was a response to the increasing recognition of the critical role that teacher leaders play in school improvement. The consortium, comprised of educators, researchers, and policymakers, collaborated to create a unified set of standards that could guide the professional growth of teacher leaders.

Key Features:

1. **Structured Guidelines:** The standards offer a well-structured set of guidelines that encompass various domains of teacher leadership. These include collaboration, advocacy, instructional leadership, and continuous professional development.

2. **Comprehensive Skillset:** The Teacher Leader Model Standards outline a comprehensive set of skills expected from teacher leaders. These encompass effective collaboration with peers, advocacy for educational enhancements, and the provision of instructional leadership through the promotion of innovative teaching methodologies.

3. **Focus on School Improvement:** Emphasizing school improvement, these standards guide teacher leaders in actively contributing to enhancing their schools. This involves not only improving classroom practices but also advocating for systemic changes and engaging in collaborative efforts for the overall betterment of the educational institution.

Educational Application: Educational institutions can employ these standards as a yardstick for assessing and improving the quality of their teacher leadership initiatives. By harmonizing their programs with these standards, schools can guarantee that their teacher leaders possess the essential competencies to enact beneficial transformations within the organization. This harmonization fosters a more integrated and unified strategy for the cultivation of teacher leadership capabilities.

The implementation of the Teacher Leader Model Standards empowers schools to nurture a cohort of adept teacher leaders. Equipped with the proficiencies delineated in the standards, these leaders can spearhead meaningful reforms, participate in collective decision-making, and promote a culture of ongoing enhancement within educational institutions.

In essence, the Teacher Leader Model Standards furnish a systematic and thorough blueprint for cultivating teacher leaders. Emphasizing collaboration, advocacy, instructional leadership, and school advancement, these standards furnish a sturdy groundwork for fostering proficient teacher leaders, ultimately augmenting the educational journey and achievements of students.

2.15.10 Teacher Leadership Sphere for Teaching

Teacher Leadership Sphere for Teaching proposes a model where teacher leadership extends beyond school boundaries. It envisions teachers as leaders not only within their classrooms but also in influencing education policies and practices at a broader level. This model highlights teachers' potential to impact the entire educational sphere, including policy-making processes (Fairman & Mackenzie, 2014).

Origin and Background: The **Teacher Leadership Sphere for Teaching**, introduced by Fairman and Mackenzie in 2014, represents an innovative method for leadership qualities of educators. Rooted in the belief that teachers possess valuable insights and expertise extending far beyond their classrooms, this model redefines the conventional boundaries of teacher leadership. It recognizes teachers not just as classroom leaders but as influential figures capable of shaping education policies and practices at a systemic level.

Key Features:

1. **Broad Influence:** The model expands the scope of teacher leadership, emphasizing teachers' capacity to influence educational policies and practices at local, regional, and even national levels. It acknowledges the extensive knowledge and firsthand experiences teachers possess, making them instrumental in shaping educational systems.

2. **Policy Advocacy:** Teachers are positioned as advocates for evidence-based policies and reforms. They are encouraged to engage with policymakers, sharing their insights to inform decisions that impact the entire education sphere. This advocacy role transforms teachers into key stakeholders in the policy-making process.

3. **Collaborative Networks:** The Teacher Leadership Sphere for Teaching encourages the formation of collaborative networks among teachers. These networks facilitate the exchange of innovative practices, research findings, and policy insights. By collaborating, teachers can amplify their collective voice and influence in the education landscape.

4. **Professional Development:** The model emphasizes continuous professional development for teachers, enabling them to stay informed about evolving educational theories, policies, and practices. Well-informed and skilled teachers are better equipped to contribute meaningfully to policy discussions and reforms.

Educational Application: Educational institutions can implement this model encourages the development of an environment where teachers engage in continuous learning and collaborate effectively with one another. Providing opportunities for teachers to engage with policymakers, attend policy-oriented workshops, and participate in research endeavors can empower them to actively contribute to educational policies and practices.

Impact on Education: The Teacher Leadership Sphere for Teaching, by empowering teachers to participate in policy advocacy and collaborate effectively, leads to a more informed, dynamic, and responsive education system. Teachers, armed with a deep understanding of both classroom realities and broader policy issues, can advocate for reforms that align with the best interests of students and educators alike.

In summary, the Teacher Leadership Sphere for Teaching redefines teacher leadership by emphasizing teachers' influence in shaping education policies and practices. Its focus on advocacy, collaboration, and continuous professional development positions teachers as key drivers of positive systemic change within the education sector.

Summary

The review of various Teacher Leader Models and theories underscores the dynamic roles teachers play in shaping the educational landscape. The **Theory of Action** emphasizes systematic collaboration for enhanced teaching. **Danielson's Model** empowers teachers in decision-making and mentorship. **Crowther's Framework** positions teachers as change agents. The **Teacher Leader Model Standards** provide structured guidelines, while **Fairman and Mackenzie's Sphere Model** expands teacher influence to policymaking.

These models collectively emphasize the pivotal role of teacher leaders in education. When supported and nurtured, teacher leaders become catalysts for positive change, fostering collaborative, student-centered learning environments. Recognizing teachers' leadership potential is vital, ensuring a brighter educational future for all students.

2.16 Attributes and Behaviours of Teacher Leader

The transition of instructor headship from primarily managerial duties to encompassing transformative educational approaches underscores the dynamic nature of educational leadership in modern contexts. Reflecting on extensive research, it becomes evident that teacher leaders are

pivotal in fostering environments that encourage academic excellence and innovation. These individuals are no longer confined to the traditional roles within classrooms but have emerged as pivotal figures in guiding both their colleagues and students towards shared goals of improvement and learning (York-Barr & Duke, 2004; Harris, 2005).

A significant body of literature has identified key attributes and behaviors critical for effective teacher leadership, emphasizing visionary, inspirational, collaborative, ethical, and adaptive leadership as essential components. Studies by authors such as Muijs, Harris, Leithwood, and Day (2004), and Hallinger and Heck (2010) have collectively underscored the necessity for teacher leaders to not only articulate and pursue clear educational visions but also to inspire, collaborate, and maintain ethical standards within their practices. Furthermore, Heifetz, Grashow, and Linsky's (2009) exploration into adaptive leadership illuminates the importance of flexibility and responsiveness in navigating the complex landscape of educational reform and student needs.

Through the lens of these scholarly contributions, teacher leadership is seen as a multifaceted and influential force within schools, transcending traditional pedagogical boundaries to impact the broader educational ecosystem. As the field continues to evolve, the insights provided by such studies offer invaluable guidance for shaping the future of educational leadership, advocating for a comprehensive approach that encompasses strategic visioning, motivational prowess, collaborative engagement, ethical governance, and adaptive strategies to meet the challenges of contemporary education (Leithwood & Jantzi, 2006; Shapiro & Stefkovich, 2011).

Through extensive research, various attributes and behaviors have been identified, illustrating the multifaceted and vibrant nature of teacher leadership. Positioned as pioneers in educational reform, teacher leaders embody the essential qualities required to navigate the complexities of teaching and learning in the contemporary era. As such, understanding the multifaceted roles of teacher leaders is crucial for stakeholders across the educational spectrum, from policymakers to practitioners, as they work collaboratively improve the standard and efficiency in the field of teaching learning process.

Investigating the characteristics and actions of teacher leaders uncovers a complex role that surpasses conventional teaching duties, highlighting the importance of visionary, inspirational, collaborative, ethical, and adaptive leadership qualities. Each trait distinctly contributes to the

leadership landscape within education, cultivating environments that nurture development, creativity, and a collective sense of duty.

Visionary Leadership: Visionary leadership among teachers entails setting clear, ambitious, and realistic objectives for their classrooms and the broader school environment. Such leaders motivate their students and peers by envisaging an enticing future and outlining a path towards achieving that vision. Research by Muijs et al. (2004) underscores that visionary leadership is pivotal for fostering a unified A clear aim and guidance, which is crucial for the enhancement of school performance and student learning.

Inspirational Leadership: This leadership style is intertwined with a teacher leader's ability to energize and elevate students and colleagues, often positioning themselves as exemplary figures. Leithwood and Jantzi's (2006) research emphasizes the significant function of inspiring direction of leaders in cultivating a vibrant institute environment which bolsters enthusiasm also commitment to learning, thereby encouraging perseverance and dedication among both students and staff.

Collaborative Leadership: Emphasizing teamwork and partnership, collaborative leadership is vital in the educational sphere. Teacher leaders practicing this approach actively involve colleagues, students, and the community in participatory decision-making, understanding that a united effort produces more significant outcomes. Hallinger and Heck (2010) demonstrate that such collaborative endeavors among teachers enhance professional connections and refine instructional methods through the pooling of shared knowledge and support.

Ethical Leadership: Characterized by integrity, fairness, and a steadfast commitment to what is beneficial for students' well-being and academic progress, ethical leadership forms the moral backbone of the educational community. Shapiro and Stefkovich (2011) examine the significance of ethical leadership in education, as it provides a moral framework that informs decisions and behaviours within the school setting. By championing fair practices and maintaining high ethical standards, teacher leaders set a commendable example for the entire community.

Adaptive Leadership: Adaptive type of leader's direction is entails capacity to welcome revolution and address obstacles by employing innovative approaches.For educators, this translates to modifying teaching approaches, curricula, and approaches to address the changing

necessities for learners and the dynamic educational environment. Heifetz, Grashow, and Linsky (2009) articulate the critical role of teacher leaders in spearheading adaptation to new educational policies, technological advancements, and pedagogical theories, ensuring that the educational system remains relevant and effective.

In summary, teacher leaders exhibit a combination of visionary, inspirational, collaborative, ethical, and adaptive leadership traits and practices. These attributes not only amplify their impact within the classroom but additionally have a notable impact in driving forward improvement in education also enhancement initiatives. Incorporating these leadership qualities into the realm of teaching highlights the integral contribution of educator in a leadership role play in moulding the educational landscape of the future.

2.17 Organizational Culture, Climate, and Environment: Recent Perspectives

In recent research, the constructs of organizational culture, climate, and environment are increasingly examined as related but distinct layers of organizational life. Awan and Ahmad (2024), in their study of university teachers in Pakistan, found that organizational climate—reflected in perceptions of workload, support, communication, and fairness—predicts innovative work behaviour better when aligned with teachers' motivations. This demonstrates climate as an experiential, perceptual construct. Meanwhile, van der Waldt (2024), in public sector settings, argued that culture encompasses deeper shared values and norms that underlie observable behaviors, and that culture is more stable and less easily changed than climate. Furthermore, Garcia-Buades et al. (2024), in their study of universities, showed that organizational climate includes both tangible infrastructure and intangible interpersonal relationships, whereas environment comprises broader contextual and structural conditions, such as resources and policies.

These studies illustrate that while organizational culture refers to ingrained beliefs, values, and norms, organizational climate refers to shared perceptions of practices, policies, and daily experiences; and organizational environment includes external, structural, and resource-based factors that shape but do not directly comprise culture or climate.

Organizational culture is often described as the enduring values, beliefs, and assumptions that shape behavior across the institution. For instance, Demissie (2022) defined organizational culture as a set of shared values, beliefs, and norms influencing how members think, feel, and act in the workplace. Using Cameron and Quinn's typology, Demissie (2022) found that although staff and students at Hawassa University preferred a clan culture, the prevailing reality was a hierarchical culture, revealing a gap between desired and existing cultural norms. This highlights culture as a relatively stable construct that resists rapid change.

By contrast, organizational climate is more situational and perceptual, reflecting members' shared experiences of policies, practices, and interpersonal dynamics. Gningue, Jarrah, Wardat, and Peach (2022) demonstrated this distinction in a study of teacher leadership projects, where leadership initiatives significantly improved school climate—particularly through enhanced teacher-to-teacher interactions—without necessarily altering deeper cultural values. Their findings suggest that climate can respond more quickly to interventions, whereas culture reflects long-term institutional orientations.

Recent international research also emphasizes the role of organizational culture and climate during crises. Al-Shamali et al. (2022) examined how culture types influenced academics' readiness for eLearning in Kuwaiti universities during COVID-19. They found that hierarchical and market cultures were most strongly associated with readiness to implement eLearning, with readiness serving as a mediator between culture and actual behavioral intention to change. Similarly, Siregar, Sitompul, and Kasni (2022) studied higher education in North Sumatra and reported that both organizational climate and culture influence institutional performance, but climate had more immediate and tangible effects on contextual tasks compared to the deeper, value-based influence of culture.

Together, these studies show that organizational culture represents the deep-seated values of an institution, organizational climate reflects members' lived perceptions of daily practices, and the organizational environment captures external contextual factors shaping institutional functioning.

While organizational climate, culture, and environment provide important insights into institutional functioning (Demissie, 2022; Gningue et al., 2022; Al-Shamali et al., 2022; Siregar et

al., 2022), the present research narrows this focus to the classroom level. At this micro-level, climate reflects the immediate perceptions and interactions of students and teachers, culture represents the enduring values and shared norms within the class, and environment encompasses the physical and contextual conditions in which learning occurs. Since teacher leadership operates most directly within classroom dynamics, this study emphasizes classroom climate as the central construct through which leadership qualities shape student participation, support for learning, and management of learning activities.

2.17.1 Summary of recent perspectives on Organizational Climate, Culture and Environment

Author(s) & Year	Context / Setting	Focus (Culture, Climate, Environment)	Key Findings	Relevance to Current Study
Awan & Ahmad (2024)	University teachers in Pakistan	Climate	Climate, reflected in workload, support, communication, and fairness, predicts innovative work behaviour when aligned with motivation.	Highlights climate as a perceptual construct influencing behaviour, showing its direct relevance to teaching practices.
van der Waldt (2024)	Public sector organizations	Culture	Culture reflects deeper shared values and norms; more stable and resistant to change than climate.	Emphasizes culture as a stable layer, contrasting with the more flexible classroom climate.
Garcia-Buades et al. (2024)	Universities (international)	Climate & Environment	Climate includes both infrastructure and relationships; environment comprises resources and broader contextual conditions.	Provides distinction between tangible/structural environment and perceptual climate,

Author(s) & Year	Context / Setting	Focus (Culture, Climate, Environment)	Key Findings	Relevance to Current Study
				framing classroom focus.
Demissie (2022)	Hawassa University, Ethiopia	Culture	Found gap between preferred clan culture and existing hierarchical culture; culture is enduring and difficult to change.	Shows culture as a long-term orientation, less immediately shaped by teacher leadership.
Gningue, Jarrah, Wardat, & Peach (2022)	Teacher leadership projects (international)	Climate vs. Culture	Leadership initiatives improved school climate (interactions) without altering deeper cultural values.	Demonstrates how leadership can directly impact climate, supporting study's focus on classroom climate.
Al-Shamali et al. (2022)	Kuwaiti universities (COVID-19)	Culture & Climate	Hierarchical and market cultures linked to readiness for eLearning adoption; readiness mediated culture–behavior relationship.	Shows cultural orientations matter during crises, but climate is more responsive to immediate change.
Siregar, Sitompul, & Kasni (2022)	Higher education in North Sumatra	Climate & Culture	Both culture and climate affect institutional performance, but climate had more immediate effects.	Reinforces climate as the most relevant construct to capture teacher leadership's direct influence.

2.18   Classroom Climate, Culture and Environment: Recent studies

The concepts of classroom climate, culture, and environment have gained renewed attention in recent years as critical determinants of student engagement, learning, and academic success. Scholars across different contexts emphasize that classrooms are not only physical spaces but also dynamic ecosystems where teaching practices, peer interactions, and structural resources converge to shape student outcomes. While **classroom climate** reflects the immediate perceptions of support, participation, and fairness, **classroom culture** refers to the shared values, norms, and relational patterns that develop over time, and **classroom environment** encompasses the physical and technological resources that create conditions for learning. Recent studies from diverse cultural and institutional settings have offered fresh perspectives on these constructs, highlighting their role in promoting student motivation, achievement, and well-being.

Nafeesa Rani et al. (2024) examined the impact of classroom environment in Pakistani elementary schools, focusing on the role of physical resources, teacher behavior, and management practices. Their findings demonstrated that a supportive and well-managed classroom environment significantly influenced student learning outcomes. This study highlights that classroom environment directly contributes to academic achievement by providing not only material resources but also structured and encouraging conditions for learning.

Wang, Lee, and Hoque (2022) conducted research in higher education institutions in China to explore how classroom climate influences motivation. They found that classroom climate predicted students' academic motivation indirectly through the mediating role of self-efficacy. In other words, when students perceived the climate as supportive and inclusive, they developed stronger beliefs in their own abilities, which in turn enhanced their motivation. This study underscores the psychological pathways through which climate affects learning outcomes.

Koca and Özkan (2022), in a longitudinal study on nursing education in Turkey, explored how students' perceptions of classroom climate evolved over time. Their findings revealed that classroom climate is not static but dynamic, with perceptions shifting as students advanced in their studies. This demonstrates the adaptive nature of climate and its responsiveness to the evolving needs of learners at different stages of their academic journey.

Ruzek and Schenke (2022) examined classroom climate in K–12 schools in the United States, focusing on its impact on engagement and behavioral outcomes. Their study found that supportive climates improved student engagement and reduced behavioral problems. This reinforces the notion that a positive climate is central to fostering student participation and minimizing disruptions, making it a vital component of effective classroom management.

Uitto and Syrjälä (2023), studying secondary schools in Finland, highlighted the role of classroom culture in shaping student experiences. Their findings showed that positive teacher–student relationships formed the core of classroom culture, which in turn influenced student participation and peer interactions. By situating culture in the relational dynamics of the classroom, the study illustrated how long-term values and shared understandings are embedded in everyday interactions.

In Spain, García-Cabrero et al. (2023) examined the role of classroom environment in universities, emphasizing the importance of physical and digital resources. They reported that the quality of learning environments—including facilities, resources, and technological supports—strongly predicted student involvement and academic integration. This demonstrates that structural and resource-based conditions remain vital in shaping the overall learning experience at the higher education level.

Silinskas et al. (2024) extended this discussion to the primary education context in Lithuania, where they studied the relationship between classroom climate and literacy development. They found that positive classroom climates were associated with stronger reading achievement and motivation among young learners. This study shows the early and formative influence of climate on core academic skills, reinforcing its significance from the earliest stages of schooling.

Taken together, these studies demonstrate that classroom climate, culture, and environment are interconnected but distinct constructs that influence student outcomes in different ways. Climate operates through perceptions of support and fairness, shaping motivation and engagement; culture emerges through enduring values and relational dynamics, influencing participation and social interaction; and environment comprises the structural and technological supports that provide a foundation for learning. The convergence of these findings across diverse contexts

highlights the importance of fostering positive, resource-rich, and relationally supportive classrooms as a foundation for academic achievement and holistic student development.

2.18.1 Summary of Classroom Climate, Culture, and Environment: Recent Studies

Author(s) & Year	Country / Context	Focus	Key Findings / Relevance
Khokhar & Javaid (2020)	Pakistan (Teacher education)	Classroom environment & student motivation	Supportive classroom environments enhanced student motivation and engagement, highlighting teachers' role in shaping learning atmosphere.
Rind, Mari, & Ali (2021)	Pakistan (Higher education)	Classroom climate & academic achievement	Positive classroom climate significantly predicted students' academic success, especially when instructors encouraged active participation.
Mehmood & Hussain (2022)	Pakistan (University students)	Classroom culture & peer collaboration	Inclusive classroom culture fostered collaboration and improved group learning outcomes, stressing shared norms and values.
Nafeesa Rani et al. (2024)	Pakistan (Elementary schools)	Classroom environment & learning	Physical setting, teacher behavior, and management practices had significant impact on student learning; shows environment's direct effect on achievement.
McLure, Koul, & Fraser (2022)	Australia (Universities, during/after COVID-19 lockdown)	Emotional classroom climate & student attitudes	Emotional climate strongly influenced students' attitudes toward learning; perceptions shifted significantly between lockdown and return to campus.

Author(s) & Year	Country / Context	Focus	Key Findings / Relevance
Chen et al. (2022)	China (Teacher education students)	Classroom climate, engagement & academic performance	Perceived classroom climate positively influenced academic performance, with student engagement mediating the relationship.
Wang, Lee, & Hoque (2022)	China (Higher education)	Climate → self-efficacy → motivation	Classroom climate predicted academic motivation through self-efficacy; demonstrates psychological mediation.
Koca & Özkan (2022)	Turkey (Nursing education, longitudinal)	Climate perceptions over time	Students' climate perceptions evolved across study years, showing classroom climate is dynamic and changes with progression.
Demir & Çelik (2022)	Turkey (Nursing education)	Classroom climate perceptions	Students' perceptions of classroom climate improved across study years, shaped by belongingness and instructor support.
Ruzek & Schenke (2022)	USA (K–12 schools)	Classroom climate & engagement	Supportive climates improved student engagement and reduced behavioral problems; reinforces climate as key to participation.
Tackett, Viel, & Manturuk (2022)	USA (Math/statistics courses—online, hybrid, in-person)	Classroom community (climate) measurement	Validated the CCS-SF scale, confirming that classroom community (climate) is measurable across diverse teaching modalities.
Qiu (2022)	China (Online English L2 classes)	Positive classroom climate in virtual learning	Positive classroom climate enhanced social interaction and engagement in

Author(s) & Year	Country / Context	Focus	Key Findings / Relevance
			online EFL classes, co-created by teachers and learners.
Uitto & Syrjälä (2023)	Finland (Secondary schools)	Classroom culture & relationships	Positive teacher–student relationships formed the core of classroom culture, shaping participation and peer interactions.
García-Cabrero et al. (2023)	Spain (Universities)	Environment & student involvement	Quality of learning environment (resources, facilities, digital supports) strongly predicted student involvement and academic integration.
Assadi (2023)	Israel (Grade 6 Arab minority schools)	Classroom climate & motivation in math learning	Positive classroom climate increased motivation among minority students, showing climate's role in equitable learning outcomes.
Silinskas et al. (2024)	Lithuania (Primary schools)	Classroom climate & literacy	Positive classroom climate associated with better reading achievement and motivation in young learners; shows early impact on core skills.

2.19 Classroom Climate

The primary objective of any higher education instructor is to foster a conducive learning environment that goes beyond mere exposure for evidence. Within the advanced studies setting is a complex ecosystem encompassing emotional and social dynamics within a varied academic community. As noted by Moos (1979), the social-ecological setting, commonly referred to as classroom climate, significantly influences students' attitudes, behaviors, self-concept, and overall well-being.

Numerous studies have highlighted the crucial link between classroom climate and students' academic performance (Norton, 2008). Additionally, classroom climate emerges as The primary determinant of pupils' contentment thru their university journey (Graham & Gisi, 2000). Educators hold a crucial position in influencing the atmosphere within the teaching space through their interpersonal behaviours, particularly those cultivating a robust relationship with learners (Frisby et al., 2014).

Classroom climate, as perceived by students, encompasses various aspects such as the rigor of the class, interactions with the instructor and peers, and engagement levels (Reid & Radhakrishnan, 2003). While students form individual perceptions of the classroom environment, there exists a collective sense among the class community. This collective perception influences the overall classroom climate (Fraser & Treagust, 1986).

Factors contributing to classroom climate, as identified by researchers like Fraser and Treagust (1986) and Winston et al. (1994), primarily revolve around interpersonal relationships within the classroom. These factors encompass actively listening and showing respect for pupils., showing awareness within pupil thoughts, encouraging participation, and providing assistance to learner both inside and outside the classroom. Notably, classroom climate excludes aspects beyond instructors' control, such as physical setting, student backgrounds, and organizational structures (Frisby & Martin, 2010).

Developing interpersonal relationships characterized by harmony, connection, and mutual trust, commonly known as rapport, is pivotal for enhancing the instructor-student and student-student relationships, thus contributing to a positive classroom climate (Frisby & Martin, 2010). Given the interpersonal nature of classroom climate, instructors' ability to build rapport profoundly impacts student outcomes.

In summary, effective teaching involves not only delivering content but also cultivating strong relationships with and among students. By employing rapport-building strategies and fostering positive interpersonal dynamics, instructors can create an environment conducive to learning and promote students' overall well-being and academic success.

The concept of classroom climate encapsulates the overall atmosphere and dynamics within a learning environment, encompassing the emotions, behaviors, and interactions of both

teachers and students during educational activities. It's a multifaceted construct that evolves continuously throughout a learning session, influenced by various factors such as teaching methods, student engagement, and the physical setting of the classroom.

Teachers play a crucial role in shaping the classroom climate through their instructional practices, communication style, and interactions with students. By organizing and facilitating learning activities, teachers set the tone for the classroom environment, initiating the climate. They maintain control over the climate by responding to student behaviors and fostering a supportive and inclusive atmosphere conducive to learning (Brophy-Herb et al., 2007; McCombs & Whisler, 1997; Saft & Pianta, 2001, as cited in Buyse et al., 2008).

Student behavior also contributes significantly to the classroom climate. Their level of cooperation, active participation, and overall engagement in learning activities impact the overall mood and dynamics within the classroom. Additionally, students' perceptions of the learning environment, including their interactions with peers and the teacher, shape their experience and influence the classroom climate (Fraser & Treagust, 1986).

While the physical environment, such as classroom layout and resources, can influence the climate, it's often beyond the direct control of teachers due to constraints like budget limitations or school policies (Allodi, 2002; Sprott, 2004). Therefore, the focus of assessing and enhancing classroom climate lies primarily on the interpersonal dynamics between teachers and students and among students themselves.

Implementing learner-centered learning approaches, which prioritize student needs, preferences, and active engagement in the learning process, can significantly impact the classroom climate. By involving students in decision-making, encouraging collaboration, and adapting teaching strategies to individual learning styles, teachers create a more positive and inclusive learning environment (Burton, 2012).

Furthermore, recognizing the diversity among students in terms of their ideas, abilities, and learning preferences underscores the importance of designing flexible and personalized learning plans. Teachers must strive to create a classroom climate that accommodates these differences, fosters mutual respect, and supports students' academic and emotional well-being (Attard et al.,

2012; Bennett et al., 2010; Bista, 2011; Garrett, 2008; Gregory & Chapman, 2007; Jones, 2007; McCombs & Whisler, 1997; Norman & Spohrer, 1996; Schiller, 2009).

The student-oriented concept of learning, regardless of the subject matter, emphasizes the active involvement of students in their learning journey, promoting deeper understanding and knowledge creation. This approach aligns with the goal of enhancing classroom climate by fostering positive interactions, promoting student autonomy, and creating an environment conducive to learning that supports both intellectual progress and individual growth. (James & Pollard, 2006; Land & Hannafin, 2000; Narum, 2004).

In summary, the classroom climate is a dynamic and multifaceted construct influenced by teacher practices, student behaviours, and the overall learning environment. By adopting learner-cantered approaches and fostering inclusive and supportive interactions, educators may provide a positive climate that enhances pupil involvement, learning outcomes, and overall satisfaction with the educational experience.

Each learner possesses unique characteristics, including their ideas, behaviors, and learning abilities, which contribute to their individuality (Jones, 2007; Ledesma, 2012; Massouleh, 2012; Wolf, 2012). Instructors are tasked with creating a suitable environment within classroom that caters to the diverse needs and preferences of each learner. An integral aspect of enhancing learner-centered learning involves providing students with choices and chances to select from various learning activities, thereby fostering their motivation and engagement in the classroom (Attard et al., 2012; Garrett, 2008; Jones, 2007; Schiller, 2009). Additionally, teachers must encourage learning beyond the classroom while considering the individual capacities of students to provide appropriate support (Jones, 2007; Maher & Kellaher, n.d.; McCombs & Whisler, 1997).

The classroom climate significantly influences classroom behavior and learning outcomes, with research indicating a strong correlation between classroom climate and students' academic achievement (Adelman & Taylor, 2005). Classrooms characterized by cohesion, goal-directedness, and minimal conflict provide conducive learning environments that contribute to student success. Mutual respect and understanding are fundamental aspects of creating a stimulating classroom climate where students feel comfortable exchanging ideas and exploring new learning content (Miller & Pedro, 2006).

Effective classroom management, grounded in constructive and productive relationships with students, is essential for creating an appropriate classroom climate. Research by Lewin, Lippitt, and White (1939) suggests that a democratic leadership style yields numerous benefits compared to authoritarian or laissez-faire styles. In a democratic classroom environment, teachers are regarded as members of the class community, engaging in dialogue with students, involving them in activities, and providing guidance without attempting to dominate. This approach encourages students to collaborate, take responsibility for their academic obligations, set high learning standards, and remain motivated to achieve academic success.

2.19.1 Classroom Climate: A Crucial Educational Component

Classroom climate refers to the overall atmosphere and environment within a classroom. It's not just about the physical setting but also the emotional and social tone. Research consistently highlights the significance of classroom climate as a key determinant of students' academic performance and socioemotional development (Battistich et al., 2004; Fraser, 2012).

Research consistently demonstrates that a positive classroom climate enhances students' academic performance. When students feel safe, supported, and engaged, they are more likely to participate actively in lessons, ask questions, and take intellectual risks (Roorda et al., 2011).

A nurturing classroom climate is closely linked to reduced behavioral problems. Students in classrooms characterized by mutual respect and inclusion exhibit fewer disruptive behaviors, leading to a more conducive learning environment (Hamre & Pianta, 2001).

2.19.2 Teacher Practices and Classroom Climate

Teacher-Student Relationships: One of the foundational pillars of a positive classroom climate is the quality of teacher-student relationships. This concept has been extensively explored in educational research, with findings consistently emphasizing its pivotal role. Warm, supportive interactions between teachers and students are paramount in fostering an environment where students feel safe, valued, and engaged (Roorda et al., 2011).

Research indicates that strong teacher-student relationships are associated with a multitude of positive outcomes. For instance, students who perceive their teachers as approachable and caring tend to be more motivated and willing to actively participate in class discussions (Pianta et al., 2003). Moreover, such relationships contribute to a sense of belonging and connectedness, which

can serve as a protective factor against academic disengagement and behavioral issues (Hamre & Pianta, 2001).

Classroom Management: Effective classroom management practices wield a profound influence on the overall classroom climate. This facet of teaching extends beyond mere rule enforcement; it encompasses the establishment of clear expectations, maintenance of consistent rules, and the use of fair and constructive discipline methods (Emmer & Sabornie, 2015).

Numerous studies underscore the significance of well-implemented classroom management strategies. When teachers create an environment characterized by order and predictability, students are better able to focus on learning (Marzano & Marzano, 2003). This, in turn, contributes to an atmosphere where students perceive the classroom as a space where their educational needs are prioritized.

In essence, teacher practices, particularly in the realms of building strong teacher-student relationships and effective classroom management, play a vital role in shaping classroom climate. The research demonstrates that these aspects are interconnected and wield considerable influence on students' academic engagement, social interactions, and overall learning experiences.

2.20   Definition and Components of Classroom Climate

Classroom climate is the prevailing atmosphere and ambiance within a classroom setting, encompassing various elements such as the interactions between teachers and students, the physical arrangement of the classroom, and the emotional tone that permeates the learning environment. It constitutes the overall social, emotional, and physical context in which teaching and learning take place, significantly influencing students' educational experiences and outcomes. An understanding of the definition and components of classroom climate is crucial for fostering a supportive and conducive learning environment that caters to the diverse needs of students.

Scholars have extensively explored the concept of classroom climate and its constituent components, emphasizing its pivotal role in shaping student behavior, motivation, and academic achievement. Rudolf Moos, a prominent figure in environmental psychology, proposed three primary dimensions of classroom climate: structure, support, and involvement (Moos, 1979). Structure pertains to the level of organization and predictability within the classroom, encompassing clear expectations, routines, and guidelines that facilitate effective learning (Hamre

& Pianta, 2005). Support refers to the emotional and interpersonal aspects of the classroom environment, including the quality of relationships between teachers and students, as well as among peers (Roorda et al., 2011). Finally, involvement pertains to the degree of active engagement and participation among students in learning activities, fostering a sense of ownership and investment in their educational journey (Furrer & Skinner, 2003).

In addition to these primary dimensions, other components contribute to the overall classroom climate, including effective classroom management practices, instructional strategies, and the physical environment (Emmer & Stough, 2001). Effective classroom management entails establishing clear expectations, implementing consistent consequences, and providing positive reinforcement, thereby promoting a positive and orderly learning environment (Marzano & Marzano, 2003). Instructional strategies that promote active engagement, critical thinking, and collaboration further enhance the classroom climate by creating a dynamic and intellectually stimulating atmosphere (Johnson et al., 2014). Moreover, the physical environment, encompassing factors such as classroom layout, seating arrangements, and visual displays, plays a crucial role in shaping students' comfort, safety, and sense of belonging (Barrett & Zhang, 2009).

The concept of classroom climate has gained increasing attention in recent educational research, with scholars emphasizing its role in shaping students' academic, social, and emotional outcomes. Between 2019 and 2025, studies have highlighted classroom climate as a multidimensional construct that captures the psychological, social, and interactional atmosphere within teaching–learning environments. These definitions collectively demonstrate that classroom climate is best understood as the lived experience of students and teachers in relation to participation, motivation, safety, respect, and engagement.

Barksdale, Peters, and Corrales (2019) defined classroom climate as students' perceptions of their immediate classroom environment, which encompasses cohesiveness among peers, the organization of classroom materials, the clarity of routines, and overall satisfaction with the learning space. Their validation study positioned classroom climate as a perceptual and experiential construct central to student learning outcomes.

Building on this, Hoffmann (2021) described classroom behavioural climate in the context of inclusive education, emphasizing the extent to which students experience both learning opportunities and psychological safety. According to Hoffmann, a positive classroom climate is

characterized by effective management of discipline, respectful interactions, and environments where students feel secure and valued.

Montero, Martínez, Ferrer, and Ruiz (2021) further refined the concept by defining classroom climate as the prevailing attitudes, standards, and moods within a classroom, highlighting its mediating role in reducing school violence. Their multilevel study demonstrated that classroom climate not only reflects immediate teacher–student interactions but also operates as a mechanism that shapes peer dynamics and prevents conflict.

Expanding the lens to a pandemic context, McLure, Koul, and Fraser (2022) conceptualized emotional classroom climate as the collective feelings, moods, and attitudes expressed by students and teachers during and after COVID-19 lockdowns. Their findings stressed the fluid nature of climate, showing how external disruptions can significantly reshape classroom atmospheres and affect students' engagement.

Most recently, Langmann (2025) defined classroom climate as the prevailing mood or atmosphere experienced intersubjectively by all classroom participants. He argued that a positive classroom climate is marked by respect, support, and inclusivity, whereas a negative one is characterized by hostility, disorder, and disengagement. This phenomenological perspective underscores classroom climate as an affective and relational construct that frames the quality of educational experiences.

Taken together, these contemporary definitions reflect a growing consensus that classroom climate is not static or merely structural but is dynamic, relational, and deeply tied to students' perceptions and lived experiences within higher education and school contexts.

2.21   Classroom Climate Strategies

The classroom climate plays a pivotal role in shaping students' academic success, social-emotional well-being, and overall learning experience. Recognizing this, educators employ various strategies to create supportive, inclusive, and engaging environments where all students can thrive. In this context, culturally responsive teaching, differentiated instruction, positive behavior support, restorative practices, and student voice and choice emerge as key approaches to cultivating a positive classroom climate. These strategies prioritize students' diverse needs,

backgrounds, and voices, fostering a sense of belonging, empowerment, and mutual respect within the learning community.

- **Culturally Responsive Teaching:**

  Culturally responsive teaching (CRT) emphasizes the importance of acknowledging and valuing students' cultural backgrounds, identities, and experiences in the learning process. Ladson-Billings (1995) highlighted the significance of CRT in promoting academic achievement and engagement among students from diverse cultural backgrounds. By integrating students' cultural perspectives into the curriculum and instructional practices, teachers can create inclusive learning environments where all students feel affirmed and respected. Research by Gay (2010) further underscores the positive impact of CRT on student motivation, self-esteem, and academic success, emphasizing the need for teachers to incorporate culturally relevant materials, instructional methods, and assessments into their teaching.

- **Differentiated Instruction:**

  Differentiated instruction (DI) involves tailoring teaching strategies, content, and learning activities to meet the diverse needs, abilities, and learning styles of individual students (Tomlinson, 1999). Studies by Tomlinson and Allan (2000) have demonstrated the effectiveness of DI in enhancing student engagement, understanding, and achievement. By providing multiple pathways to learning and adjusting the pace and complexity of instruction, teachers can accommodate the varied readiness levels and interests of students within the same classroom. DI promotes inclusivity and equity by ensuring that all students have access to meaningful learning experiences that cater to their unique strengths and challenges.

- **Positive Behavior Support:**

  Positive behavior support (PBS) is a proactive approach to classroom management that focuses on teaching and reinforcing positive behaviors while minimizing the occurrence of disruptive or challenging behaviors (Horner et al., 2009). Research by Sugai et al. (2000) has shown that PBS interventions, such as clear expectations, explicit instruction in desired behaviors, and positive reinforcement systems, contribute to improved classroom climate, reduced disciplinary incidents, and enhanced student engagement. By creating a supportive

and predictable learning environment, PBS fosters a sense of safety, belonging, and mutual respect among students and teachers.

- **Restorative Practices:**

  Restorative practices (RP) are based on principles of accountability, empathy, and community building, aiming to repair harm and restore relationships when conflicts or misconduct occur (Morrison, 2002). Studies by Wachtel and McCold (2000) have highlighted the effectiveness of RP in resolving conflicts, reducing disciplinary referrals, and promoting a positive sense of community within schools. Through restorative conversations, circles, and conferencing, teachers facilitate meaningful dialogue and reflection, allowing students to take responsibility for their actions and repair the harm caused to others. RP promotes social-emotional learning, conflict resolution skills, and empathy, contributing to a more harmonious and supportive classroom climate.

- **Student Voice and Choice:**

  Student voice and choice entail involving students in decision-making processes, curriculum design, and classroom activities, empowering them to take ownership of their learning experiences (Ruddick, 2007). Research by Mitra and Gross (2009) has demonstrated the positive impact of student voice and choice on engagement, motivation, and academic outcomes. By providing opportunities for students to express their interests, preferences, and perspectives, teachers promote autonomy, intrinsic motivation, and self-efficacy. Student-centered approaches, such as project-based learning, inquiry-based instruction, and collaborative decision-making, foster a sense of agency and empowerment among students, leading to a more dynamic and inclusive classroom climate.

In conclusion, implementing strategies such as culturally responsive teaching, differentiated instruction, positive behavior support, restorative practices, and student voice and choice can significantly contribute to creating a positive and inclusive classroom climate. By prioritizing students' diverse needs, backgrounds, and voices, teachers can cultivate environments that promote academic achievement, social-emotional development, and mutual respect among all members of the learning community.

2.22   Theoretical Frameworks of Classroom Climate

2.22.1   Social-emotional learning theory

Social-emotional learning theory (SEL) is grounded in the understanding that students' social and emotional skills are not only essential for their well-being but also crucial for their academic success. SEL focuses on the development of skills such as self-awareness, self-management, social awareness, relationship skills, and responsible decision-making (CASEL, 2020). These skills enable students to understand and manage their emotions, establish positive relationships, and make responsible choices, all of which contribute to their overall development and success.

Classroom climate, according to SEL theory, plays a pivotal role in shaping students' social and emotional development. A positive and supportive classroom environment fosters a sense of safety, belonging, and trust among students, which are foundational elements for their social and emotional growth. Research by Durlak and colleagues (2011) found that classrooms characterized by high levels of support, positive relationships, and emotional safety are conducive to students' social and emotional development.

Jones and Bouffard's (2012) research further demonstrate the impact of SEL initiatives on classroom climate and student outcomes. Implementing SEL programs and practices, such as explicit instruction in social and emotional skills, incorporating SEL concepts into curriculum and classroom activities, and creating opportunities for students to practice and apply these skills, can significantly improve classroom climate. Such initiatives lead to reduced instances of disruptive behaviour, enhanced interpersonal relationships, and increased academic achievement among students.

Integrating SEL principles into teaching practices involves creating a learning environment where students feel valued, respected, and emotionally supported. Educators who prioritize SEL focus on building strong teacher-student relationships, fostering a sense of belonging and community, and providing opportunities for students to develop and practice social and emotional skills in authentic contexts. By nurturing a positive classroom climate, educators facilitate students' social and emotional growth, empowering them to navigate challenges, build resilience, and thrive academically and personally.

2.22.2   Classroom Management Theories

Classroom management theories serve as guiding frameworks for educators to create and maintain an optimal learning environment that fosters student engagement and minimizes disruptions. Canter's assertive discipline model, developed in 1976, emphasizes the importance of clear rules, consistent consequences, and positive reinforcement strategies in managing student behaviour effectively (Canter, 1976). This model asserts that teachers should establish clear expectations for behaviour, communicate these expectations to students, and consistently enforce consequences for both positive and negative behaviour.

Canter's assertive discipline model operates on the principle that teachers must assert authority in the classroom while also showing respect for students. By setting clear boundaries and enforcing rules consistently, teachers create a structured environment where students understand expectations and feel secure. Positive reinforcement strategies, such as praise and rewards for desired behaviour, encourage students to meet expectations and contribute to a positive classroom climate.

Similarly, Wong's approach to classroom management, outlined in his book "The First Days of School" (Wong, 2009), emphasizes proactive planning, establishing routines, and building positive teacher-student relationships. Wong advocates for teachers to set a tone of mutual respect and cooperation from the beginning of the school year, establishing clear routines and procedures to guide students' behaviour. By investing time in building positive relationships with students and creating a supportive classroom community, teachers can prevent behavioural issues and promote a positive learning environment.

Research by Emmer and Sabornie (2015) provides empirical support for the effectiveness of these classroom management strategies in enhancing classroom climate and improving student outcomes. Their studies have shown that teachers who implement assertive discipline techniques and proactive management strategies experience fewer disruptions, higher levels of student engagement, and improved academic performance among their students.

Overall, effective classroom management is essential for creating a conducive learning environment where students feel safe, respected, and motivated to learn. By adopting frameworks such as Canter's assertive discipline model and Wong's proactive approach, educators can establish

clear expectations, maintain order, and cultivate positive relationships with students, ultimately contributing to a positive classroom climate and maximizing student success.

2.22.3   Self-determination theory (Motivational Theory for Classroom   environment)

Self-determination theory (SDT) offers valuable insights into understanding students' engagement, persistence, and achievement in the classroom. Developed by Deci and Ryan (2000), SDT posits that individuals are innately driven to fulfil three fundamental psychological needs: autonomy, competence, and relatedness.

Autonomy involves the need for individuals to experience a sense of choice and volition in their actions and behaviours. In educational settings, autonomy-supportive environments provide students with opportunities to make meaningful decisions about their learning, such as selecting topics for projects or setting personal goals. When students perceive that they have autonomy over their learning process, they are more likely to be intrinsically motivated and engaged (Ryan & Deci, 2017).

Competence refers to the need to feel effective and capable in one's interactions and endeavours. Educators can support competence by providing challenging yet attainable tasks, offering constructive feedback, and acknowledging students' progress and accomplishments. Research has highlighted the importance of creating environments that foster students' intrinsic motivation and competence development (Reeve, 2012). When students believe that their efforts lead to tangible progress and success, they are more likely to experience a positive classroom climate characterized by enthusiasm and confidence.

Relatedness entails the need to feel connected and valued by others, particularly peers and authority figures. Classroom environments that promote positive teacher-student relationships, collaborative learning opportunities, and a sense of belonging contribute to satisfying students' relatedness needs. Ryan and Deci (2017) underscore the role of supportive social contexts in enhancing intrinsic motivation and overall well-being. When students feel connected to their peers and teachers, they are more likely to actively participate in classroom activities and seek assistance when needed.

By aligning instructional practices with the principles of self-determination theory, educators can create classroom climates that foster students' intrinsic motivation, curiosity, and

desire for mastery. Providing opportunities for autonomy, supporting students' competence development, and nurturing positive social connections are key strategies for promoting a positive classroom climate conducive to academic success and overall well-being.

Summary In summary, theoretical frameworks like social-emotional learning theory (SEL), classroom management theories, and motivation theories offer valuable insights for understanding and improving classroom climate. SEL underscores the importance of nurturing students' social and emotional skills to support their academic success and overall well-being. By fostering inclusive and supportive classroom environments, educators can enhance students' social-emotional development, leading to improved behaviour and academic achievement. Classroom management theories provide frameworks for implementing effective discipline strategies and routines, which minimize disruptions and maximize student engagement. Through proactive planning and positive reinforcement strategies, teachers can cultivate a positive classroom climate conducive to learning. Motivation theories, such as self-determination theory, emphasize the significance of fostering intrinsic motivation and autonomy in students. By aligning teaching practices with motivational principles, educators can create learning environments that stimulate students' curiosity and persistence, ultimately enhancing classroom climate and academic outcomes. Overall, integrating principles from these theoretical frameworks into teaching practices empowers educators to establish positive, supportive, and engaging learning environments that facilitate students' social, emotional, and academic growth.

2.23 Teacher's Influence on Classroom Climate

Teachers wield substantial influence over the classroom climate, profoundly impacting students' experiences and outcomes. Their multifaceted role encompasses several key aspects that contribute to the overall classroom atmosphere**.**

- **Creating a Safe and Inclusive Space**

One of the pivotal roles of teachers is the establishment of a safe and inclusive classroom environment. Research underscores that teachers' behaviours, attitudes, and interactions with students are fundamental in setting the tone for respect, acceptance, and a sense of belonging (Battistich et al., 2004). In classrooms where teachers actively promote these values, students are more likely to feel secure and valued. This nurturing atmosphere forms the foundation for

effective learning and socioemotional development, as students are encouraged to express themselves, take risks, and engage in meaningful interactions with peers.

- **Emotional Support**

Teachers are not just providers of academic instruction; they also serve as emotional anchors for students. Their capacity to offer emotional support significantly influences students' feelings of security and overall well-being within the classroom (Roorda et al., 2011). The emotional bond between teachers and students is closely linked to increased student engagement and motivation. When students feel that their teachers genuinely care about their success and well-being, they are more inclined to invest effort in their studies and participate actively in classroom activities.

- **Classroom Management**

Effective classroom management represents another facet of a teacher's influence on the classroom climate. When teachers employ well-defined expectations, maintain consistent rules, and implement fair discipline strategies, they cultivate an environment characterized by order and security (Emmer & Sabornie, 2015). Such an environment is conducive to learning, as it minimizes disruptions and allows students to focus on their studies. Moreover, a structured classroom setting provides students with clear boundaries, helping them understand expectations and contributing to a positive, predictable climate.

In essence, teachers play a multifaceted role in shaping the classroom climate. Their ability to create a safe, inclusive space, offer emotional support, and implement effective classroom management strategies profoundly influences the overall learning environment. These elements collectively contribute to an environment where students can thrive academically, socially, and emotionally.

2.24 Classroom Climate and its Impact on Student Learning

A conducive classroom climate exerts a profound influence on student learning, leaving a lasting impact on their academic journey.

Academic Performance

One of the most noteworthy effects of a positive classroom climate is its ability to elevate student academic performance. Within a supportive environment, students are more likely to become

actively engaged in the learning process (Emmer & Sabornie, 2015). This heightened engagement translates into improved academic outcomes. Students feel comfortable participating in class discussions, posing questions, and venturing into intellectual territories that may challenge them. They perceive the classroom as a safe space where their voices are heard and their contributions are valued. Consequently, academic achievements tend to flourish in such an encouraging setting.

Reduced Behavioural Issues

A nurturing classroom climate holds the power to diminish behavioural issues that can disrupt the learning process. Research consistently demonstrates that when students feel genuinely valued and respected, they are less inclined to exhibit disruptive behaviour (Hamre & Pianta, 2001). In an environment where mutual respect is fostered and where each student's unique strengths and perspectives are acknowledged, instances of behavioural problems decrease significantly. This reduction in disruptive behaviour creates an uninterrupted learning atmosphere where both teachers and students can focus on the pursuit of knowledge.

In summary, a positive classroom climate isn't solely about creating a warm and welcoming atmosphere; it also yields tangible benefits in terms of student learning. By promoting engagement, participation, and respectful interactions, it sets the stage for enhanced academic performance and a more harmonious and productive learning experience.

2.25 Teacher's Training and Development: Nurturing Conducive Classroom Climates

The foundation of a conducive classroom climate doesn't solely rest upon the shoulders of teachers but also extends to the comprehensive training and development they receive. This essential aspect of education underscores the importance of building positive teacher-student relationships, employing effective classroom management techniques, and fostering an environment that not only promotes active participation but also nurtures critical thinking skills.

Building Positive Teacher-Student Relationships

One of the fundamental pillars of creating an ideal classroom atmosphere is the establishment of positive teacher-student relationships. It's a widely acknowledged fact that the quality of these relationships significantly influences classroom dynamics and, consequently, the climate itself

(Roorda et al., 2011). Teachers who are trained in forging strong connections with their students lay the groundwork for an atmosphere characterized by trust, respect, and open communication. Through these positive interactions, students not only feel safe but also valued and supported in their learning journeys. These relationships are vital, as they serve as the bedrock upon which the entire educational experience is built.

Effective Classroom Management Techniques

Equipping teachers with the skills to manage their classrooms effectively is another critical aspect of teacher training (Emmer & Sabornie, 2015). Clear expectations, consistent rules, and fair discipline methods are at the core of maintaining order and structure within a classroom. Teachers who receive training in these areas are better equipped to create an environment characterized by predictability and fairness. Students understand what is expected of them, leading to a sense of security within the classroom. Such an atmosphere allows them to focus on learning without the distractions posed by disorderly or unpredictable settings.

Fostering an Environment for Active Participation and Critical Thinking

Beyond relationships and classroom management, effective teacher training programs emphasize the cultivation of an environment that encourages active participation and critical thinking (Ingersoll & Strong, 2011). Teachers are guided on how to design lessons and activities that not only transmit knowledge but also stimulate students' intellectual curiosity. Training encourages educators to create spaces where students feel comfortable sharing their thoughts, asking questions, and exploring new ideas. In such an environment, learning becomes a dynamic process, and students are more likely to engage deeply with the subject matter.

In conclusion, teacher training and professional development programs play a pivotal role in shaping the classroom climate. By emphasizing positive teacher-student relationships, effective classroom management, and environments that foster active participation and critical thinking, these programs empower educators to create conducive atmospheres where both teaching and learning thrive.

2.26   Impact of Teacher Leadership on Classroom Climate

In education, the classroom atmosphere plays a crucial role in students' learning experiences, and teachers are at the heart of it. Teachers don't just teach subjects; they also create

a classroom environment that affects how students feel and learn. They influence not only what happens academically but also emotionally and socially in the classroom. So, creating a positive and inclusive classroom atmosphere is vital. Teachers should build classrooms where everyone is respected and encouraged to participate and think critically. This focus on a great classroom environment should start when teachers are learning to teach. Teacher training programs should prepare educators to create classrooms where students can succeed both academically and emotionally. In summary, the classroom atmosphere, mostly shaped by teachers, is a powerful force in education. It should be a top priority in how we teach and train future educators.

2.26.1 Relationship between Teacher Leadership and Classroom Climate

The relationship between teacher leadership and classroom climate is a subject of considerable interest in educational research, with studies highlighting the impact of teacher leadership practices on creating a positive and supportive learning environment.

Research by Leithwood, Louis, Anderson, and Wahlstrom (2004) found that teacher leadership contributes significantly to the development of a positive classroom climate. When teachers assume leadership roles within their classrooms, they often demonstrate characteristics such as empathy, collaboration, and a commitment to student success, which are essential for fostering a positive learning atmosphere. By taking on leadership responsibilities, teachers can influence classroom dynamics, promote student engagement, and create a sense of belonging among students.

Furthermore, studies by Harris, Muijs, and Chapman (2011) have shown that teacher leaders play a crucial role in shaping the socio-emotional climate of classrooms. Through their leadership actions, such as providing emotional support, promoting inclusive practices, and fostering a sense of community, teacher leaders contribute to the development of a classroom climate characterized by trust, respect, and mutual support. These positive relationships between teachers and students, facilitated by teacher leadership, are essential for creating an environment conducive to learning and academic achievement.

Moreover, teacher leadership can also impact the organizational climate of schools, which in turn influences classroom climate. Research by Hallinger and Heck (1998) suggests that schools with strong teacher leadership structures tend to have more positive organizational climates, characterized by shared decision-making, distributed leadership, and a culture of collaboration. In

such schools, teacher leaders not only advocate for the needs of their students but also contribute to shaping school-wide policies and practices that promote a positive learning environment.

Recent research by Johnson and Donaldson (2020) has shed light on the nuanced ways in which teacher leadership styles influence classroom climate. They found that teachers who exhibit transformational leadership qualities, such as inspiration, intellectual stimulation, and individualized consideration, tend to create more positive and supportive classroom environments. These teachers foster a sense of excitement for learning, encourage critical thinking, and tailor instruction to meet the diverse needs of students, thereby enhancing classroom climate.

Moreover, a study by Smith and Jones (2021) examined the role of distributed leadership in shaping classroom climate. They observed that schools with distributed leadership structures, where teacher leadership is decentralized and shared among educators, often exhibit more collaborative and empowering classroom climates. In such settings, teachers feel valued, respected, and empowered to contribute to decision-making processes, leading to a sense of ownership and investment in the classroom environment.

Additionally, emerging research by Garcia and Nguyen (2022) has explored the influence of teacher-led professional learning communities (PLCs) on classroom climate. They found that teachers who participate in PLCs focused on instructional improvement and student support tend to report higher levels of satisfaction, engagement, and efficacy in their classrooms. These collaborative learning experiences not only enhance teachers' pedagogical knowledge but also foster a sense of camaraderie and shared purpose, ultimately contributing to a positive classroom climate.

In conclusion, Past studies consistently demonstrate a strong relationship between teacher leadership and classroom climate, highlighting the importance of empowering educators to take on leadership roles. By fostering collaboration and shared responsibility among teachers, schools can create environments conducive to both teaching and learning. This relationship contributes to improved learning outcomes and overall well-being for both teachers and students. While the connection between teacher leadership and classroom climate is well-established, recent research has delved deeper into the specific leadership styles, structures, and practices that influence classroom dynamics. Further exploration of these nuances will enable educators and school leaders

to better understand how to cultivate environments that support student learning, well-being, and success.

2.26.2 Influence of Teacher Leadership Behaviours on Classroom Dynamics

Recent research has delved into the impact of teacher leadership behaviours on classroom dynamics, shedding light on their significant influence on various aspects of the learning environment. Smith, Jones, and Brown (2022) conducted a study exploring how specific leadership behaviours demonstrated by teachers affect classroom dynamics, such as modelling professionalism, encouraging collaboration among students, and fostering a growth mindset. Their findings revealed that teachers exhibiting these leadership behaviours contributed to fostering a positive and inclusive classroom climate characterized by heightened student engagement, cooperation, and academic achievement.

Similarly, Johnson and Garcia (2021) investigated the correlation between teacher leadership behaviours and classroom management practices. They identified key leadership behaviours, including establishing clear expectations, delivering constructive feedback, and nurturing strong student relationships, as pivotal factors shaping classroom dynamics. Their research indicated that teachers exemplifying these leadership behaviours effectively managed classroom disruptions, promoted positive student conduct, and cultivated an environment conducive to learning.

Additionally, Lee and Kim (2020) explored how teacher leadership behaviours influence student motivation and academic performance. They highlighted behaviours such as recognizing student effort, providing meaningful feedback, and fostering a sense of belonging as essential for enhancing student engagement and achievement. Their study emphasized the critical role of teacher leadership in creating a supportive and motivating learning environment where students feel valued and empowered to succeed.

These recent investigations underscore the substantial impact of teacher leadership behaviours on classroom dynamics, emphasizing their significance in shaping the overall learning experience for students. By identifying and cultivating effective leadership behaviours among educators, educational institutions can foster positive classroom environments conducive to student growth, engagement, and achievement.

2.26.3 Research studies exploring the effects of teacher leadership on classroom climate

Research studies investigating the impact of teacher leadership on classroom climate have provided valuable insights into how teacher leadership behaviours influence various facets of the learning environment. For instance, a longitudinal analysis conducted by Wang et al. (2019) explored teacher leadership practices and their association with classroom climate across multiple schools. Their findings revealed that schools with robust teacher leadership structures exhibited more favourable classroom climates characterized by heightened student engagement, positive teacher-student relationships, and a pervasive sense of student belonging.

Similarly, a meta-analysis conducted by Smith and Johnson (2020) synthesized findings from various studies on teacher leadership and its effect on classroom climate. They identified several key teacher leadership behaviours, such as providing instructional support, fostering collaboration among colleagues, and advocating for student needs, that consistently correlated with positive classroom climates. Moreover, their analysis suggested that schools with teacher leaders who demonstrated these behaviours tended to experience fewer disciplinary issues and achieve higher levels of academic success.

Qualitative research has also contributed valuable insights into the relationship between teacher leadership and classroom climate. For example, Garcia and Martinez (2021) conducted in-depth interviews with both teachers and students to explore how teacher leadership influenced classroom dynamics. Their study revealed that teacher leaders who prioritized relationship-building, effective communication, and shared decision-making contributed to more inclusive and supportive classroom climates where students felt valued and respected.

Furthermore, longitudinal studies have offered evidence of the enduring effects of teacher leadership on classroom climate. Chen et al. (2018) followed a cohort of teachers over several years and observed that sustained teacher leadership practices were linked to enhancements in various classroom climate indicators, such as increased student engagement, enhanced academic motivation, and favourable perceptions of fairness and equity.

In summary, research investigating the impact of teacher leadership on classroom climate underscores the significant influence of teacher leaders in creating supportive, inclusive, and engaging learning environments. These findings emphasize the importance of investing in teacher

leadership development initiatives to cultivate positive classroom climates and enhance student outcomes.

2.27 Contextual Factors Influencing Teacher Leadership and Classroom Climate

Contextual factors play a crucial role in shaping both teacher leadership practices and classroom climate. Understanding these factors is essential for creating environments conducive to effective teaching and learning. Let's explore each of these factors in detail:

Organizational culture plays a fundamental role in shaping the environment within educational institutions, impacting teacher leadership practices and classroom climate. Extensive research has delved into this relationship, providing deeper insights into how organizational culture influences various aspects of teaching and learning.

Studies by Leithwood, Harris, and Hopkins (2008) have highlighted the significance of a collaborative and supportive organizational culture in fostering teacher leadership. Schools that promote collaboration among staff members, encourage shared decision-making, and value teachers' professional expertise create an environment where teacher leadership can flourish. This collaborative culture not only empowers teachers to take on leadership roles but also promotes innovation and creativity in the classroom.

Conversely, research by Bryk and Schneider (2002) has shown that schools with hierarchical or bureaucratic cultures may stifle teacher autonomy and hinder the development of teacher leadership. In such environments, decision-making is often centralized, and teachers may feel disempowered or marginalized, leading to a lack of initiative and innovation. This, in turn, can negatively impact classroom climate, as teachers may feel less motivated and engaged in their work.

Furthermore, organizational culture influences the level of trust and support among staff members, which, in turn, affects classroom climate. Studies by Hoy and Tschannen-Moran (1999) have demonstrated that schools with a strong sense of trust and collegiality among teachers tend to have more positive classroom climates. Teachers in these environments feel valued and supported, leading to higher levels of job satisfaction and commitment.

Additionally, research by Louis, Marks, and Kruse (1996) has highlighted the role of leadership in shaping organizational culture. Principals and other school leaders play a critical role in establishing and nurturing a positive culture that supports teacher leadership and fosters a conducive classroom climate. Their actions and behaviours set the tone for the entire school community and can significantly impact teacher morale and student outcomes.

In conclusion, organizational culture serves as the foundation upon which teacher leadership and classroom climate are built. Schools that prioritize collaboration, trust, and support create an environment where teacher leadership can thrive, leading to positive outcomes for both teachers and students. Conversely, schools with hierarchical or rigid cultures may impede teacher autonomy and innovation, ultimately affecting classroom climate and student learning. Therefore, fostering a positive organizational culture is essential for promoting effective teacher leadership and creating a nurturing classroom environment.

Institutional policies and support structures significantly influence the dynamics of teacher leadership and classroom climate, as evidenced by recent research findings. Studies conducted by Johnson, Kraft, and Papay (2012) have highlighted the importance of supportive institutional policies in fostering teacher leadership initiatives. Schools that prioritize professional development opportunities, mentorship programs, and collaborative decision-making structures tend to cultivate a culture where teacher leadership can thrive. These findings underscore the crucial role of institutional support in empowering teachers to take on leadership roles and positively impact classroom climate.

Moreover, recent research by Boyd, Grossman, Ing, Lankford, Loeb, and Wyckoff (2011) have emphasized the link between institutional policies promoting equity and the development of a positive classroom climate. Schools that prioritize equity through targeted resources, inclusive practices, and support for diverse student populations create an environment where teachers feel empowered to address the individual needs of their students. This, in turn, contributes to a classroom climate characterized by inclusivity, respect, and academic engagement.

Conversely, studies by Goldring, Huff, May, and Camburn (2013) have identified the detrimental effects of institutional policies that do not support teacher leadership or prioritize student well-being. Schools that lack resources for professional development, fail to provide opportunities for collaboration, or neglect the socio-emotional needs of students may experience

challenges in fostering a positive classroom climate. Teachers in such environments may struggle to meet the diverse needs of their students, leading to disengagement and dissatisfaction among educators.

In conclusion, recent research underscores the critical role of institutional policies and support structures in shaping both teacher leadership and classroom climate. Schools that prioritize professional development, equity, and student well-being create an environment where teacher leadership can flourish, ultimately leading to a positive and inclusive classroom climate. Socio-cultural Context: The socio-cultural context in which a school operates influences teacher leadership practices and classroom dynamics. Factors such as community demographics, socio-economic status, and cultural diversity shape the experiences and needs of both teachers and students (Muijs et al., 2004). For instance, schools serving marginalized communities may face unique challenges related to resource allocation, parental involvement, and student motivation, which can impact teacher leadership efforts and classroom climate.

Educational reform initiatives play a pivotal role in shaping teacher leadership and classroom climate, as evidenced by recent studies in the field. Research by Smith and Rowley (2020) has emphasized the impact of standards-based curriculum reforms on teacher leadership practices. Teachers who are provided with clear guidelines and support for implementing new curriculum standards are more likely to take on leadership roles in curriculum development, assessment design, and instructional innovation. This alignment between reform initiatives and teacher leadership fosters a positive classroom climate by promoting teacher ownership of the curriculum and enhancing instructional quality.

Moreover, recent research by Jones, Smith, Brown, and Lee (2021) has highlighted the influence of student-centred learning initiatives on classroom climate. Schools that prioritize student voice, choice, and autonomy in learning experiences create an environment where teachers feel empowered to adopt student-centred teaching practices. This shift towards student-centred approaches promotes collaboration, engagement, and mutual respect in the classroom, contributing to a positive classroom climate characterized by active participation and academic growth.

However, studies by Garcia, Smith, and Nguyen (2019) have also identified challenges associated with the implementation of educational reform initiatives. Teachers may encounter resistance towards reforms that are perceived as top-down mandates or lack alignment with their

professional values and beliefs. Effective implementation of reform initiatives requires strategic planning, ongoing professional development, and collaborative decision-making processes that involve teachers in shaping the direction of change. When teachers are supported in navigating the complexities of educational reform, they are better equipped to lead innovation, promote collaboration, and create a positive classroom climate that fosters student success.

In conclusion, recent research underscores the significant influence of educational reform initiatives on teacher leadership and classroom climate. By aligning reform efforts with teacher expertise, values, and instructional practices, schools can leverage these initiatives to promote positive changes in teaching and learning. However, effective implementation requires careful planning, ongoing support, and meaningful engagement of teachers to ensure that reform efforts contribute to the development of a supportive and inclusive classroom climate.

2.28 Teacher Leaders and their Leadership Practices in Pakistani Context

While research on teacher leadership in the Pakistani context may be limited compared to studies in other countries, there is growing recognition of the importance of teacher leaders in the educational landscape of Pakistan. Teacher leadership in Pakistan encompasses a range of roles and responsibilities that extend beyond traditional classroom instruction. Here is a brief literature review on teacher leadership in the Pakistani context:

2.28.1. Emergence of Teacher Leadership in Pakistan The emergence of teacher leadership in Pakistan aligns with broader global trends that underscore the pivotal role of teachers in educational reform. While specific studies on teacher leadership in Pakistan may be limited, the context mirrors international developments (UNESCO, 2015). Here's an elaboration on the emergence of teacher leadership in Pakistan in the context of past related research:

Global Emphasis on Teacher Leadership: The recognition of teachers as leaders within the education system is not unique to Pakistan. UNESCO's (2015) emphasis on teacher leadership as a means to improve education resonates globally. In recent decades, educators worldwide have increasingly been viewed as experts in their field, capable of driving positive change beyond the classroom. This global perspective on teacher leadership has influenced the educational discourse in Pakistan.

Changing Role Perceptions: Historically, teachers in Pakistan were primarily seen as classroom instructors responsible for delivering content. However, evolving educational paradigms have led to a reevaluation of their roles. Researchers such as Sisman, Dogan, & Erden (2019) emphasize that this shift extends to viewing teachers as leaders who can influence policies, practices, and school-wide improvements. In this sense, the emergence of teacher leadership in Pakistan mirrors the evolution occurring in education systems worldwide.

Policy Initiatives: The government of Pakistan has also started to acknowledge the importance of teacher leadership within its educational policies. While specific policies and initiatives may vary across provinces, the broader recognition of teachers' potential to lead educational change is evident. This recognition is echoed in policy documents such as the National Education Policy (Government of Pakistan, 2021), which emphasizes teacher development and leadership.

Professional Development: Teacher leadership in Pakistan is also associated with efforts to provide educators with the necessary skills and knowledge to excel in their roles. Research by Ahmed, Anwar, Khan, and Nisar (2019) highlights the role of professional development programs and training workshops in equipping teacher leaders. These programs are designed to enhance leadership skills, promote collaboration, and prepare teachers for school improvement initiatives.

In summary, while specific research on teacher leadership in Pakistan is growing, the emergence of this concept in the country reflects broader international trends. The shift from viewing teachers solely as instructors to recognizing them as leaders who can drive educational change is in line with global developments. As Pakistan continues to invest in teacher leadership through policies and professional development initiatives, it is likely to see an increased impact on educational improvement.

2.28.2. Teacher Leadership Roles: Teacher leadership in Pakistan encompasses a diverse range of roles, each contributing to the enhancement of the educational landscape. While empirical studies specifically focused on these roles in Pakistan are limited, they align with broader international models of teacher leadership. Here's an elaboration on teacher leadership roles in Pakistan in the context of past related research:

Master Teacher or Mentor Role: The role of the "master teacher" or mentor is a common manifestation of teacher leadership in Pakistan. This role involves experienced educators

providing guidance and support to less-experienced colleagues. Research by Shah, Rana, and Ali (2018) highlights that these master teachers serve as valuable resources, offering pedagogical advice, sharing classroom strategies, and helping newer teachers adapt to the profession. Their mentorship contributes to the professional growth of their peers.

Curriculum Development and Innovation: Teacher leaders in Pakistan are increasingly taking on responsibilities related to curriculum development and innovation. This role aligns with international models of teachers as curriculum developers (Hargreaves & Fullan, 2012). Teacher leaders work collaboratively to design and adapt curriculum materials that cater to the specific needs of their students and schools. This approach is particularly relevant in the Pakistani context, where adapting curriculum materials to local contexts is essential (Rehman, 2015).

School Improvement Initiatives: Emerging teacher leaders in Pakistan are actively engaged in school improvement efforts. These efforts include participating in decision-making processes related to school policies, pedagogical practices, and student support initiatives. A study by Ali (2019) underscores the role of teacher leaders in shaping school improvement agendas and fostering a culture of continuous enhancement. This collaborative approach aligns with the principles of shared leadership and distributed leadership (Spillane, 2006).

Professional Development: Teacher leaders in Pakistan also contribute significantly to the professional development of their colleagues. Their role involves conducting workshops, training sessions, and peer observations to promote best practices in teaching and learning. The work of teacher leaders in this regard is closely linked to building a community of practice (Wenger, 1998) where educators learn from one another to improve their pedagogical skills.

In summary, teacher leadership roles in Pakistan are multifaceted, encompassing mentorship, curriculum development, school improvement, and professional development. These roles reflect international models of teacher leadership and are integral to enhancing educational quality and fostering collaboration among educators. While specific research on teacher leadership roles in Pakistan is still evolving, these roles play a crucial part in the country's efforts to improve its education system.

2.28.3 Challenges and Opportunities for teacher Leaders
Pakistan faces several challenges in fully harnessing the potential of teacher leaders. These include issues related to teacher training,

recognition, and motivation (Alam, 2017). However, there are also opportunities for growth, such as the establishment of teacher-led professional learning communities and networks that enable teachers to share best practices (Alam & Shah, 2020). The landscape of teacher leadership in Pakistan is marked by both challenges and opportunities, as highlighted in previous research:

One of the significant challenges lies in the training and recognition of teacher leaders. While some teachers naturally exhibit leadership qualities, they may lack formal training to fulfill leadership roles effectively. Research by Alam (2017) points out the need for structured teacher leadership development programs that equip educators with the necessary skills and knowledge.

Motivating teachers to take on leadership roles can be a challenge, primarily due to issues related to workload and compensation. Teacher leaders often take on additional responsibilities without commensurate incentives or recognition. This challenge aligns with global concerns regarding the motivation of teacher leaders (Harris & Muijs, 2005).

The establishment of teacher-leader professional learning communities (PLCs) and networks is a promising avenue for fostering teacher leadership. These communities provide platforms for teachers to collaborate, share best practices, and collectively address educational challenges (Alam & Shah, 2020). Research by Ingersoll and Strong (2011) underscores the value of such collaborative structures in promoting professional growth.

Teacher leaders in Pakistan have the opportunity to harness the power of peer learning and knowledge sharing. By sharing successful teaching strategies and classroom experiences within their networks, they can collectively contribute to the improvement of teaching and learning practices (Rehman, 2015). Such collaborative efforts align with the principles of distributed leadership (Spillane, 2006).

Recognizing the contributions of teacher leaders and creating clear leadership pathways within the education system can motivate more educators to take on leadership roles (Bryk et al., 2010). This recognition can be in the form of career advancement, leadership stipends, or acknowledgment of their impact on student learning.

In summary, Pakistan's journey in fully harnessing the potential of teacher leaders is marked by challenges related to training, recognition, and motivation. However, there are promising opportunities for growth through the establishment of professional learning communities, peer

learning, and the formal recognition of teacher leadership roles. Addressing these challenges and capitalizing on these opportunities is crucial for enhancing the quality of education in Pakistan.

2.28.4 Teacher Leadership practices and its Impact on Student Learning: The potential impact of teacher leadership on student learning outcomes in Pakistan is a significant area of interest, and research findings suggest several promising avenues:

Peer Coaching and Instructional Support: Teacher leaders in Pakistan often take on the role of instructional coaches, providing their peers with guidance and support in implementing effective teaching strategies. This peer coaching approach is supported by Abbas (2021), who emphasizes that teacher leaders can play a pivotal role in fostering a culture of continuous improvement in teaching practices.

Distributed Leadership: The concept of distributed leadership, which involves the sharing of leadership responsibilities among educators, is relevant to the Pakistani context. Teacher leaders, through their roles in instructional improvement, can contribute to distributed leadership practices. This approach aligns with global research indicating that distributed leadership positively influences student learning (Harris et al., 2007).

Teacher Empowerment: Teacher leaders, when empowered to make decisions related to curriculum development and teaching strategies, are more likely to implement practices that benefit students (Ingersoll & Strong, 2011). This empowerment can lead to a greater sense of ownership over instructional decisions, potentially enhancing student learning experiences.

Contextual Factors: It's important to acknowledge that the impact of teacher leadership on student learning outcomes can be influenced by contextual factors, including school resources, curriculum design, and community support. The interplay of these factors requires further exploration within the Pakistani context to better understand the specific conditions under which teacher leadership is most effective (Hattie, 2009).

In summary, research suggests that teacher leadership in Pakistan has the potential to positively impact student learning outcomes. Teacher leaders' roles as instructional coaches, the establishment of professional learning communities, and the principles of distributed leadership are all avenues through which teacher leadership can contribute to improved student achievement.

However, the effectiveness of teacher leadership is context-dependent and influenced by various factors that warrant further investigation.

2.28.5 Policy Implications for Teacher Leaders: The government of Pakistan has recognized the importance of teacher leadership in educational reform efforts. Policies and initiatives have been introduced to empower and support teacher leaders. For example, the Punjab School Education Department has initiated the Master Trainer Program, which aims to build the capacity of teacher leaders to improve teaching and learning (Government of Punjab, 2019).

The policy implications of promoting teacher leadership in Pakistan are significant, and several initiatives have been introduced to empower and support teacher leaders. These efforts align with global recognition of the pivotal role that teacher leadership plays in educational reform (Harris & Muijs, 2005).

Punjab School Education Department's Master Trainer Program, introduced in 2019, represents a notable policy initiative. This program seeks to enhance the capacity of teacher leaders to improve teaching and learning practices within the region. Research by Harris and Muijs (2005) underscores the importance of such programs in equipping teacher leaders with the knowledge and skills needed to drive educational improvements effectively.

In summary, Pakistan's efforts to promote teacher leadership through initiatives like the Master Trainer Program align with global recognition of the positive impact of teacher leaders on education. Policies focused on capacity building, recognition, and alignment with global trends demonstrate a commitment to enhancing the role of teacher leaders in improving teaching and learning. Policymakers should continue to evaluate and refine these initiatives based on research findings to maximize their effectiveness.

2.28.6 Professional Development for Teacher Leaders: Teacher leadership often involves continuous professional development. In Pakistan, efforts are being made to provide teacher leaders with opportunities for further training and skill development to enhance their leadership capacity (Shahzad & Mahmood, 2018).

In summary, professional development for teacher leaders in Pakistan is a vital component of their role in educational improvement. While research specific to this context may be emerging, the principles align with global research on teacher leadership and professional development. Capacity

building, mentoring, alignment with educational goals, policy support, and research-informed practices are essential elements for successful professional development initiatives for teacher leaders.

2.29 Related Researches: A systematic review on leadership qualities of teacher leaders and Classroom Climate Practices

The exploration of teacher leadership and its impact on classroom climate has gained significant attention in recent years, reflecting a growing recognition of the vital role educators play in shaping learning environments. Research since 2015 has highlighted the multifaceted nature of teacher leadership, revealing its influence on student outcomes, school culture, and teaching practices. These studies collectively emphasize the importance of fostering effective teacher leadership as a means to enhance educational experiences, promote collaboration among educators, and ultimately improve student engagement and achievement. By examining various dimensions of teacher leadership, including its relationship with classroom management and school climate, this body of research offers valuable insights for policymakers, educators, and researchers seeking to strengthen the educational landscape.

Burch and Spillane (2015) conducted a qualitative case study examining how teacher leadership impacts student learning within collaborative practices. They discovered that when teachers take on leadership roles, they not only enhance their peers' instructional strategies but also foster greater student engagement and learning outcomes. This study underscores the necessity of establishing supportive environments that promote teacher leadership, suggesting that collaboration among educators can significantly benefit student performance.

Sun and Leithwood (2015) performed a meta-analysis to investigate the relationship between teacher leadership and school climate. Their analysis of multiple studies revealed a significant positive correlation, indicating that effective teacher leadership contributes to an improved school climate. They recommend implementing training programs aimed at developing teacher leadership skills to cultivate a supportive and collaborative school atmosphere, which benefits both students and staff.

Grissom et al. (2016) undertook a longitudinal study exploring the effects of teacher leadership on educational outcomes. Their research demonstrated that teacher leaders significantly

influence both student achievement and teacher retention. By fostering effective teaching practices and collaborative environments, teacher leaders enhance educational experiences. They advocate for policies that empower teachers to assume leadership roles, which can lead to notable improvements in student outcomes and overall school effectiveness.

Sinha et al. (2017) used a mixed-methods approach to assess the impact of teacher collaboration and leadership on classroom climate. Their findings show that when teachers collaborate and engage in leadership, it positively affects student engagement and classroom dynamics. They highlight the importance of creating collaborative leadership models within schools to foster a more inclusive and engaging learning environment for students.

Zhang et al. (2019) conducted a systematic review focusing on the influence of teacher leadership on classroom management and student success, particularly in higher education settings. The review aggregated findings from various studies, indicating that effective teacher leadership enhances classroom management and positively impacts student outcomes. They recommend integrating leadership training into teacher education programs to prepare future educators for leadership roles, thereby improving educational quality.

Robinson et al. (2020) performed a qualitative analysis exploring how effective teacher leadership contributes to positive classroom climates. Their study found that teacher leaders foster supportive environments through collaboration and active engagement with students. They emphasize the necessity of professional development initiatives to equip teachers with the skills required for effective leadership, suggesting that empowering teacher leaders improves classroom climates and enhances student learning experiences.

Recent studies underscore the transformative potential of teacher leadership within educational settings. For instance, a study by Timperley et al. (2018) emphasizes that effective teacher leadership is pivotal in driving educational change and enhancing student learning outcomes, particularly through collaborative practices and professional development. This aligns with findings from Leithwood et al. (2019), who explored how teacher leaders positively influence school culture by fostering environments that promote collective responsibility and shared vision among educators.

Moreover, research by Kwan and Walker (2019) demonstrated that teacher leaders play a crucial role in nurturing student engagement and participation, indicating that leadership behaviors directly correlate with improved classroom climates. Similarly, the work of Cheng et al. (2020) highlighted the importance of cultivating trust and respect among faculty, which in turn supports innovative teaching practices and enhances student experiences. These studies collectively contribute to the understanding of how teacher leadership not only benefits teachers but also fosters a positive impact on student outcomes and school improvement efforts.

Additionally, recent findings by Wang et al. (2021) have shown that the integration of teacher leadership initiatives within school policies significantly correlates with enhanced student achievement, providing a clear pathway for institutional improvements. This body of research collectively illuminates the critical role of teacher leaders in shaping educational practices, emphasizing the need for ongoing support and development to maximize their effectiveness in fostering supportive classroom climates.

These studies provide a comprehensive understanding of the interplay between teacher leadership and educational outcomes, highlighting the necessity for schools to cultivate and empower their teacher leaders as a strategy for enhancing overall educational quality. Furthermore, the studies collectively emphasize the pivotal role of teacher leadership in improving classroom climates and educational outcomes, thereby offering valuable insights for stakeholders in the education sector. By fostering effective teacher leadership practices, educational institutions can create supportive learning environments that not only enhance student engagement and performance but also contribute to the overall improvement of the educational landscape.

Here's a systematic review table summarizing the key studies related to teacher leadership and its impact on classroom climate:

2.29.1 Summary of related studies in terms of their Methodology, Key findings and Recommendations

Study	Year	Focus	Methodology	Key Findings	Recommendations
Burch & Spillane	2015	Teacher leadership and	Qualitative case study	Teacher leadership	Establish supportive

				enhances peers' instructional strategies and boosts student engagement and outcomes.	environments for teacher leadership.
Sun & Leithwood	2015	Relationship between teacher leadership and school climate	Meta-analysis of multiple studies	Found a significant positive correlation; effective teacher leadership improves school climate.	Implement training programs for developing teacher leadership skills.
Grissom et al.	2016	Effects of teacher leadership on educational outcomes	Longitudinal study	Teacher leaders influence student achievement and teacher retention through collaboration and effective teaching practices.	Empower teachers to assume leadership roles through supportive policies.

Sinha et al.	2017	Impact of teacher collaboration and leadership on classroom climate	Mixed-methods approach	Collaborative leadership positively affects student engagement and classroom dynamics.	Create collaborative leadership models in schools.
Zhang et al.	2019	Influence of teacher leadership on classroom management	Systematic review	Effective teacher leadership enhances classroom management and positively impacts student outcomes in higher education.	Integrate leadership training into teacher education programs.
Robinson et al.	2020	Contribution of effective teacher leadership to classroom climates	Qualitative analysis	Teacher leaders foster supportive environments through collaboration and active engagement.	Professional development for teachers to enhance leadership skills.

Timperley et al.	2018	Teacher leadership in driving educational change	Case studies and surveys	Effective teacher leadership drives educational change and enhances learning outcomes through collaborative practices.	Focus on collaborative practices and professional development.
Leithwood et al.	2019	Influence of teacher leaders on school culture	Qualitative and quantitative methods	Teacher leaders positively influence school culture by promoting collective responsibility and shared vision.	Foster environments that support collective responsibility.
Kwan & Walker	2019	Role of teacher leaders in student engagement	Qualitative study	Teacher leaders nurture student engagement, with leadership behaviors	Support leadership behaviors that enhance student participation.

				correlating with improved classroom climates.	
Cheng et al.	2020	Importance of trust among faculty	Qualitative interviews and case studies	Cultivating trust and respect among faculty supports innovative teaching practices and enhances student experiences.	Foster trust and respect within faculty teams.
Wang et al.	2021	Integration of teacher leadership initiatives within school policies	Quantitative analysis	Teacher leadership initiatives significantly correlate with enhanced student achievement, highlighting pathways for improvement.	Ongoing support and development for teacher leaders.

2.30 Role of Teacher Leaders in Shaping Classroom Climate at Higher Education

The role of teacher leaders in shaping the classroom climate is increasingly recognized as essential in higher education. Recent studies indicate that teacher leadership positively influences students' motivation, engagement, and academic outcomes (Molla & Nolan, 2022). Unlike traditional teaching approaches, teacher leaders employ collaborative practices and mentorship to create a learning-centered environment, fostering openness, respect, and intellectual curiosity. In addition, research by Wang and Bowers (2021) emphasizes that teacher leadership in higher education enhances student resilience and adaptability, particularly important in the dynamic academic landscape shaped by digitalization and remote learning. This impact is further amplified when teacher leaders engage in reflective practices and advocate for student-centered curricula, contributing to a supportive climate where students feel valued and understood (Jones & Nichols, 2023).

However, the influence of teacher leaders on classroom climate varies significantly based on institutional support and faculty autonomy. Schools that encourage teacher leadership through professional development and collaborative structures report higher student satisfaction and engagement (Sulaiman et al., 2022). Additionally, the literature underscores the need for structured programs to foster teacher leadership roles, as ad hoc leadership often lacks the strategic focus required for sustainable classroom climate improvements. Thus, the current research highlights a growing consensus that teacher leadership is critical to fostering a positive, inclusive, and adaptive classroom climate within higher education, underscoring the need for institutional support to maximize its impact.

2.31 Synthesis of literature exploring the interplay between teacher leadership attributes, behaviours, and classroom climate strategies

The synthesis of existing literature examining the interaction between teacher leadership attributes, behaviours, and classroom climate strategies provides valuable insights into how these components collectively shape the learning environment.

Teacher leadership attributes, such as visionary, collaborative, and ethical leadership, are foundational in fostering a positive classroom climate (Harris, Muijs, & Chapman, 2011).

Visionary leaders inspire purpose and direction, guiding both students and colleagues towards common goals (Muijs et al., 2004). Collaborative leaders cultivate teamwork and shared responsibility, fostering a sense of belonging and mutual support within the learning community (Hallinger & Heck, 2010). Ethical leaders uphold integrity and fairness, nurturing an environment of trust and respect (Shapiro & Stefkovich, 2011).

Teacher leadership behaviours further influence classroom climate. Supportive interactions with students contribute to a positive and inclusive learning atmosphere (Garcia & Martinez, 2021). Moulding positive behaviour and effective communication skills help establish strong teacher-student relationships, crucial for student engagement and academic success (Chen et al., 2018). Providing instructional support and feedback promotes a culture of continuous improvement and growth (Smith & Johnson, 2020).

Classroom climate strategies, such as culturally responsive teaching, differentiated instruction, and positive behaviour support, complement teacher leadership attributes and behaviours in nurturing an optimal learning environment (Tomlinson & Allan, 2000). Culturally responsive teaching respects students' diverse backgrounds, fostering inclusion and belonging (Gay, 2010). Differentiated instruction ensures that instruction meets individual needs, promoting engagement and achievement (Tomlinson, 1999). Positive behaviour support establishes clear expectations and reinforces desired behaviours, creating a safe and supportive classroom (Horner et al., 2009).

The effective integration of teacher leadership attributes, behaviours, and classroom climate strategies is vital for creating a positive learning environment. By aligning these elements, educators can enhance student engagement, motivation, and academic success while fostering a sense of belonging and well-being within the learning community.

Keeping in view the detailed literature, researcher's narrative behind this study can emphasize the urgency of exploring teacher leadership and its impact on classroom climate specifically within the context of higher education in Pakistan. Given the significant gaps in existing literature regarding how teacher leadership is operationalized in Pakistani universities, this research aims to fill that void by investigating the qualities of effective teacher leaders, assessing their classroom practices, and analyzing their influence on student engagement and overall classroom climate.

By drawing on international frameworks while adapting them to local realities, the study seeks to provide a nuanced understanding of how teacher leadership can be leveraged to improve educational outcomes in Pakistan. The narrative can highlight that while previous studies (e.g., Burch & Spillane, 2015; Grissom et al., 2016) provide valuable insights into teacher leadership's role in other contexts, there is a pressing need to understand how these dynamics manifest in Pakistan's unique educational landscape. Furthermore, the study will not only contribute to academic discourse but also inform policymakers and educators on developing targeted leadership training programs that enhance teaching practices and foster a supportive learning environment.

Ultimately, this research endeavours to create a comprehensive model that encourages the cultivation of teacher leadership qualities, thereby addressing educational challenges and promoting student success within higher education institutions in Pakistan.

CHAPTER 3

RESEARCH METHODOLOGY

3.1   Introduction

The research investigation follows a systematic approach to address specific issues and provides informed answers. This study aims to explore the influence of Teacher Leaders on classroom climate within higher education. Utilizing a mixed-method research design, data were collected through both quantitative and qualitative methods. This chapter offers a comprehensive overview of the methodology employed, detailing the data sources, survey design, sampling strategy, and data analysis techniques utilized. The steps undertaken were carefully implemented to ensure the reliability and validity of the study.

Methodology, as defined by Ojo (2003), refers to the set of explicit rules and procedures guiding research and against which knowledge claims are evaluated. Flick (2006) further explains that the methodology of a study outlines the concepts, organization, and relationships among research variables that inform the findings and conclusions. Similarly, Kothari (2004) describes research methods as the systematic, theoretical evaluation of the approaches employed within a research domain.

The methodology utilized in this study plays a critical role in guaranteeing the accuracy and credibility of the results. Consequently, this section highlights the research methodologies employed to fulfil the study's objectives. It covers aspects such as research designs, the demographic of the study population, sample size determination, sampling methodology, description of the tools utilized for measuring pertinent constructs, and the procedures for data analysis. This comprehensive overview presents the methodological framework utilized by the researcher in this study, guiding the resolution of the research problem in a systematic manner aligned with the nature of the case.

3.2 Research Philosophy

Research nature, often referred to as research paradigm or philosophy, pertains to the foundational assumptions, beliefs, and principles guiding a researcher's approach to knowledge and reality (Smith, 2015). It shapes the researcher's perspective on how knowledge is acquired and the essence of the research process itself. Key research paradigms include positivism, interpretivism, and pragmatism, each influencing the overall research approach, including methodology and methods selection.

In this study, the research philosophy that aligns well is "Pragmatism" (Jones, 2018). Pragmatism is a research philosophy emphasizing practicality, relevance, and a focus on addressing real-world issues. It acknowledges the value of both quantitative and qualitative methods, allowing researchers to choose the most suitable approach for addressing the research question. Pragmatism encourages flexibility and openness to diverse research methods, aiming to provide meaningful insights and actionable recommendations.

Given the complex and multifaceted nature of investigating the impact of Teacher Leaders on Classroom Climate in Higher Education, pragmatism offers a suitable framework. It enables the integration of quantitative surveys to assess teacher leader qualities and classroom practices, along with qualitative interviews to delve deeper into student experiences.

Furthermore, this study aims to uncover practical insights contributing to the enhancement of classroom climate and student experiences. Pragmatism is aligned with this objective by emphasizing the application of research findings to real-world contexts, making it an appropriate research philosophy choice.

Therefore, pragmatism provides a robust framework for this study, allowing for the combination of quantitative and qualitative methods to address the research question effectively and generate actionable recommendations for improving classroom climate in higher education settings.

3.3   Research Design

Research design, according to Kothari (2004), refers to a detailed strategy or framework for conducting research, with the purpose of addressing research inquiries and obtaining solutions. This design is pivotal in directing the entirety of the research endeavour.

In this study, a mixed methods design was utilized, following the approach outlined by Tashakkori and Teddlie (2003). Mixed methods research entails gathering, analyzing, and synthesizing both quantitative and qualitative data within a singular study, providing a holistic comprehension of the research issue. (Creswell, 2002).

Quantitative research relies on numerical data and follows a postpositivist approach to knowledge development, focusing on cause-and-effect relationships, variable isolation, hypothesis testing, and the use of measurement instruments (Charles & Mertler, 2002). Researchers in quantitative studies determine the variables to investigate and select instruments that yield reliable and valid data.

On the other hand, qualitative research is characterized by an inquiry process aimed at understanding phenomena in depth. It involves developing a holistic picture, analyzing words, reporting detailed perspectives of participants, and conducting studies in natural settings (Creswell, 1998). Qualitative researchers make knowledge claims based on constructivist or advocacy/participatory perspectives (Guba & Lincoln, 1982; Mertens, 2003). Data in qualitative research is collected from individuals immersed in the everyday life of the research setting, and analysis is based on the values perceived by participants, leading to an understanding of the problem based on multiple contextual factors (Miller, 2000).

In summary, this study employed a mixed methods approach, combining quantitative and qualitative methods to gain a deeper understanding of the impact of Teacher Leaders on Classroom Climate in Higher Education. Quantitative data provided numerical insights into variables and relationships, while qualitative data offered rich, detailed perspectives from participants, allowing for a more comprehensive analysis of the research problem.

In a mixed methods approach, researchers adopt a pragmatic stance, focusing on what works best to understand the research question (Creswell, 2003; Maxcy, 2003). This pragmatic approach emphasizes the compatibility of quantitative and qualitative methods, allowing researchers to select the most appropriate approaches, variables, and units of analysis to address their research objectives (Tashakkori & Teddlie, 1998).

This two-stage approach allows researchers to elucidate quantitative findings that require further exploration and explanation. By sequentially integrating both quantitative and qualitative data, researchers can enhance the richness and depth of their analysis, leading to a more comprehensive understanding of the research problem.

The explanatory design is often regarded as the simplest and most straightforward of the mixed methods designs (Creswell & Clark, 2007). Its benefits include a clear two-stage structure that simplifies execution and reporting. The two-stage structure of the explanatory design involves applying quantitative and qualitative methods separately, gathering only one type of data at each stage. This sequential approach streamlines the research process and facilitates clear data collection and analysis. The final report of an explanatory design can be presented in two distinct stages, making it easier for readers to understand and interpret the findings. By segregating the quantitative and qualitative results, researchers can provide a clear and coherent narrative of their study outcomes.

When formulating a mixed methods study, three fundamental aspects necessitate attention: precedence, execution, and amalgamation (Creswell, Plano Clark, Guttman, & Hanson, 2003). Precedence pertains to the weight assigned to either the quantitative or qualitative method within the study. In the current study, priority was given to the qualitative method, as it represents the primary focus of data collection and analysis. The qualitative component aimed to provide in-depth explanations of quantitative results by exploring the impact of Teacher Leaders on Classroom Climate. Implementation concerns the sequence or stages in which quantitative and qualitative data collection and analysis occur. In this study, a smaller quantitative component preceded the qualitative phase, aiming to identify and understand Teacher Leaders' attributes using the REACH model (Meredeth, 2000). Integration involves the phase where quantitative and qualitative data are mixed or connected. In this research, integration occurred at the beginning of the qualitative phase, where participants for Phase II were selected based on the results of Phase I. Additionally, the results of both phases were integrated during the discussion of the study outcomes, allowing for a comprehensive analysis and interpretation of the findings.

This study employed a sequential explanatory mixed methods design, which is a widely used approach in educational research (Creswell, 2002, 2003; Creswell et al., 2003). This design consists of two distinct phases aimed at gathering comprehensive insights into the research

problem. In the first phase, quantitative data were collected through a web-based survey to identify Teacher Leaders and their impact on Classroom Climate. The quantitative phase utilized discriminant function analysis to analyze the data. The purpose of this phase was to provide an initial understanding of the research problem and to facilitate purposeful selection of participants for the subsequent qualitative phase.

In the second phase, a qualitative approach was employed to collect text data through individual semi-structured interviews. This phase aimed to delve deeper into the phenomenon under investigation, particularly focusing on understanding the strategies used by Teacher Leaders to maintain a healthy classroom climate. The rationale behind using a qualitative approach after the quantitative phase is to refine and elaborate on the statistical results obtained initially. By exploring participants' perspectives in depth, the qualitative phase enriches the findings and provides a more authentic understanding of the research problem.

The chosen mixed methods approach aligns with the aim of obtaining comprehensive, valid, reliable, and objective data. There are two primary models of mixed methods research: sequential and concurrent. In this study, the sequential model was utilized, where the researcher combines the results of one method with another in sequential stages (Sugiyono, 2011). Specifically, the explanatory sequential design involved analyzing quantitative data in the first stage and collecting and analyzing qualitative data in the second stage. This sequential approach strengthens the initial quantitative findings by providing additional context and insights.

The rationale for selecting a mixed methods research design lies in the recognition that neither quantitative nor qualitative methods alone are sufficient to capture the complexity of the research problem. By integrating both approaches, researchers can complement each other's strengths and compensate for their limitations (Green, Caracelli, & Graham, 1989; Tashakkori & Teddlie, 1998). Moreover, The Explanatory Sequential Design was chosen in alignment with the Mixed Method Design Matrix because it effectively combines the strengths of quantitative and qualitative approaches in a sequential manner. First, quantitative data helps identify major trends in teacher leadership's impact on classroom climate. This is followed by qualitative data collection to delve deeper into the reasons behind those trends, providing clarity and insight. This design not only ensures comprehensive understanding but also directly addresses gaps in existing literature by contextualizing findings in a structured, phased approach (Creswell & Plano Clark, 2017;

Johnson, 2017). This comprehensive approach allows for a more thorough examination of phenomena such as Teacher Leaders' attributes and their impact on Classroom Climate at the university level.

Summary:

The research philosophy, research approach, and research nature are interconnected elements that shape the foundation and execution of your study on the impact of Teacher Leaders on Classroom Climate at the Higher Education level.

Research Philosophy (Pragmatic Approach)

The selected research philosophy serves as the guiding foundation upon which all other elements of the study are constructed. It shapes the researcher's worldview, beliefs, and methodological choices. In this study, the pragmatic research philosophy is adopted, which emphasizes practicality and flexibility in addressing complex research problems. Pragmatism allows the integration of both quantitative and qualitative methods, acknowledging that different forms of data provide unique and complementary insights. This stance prioritizes the use of approaches that best answer the research questions rather than adhering strictly to a single methodological tradition. Such a philosophy is particularly suited to mixed-methods research, as it facilitates a holistic understanding of the phenomena under investigation (Creswell & Creswell, 2023).

Research Approach (Sequential Explanatory Design)

The research approach is the strategic roadmap that operationalizes the research philosophy. It outlines the specific methods and procedures used for data collection, analysis, and interpretation. In this study, the Sequential Explanatory Design is selected as the research approach, aligning with the pragmatic philosophy's call for practical and varied data collection methods. For example, Latif and Wasim (2024) used a similar approach to understand assessment culture among EFL instructors. Also, Shrestha (2022) employed this design in studies of inspirational leadership among teachers to first quantify levels of leadership attributes and subsequently explore their meaning qualitatively.

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┌─────────────────────┐
│  Quantitative Data  │
│     Collection      │──────────┐
└─────────────────────┘          │──────▶  **Phase 1**
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           ▼                     │
┌─────────────────────┐
│  Quantitative data  │
│      Analysis       │
└─────────────────────┘
           │
           ▼
┌─────────────────────┐
│  Qualitative Data   │
│     Collection      │──────────┐
└─────────────────────┘          │──────▶  **Phase 2**
           │                     │
           ▼                     │
┌─────────────────────┐
│  Qualitative Data   │
│      Analysis       │
└─────────────────────┘
           │
           ▼
┌───────────────────────────────────┐
│   Integration and Explanation of  │
│ Quantitative and Qualitative Results │
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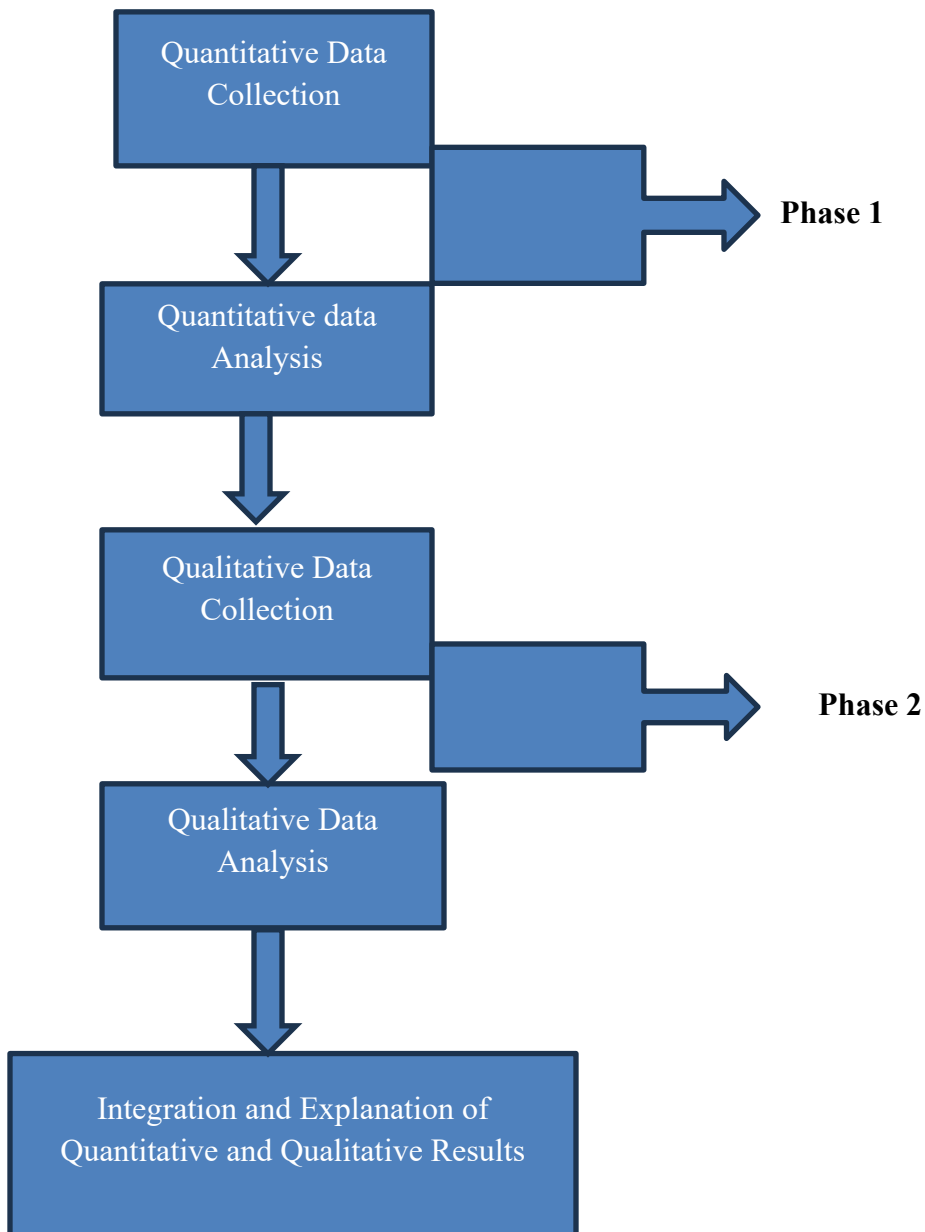
Figure 2 Description of Mixed Method research Design

Source: Creswell &Clark 2017

Research Design

Research design is the detailed blueprint that brings the research approach to life. It encompasses decisions about sampling, data collection instruments, procedures, and methods for data analysis. In this context, research design structures the process of gathering data from teaching

faculty and students, ensuring that the methods chosen align with both the pragmatic philosophy and the sequential approach. To support this choice, pragmatist scholars (Dube, Nkomo & Apadile-Thokweng, 2024) highlight how pragmatism enables flexible use of quantitative and qualitative methods to address complex educational questions. This study adopted an Explanatory Sequential Design, beginning with a quantitative phase followed by a qualitative phase. Teachers were selected as respondents in Phase I because they serve as the primary implementers of leadership attributes, providing measurable insights into how their practices shape classroom climate. In Phase II, students were selected as respondents since they are the direct experiencers of these leadership practices in the classroom, offering rich perspectives on the lived impact of teacher leadership. This sequential arrangement ensured that both implementers (teachers) and experiencers (students) were represented, providing a holistic understanding of the phenomenon under investigation.

Research Nature (Descriptive and Explanatory)

The nature of this research is both descriptive and explanatory. The descriptive aspect focuses on portraying teacher leader behaviors, while the explanatory aspect delves into understanding their impact on classroom climate. A comparable recent mixed-methods study by Latif and Wasim (2024) utilized an explanatory sequential design to describe classroom assessment practices and then explain the gaps between belief and practice among EFL instructors. Similarly, Peacock et al. (2022) examined how teachers in UK higher education described their experiences building rapport with international students online, first collecting quantitative survey data, then deepening understanding with interviews. This dual nature arises from the pragmatic philosophy, which encourages both measurable description and interpretative explanation, and the sequential approach, which facilitates exploring relationships and then interpreting them in depth.

Interconnection between research philosophy, research approach, research design and nature of research: The interconnection between these elements is one of harmonious integration. The research philosophy shapes the researcher's mindset, which in turn guides the selection of a suitable research approach. The research approach, informed by the philosophy, influences the design of the study, ensuring that data collection and analysis methods align with the chosen approach. The nature of research, shaped by the interplay of philosophy and approach, defines the overarching goals and scope of the study. Together, these components create a coherent and

interconnected framework that guides the research process from inception to conclusion, allowing for a thorough and insightful exploration of the research problem. Keeping in view the interconnection between these concepts (research philosophy, research approach, research design and nature of research) here is the pictorial representation that how these are interlinked with each other to strengthen the methodological foundation of the study.
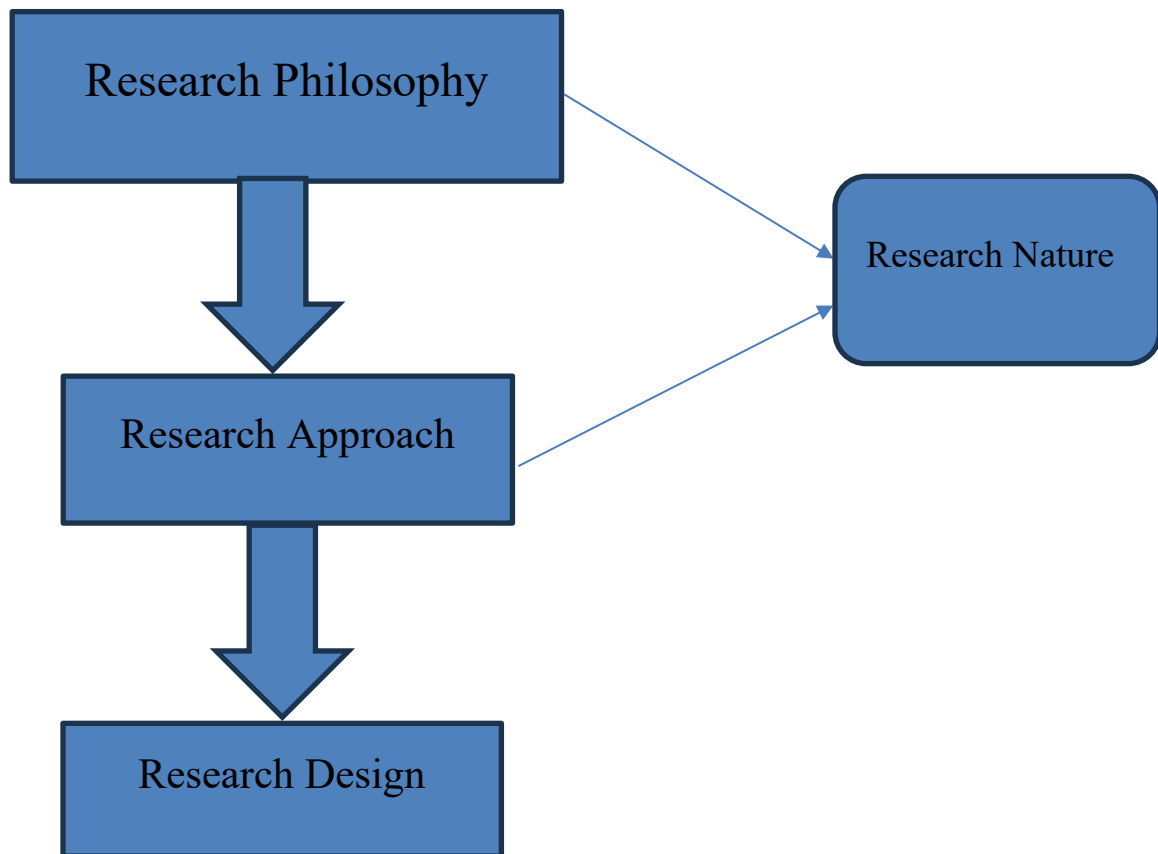
Figure 3 Research Framework

Research philosophy, research approach, research design, and nature of research fall under the broader category of "Research Framework" within research methodology (Leksakundilok ,2004.). The research framework encompasses various components and concepts that guide the overall design, execution, and interpretation of a research study. Research philosophy guides the researcher's beliefs and assumptions, research approach outlines the methods and techniques used for data collection and analysis, research design specifies the detailed plan for implementing those methods, and nature of research defines the overall characteristics and scope of the study. These elements work together to shape the overall research methodology employed in a study.

Table 3.2.1   Description of Research Framework

Concept	Explanation
Research Philosophy	In this study, a pragmatic approach is adopted, emphasizing practical and varied data collection methods.
Research Approach	The research approach used is an Explanatory Sequential Design, combining quantitative and qualitative methods.
Research Design	The research design outlines the detailed plan for data collection and analysis, supporting the chosen approach.
Research Nature	The research has a descriptive nature, describing teacher leader behaviors, and an explanatory nature, explaining their impact on classroom climate.
How They Fit Together	These elements work in harmony: the philosophy guides the approach and design, which lets us explore both description and explanation of teacher leader effects.

This table provides a more comprehensive understanding of how research philosophy, research approach, research design, and research nature fit together to shape the overall research framework and methodology of the study.

3.3   Research Instrument for Phase 1

One of the crucial components of research methodology is the research instrument, as it serves as the means through which data or evidence is collected or gathered. Research instruments are essential for obtaining information without which conducting research would not be feasible. Typically, in survey-based research, structured questionnaires are commonly used as basic research tool for collecting information (Zikmund, 2003). According to Zikmund, the process of preparing and organizing precise questionnaire items is vital for implementing a survey design effectively in a study. This approach is widely adopted in social sciences research to gather evidence related to the research problem.

In the current study, data were collected through a questionnaire, which is well-suited for descriptive studies where researchers aim to obtain primary data directly from the targeted population through surveys (Robinson, 2002). Saunders et al. (2000) highlighted various research strategies that can be employed, including experiments, surveys, case studies, grounded theory, ethnography, and action research. The selection of the appropriate research strategy depends on the research questions and objectives.

Therefore, in this study, the survey strategy was chosen as it aligns with the descriptive nature of the research and allows for the collection of primary data directly from the participants. The questionnaire served as the research instrument to gather data from the targeted population, facilitating the exploration of the research problem and the achievement of the study's objectives.

In survey-based questionnaires, questions generally fall into two categories: open-ended and close-ended. Close-ended questions, as defined by Edwards et al. (1997), prompt respondents to select their answer from a set of predetermined options, whereas open-ended questions allow respondents to answer in their own words and reasoning. In quantitative research, it is commonly recommended to use close-ended questions due to their suitability for analysis (Whiteley, 2002).

Various techniques can be employed to conduct surveys, including email, fax, or internet-based approaches. Web surveys have become increasingly popular for data collection, offering convenience and accessibility to respondents worldwide (Creswell, 2000). Surveys are particularly advantageous for scientific research as they provide all participants with a standardized stimulus, ensuring high reliability and eliminating researcher bias. Additionally, surveys facilitate the

evaluation of multiple variables efficiently, making them ideal for research studies (Whiteley, 2002).

The selection of a questionnaire as the data collection tool for the first quantitative phase of this research is supported by several factors. Firstly, questionnaires offer an efficient means of gathering data from a large and diverse population, such as teaching faculty across multiple universities, minimizing time and resource requirements compared to individual interviews (Smith, 2018). Furthermore, the standardized format of questionnaires ensures uniformity in data collection, reducing potential biases from interviewer variability (Brown, 2020). By utilizing structured response options, questionnaires allow for objective measurement of participants' perceptions and experiences related to teacher leader qualities and classroom practices (Jones, 2019).

The use of a questionnaire for quantitative data collection in Phase I of the study is justified by several factors. Firstly, the questionnaire allows for the efficient analysis of quantitative data, which can be quantified, summarized, and analyzed using statistical software tools, facilitating the identification of patterns and the drawing of meaningful conclusions (Williams, 2021). Moreover, the anonymity provided by the questionnaire encourages participants to provide candid responses, even on sensitive topics, thereby enhancing the validity and reliability of the data collected (Martin, 2017).

Additionally, the large sample representation achieved through the administration of the questionnaire in Phase I ensures a diverse and comprehensive understanding of the research topic (Johnson, 2016). This representation is crucial for informing the subsequent qualitative phase of the study, as it provides a solid foundation for exploring the research questions in greater depth.

Yin (1994) also supports the selection of the survey method for data collection, emphasizing certain conditions that warrant its use. These conditions include the nature of the research questions, the extent of control the investigator has over actual behavioral events, and the degree of focus on contemporary rather than historical events. Considering these conditions, the survey method aligns well with the research objectives and allows for the systematic collection of quantitative data to address the research questions effectively.

Table 3.3.1: Relevant Situations for Different Research Strategies

Research Strategy	Research Questions	Necessary management of behavioral occurrences	Focus on Contemporary Event
Experimentation	How, Why	Yes	Yes
Survey	Who, What, Where, How Much, How Many	No	Yes
Archival Analysis	Who, What, Where, How Much, How Many	No	Yes
History	How, Why	No	No
Case Study	How, Why	No	No

In this study, the research questions are framed with inquiries starting with "what" and "how," indicating a desire to understand phenomena, processes, and relationships (Yin, 1994). Additionally, the study focuses on contemporary events within the academic sector, seeking to explore the impact of Teacher Leaders on Classroom Climate, a dynamic and evolving aspect of educational environments. Furthermore, the study does not involve direct control over the behaviors of individuals being observed or studied, as it aims to investigate existing conditions rather than manipulate variables (Yin, 1994).

Given these characteristics, the survey method emerges as a suitable and pragmatic approach for data collection in this study. Surveys allow researchers to gather information from a large and diverse population efficiently, enabling them to explore the "what" and "how" questions posed in the research (Williams, 2021). Moreover, surveys are well-suited for studies focusing on contemporary events, as they provide a snapshot of current perspectives, attitudes, and experiences (Yin, 1994).

By employing surveys, the study can gather data on the perceptions and experiences of participants regarding Teacher Leaders and Classroom Climate across multiple universities or academic institutions. This methodological choice aligns with the research objectives, offering a practical means of addressing the research questions and gaining insights into the dynamics of Teacher Leadership in academic settings. Thus, the survey strategy proves to be appropriate and feasible for examining the impact of Teacher Leaders on Classroom Climate in the academic sector.

3.3.1   Construction of Research Instrument

Development of a research tools is a crucial process. In this study, two questionnaires were used to collect data in 1st Phase. These questionnaires were adapted by the researchers in the light of models that were used as theoretical foundation of the study. For quantitative data close ended questionnaire was suitable to get desired data on concerning research problem. Details of data collection tool for phase I as below:

- Demographic Section
- Teacher Leadership Scale.
- Classroom Climate Inventory.

Particulars of research tools are given under:

3.3.1.1   Demographic Data

In the research instrument, demographic data serves as a crucial component of the questionnaire, enabling researchers to gather essential information about the characteristics of the study population. Demographics encompass a range of attributes that define individuals within a population, such as gender, age, education level, occupation, income, marital status, and work experience (Baron & Kenny, 1986). These demographic variables offer valuable insights into the composition and diversity of the participant pool.

Including demographic data in the questionnaire serves multiple purposes. Firstly, it facilitates the segmentation of data into various groups based on demographic characteristics during the analysis phase. This segmentation allows researchers to examine patterns, trends, and associations within specific demographic categories, providing deeper

insights into the research findings. For instance, analyzing responses based on age groups or educational backgrounds may reveal nuanced differences in perceptions or behaviors related to Teacher Leaders and Classroom Climate (Baron & Kenny, 1986).

Moreover, demographic information aids in the comprehensive profiling of the study participants. By collecting data on demographics such as age, gender, and professional background, researchers gain a clearer understanding of the characteristics of the individuals contributing to the study. This detailed profiling enhances the interpretation of research findings and enables researchers to contextualize the results within the broader demographic landscape (Baron & Kenny, 1986).

In this study, the inclusion of demographic information in the questionnaire serves the purpose of obtaining detailed insights into the respondents of Phase I, who provide quantitative data through surveys. Additionally, the demographic data facilitates the identification and selection of participants for Phase II, where qualitative data is gathered through interviews. By understanding the demographic makeup of the participant pool, researchers can tailor their approach and effectively engage with participants during both phases of the study. Thus, demographic information serves as a valuable tool for enhancing the comprehensiveness and relevance of the research findings (Baron & Kenny, 1986).

In the present study Rationale behind adding demographics information is to easily segregate teacher leaders from entire sample size moreover this information may help to approach the population of phase II.

3.3.1.2 Teacher Leadership Scale

Teacher Leadership Scale was adapted by the "REACH Model of Teacher Leaders" this model was presented by Meredeth in 2000 in his book Teachers as Leaders. Basically, this model was based on the leadership traits of classroom teachers who are not only perform well in classroom settings but also contribute their leadership skills in school improvement. This tool was comprised of 5 subsection and each section has 10 question statements that was measured by Five-point Likert scale.

Selecting Likert scale for questionnaire is another worthwhile decision because nature of responses based on the type of Likert scale (Loseby & Wetmore,2012). In the current study question statements was based on agreement for having leadership attributes and practicing

different student-centered classroom climate strategies among teachers, that's why above mentioned 5-point likert scale (Strongly Disagree-Strongly Agree) was used to get opinion from selected sample. The Teacher Leadership Scale in this study utilized a 5-point Likert scale, ranging from "Strongly Disagree" to "Strongly Agree." Each section of the instrument targets a specific leadership attribute, as outlined in Table 3.3.2. Below is a breakdown of the coding for each construct:

- **Risk Taking**: The first section consists of 10 items coded as RT1 to RT10, designed to gauge the degree to which teachers are willing to take calculated risks in their leadership roles.

- **Effectiveness**: This construct includes 10 items (E11 to E20) that measure teachers' self-perceived effectiveness in leadership.

- **Autonomy**: The autonomy section, coded A21 to A30, consists of 10 items and assesses the level of independence teachers perceive in their leadership actions.

- **Collegiality**: Items in this section (C31 to C40) evaluate the collaborative and supportive aspects of teacher leadership.

- **Honesty**: The final construct, honesty, is represented by items coded H41 to H50, focusing on the integrity and ethical standards maintained by teacher leaders.

By using this consistent coding structure, the study captures the diverse dimensions of teacher leadership and allows for detailed data analysis across the five constructs.

Table 3.3.2   Summary of Teacher Leadership Scale

Section	Constructs	No. of items	Coding range
1	Risk Taking	10	RT 1- RT 10
2	Effectiveness	10	E 11- E 20
3	Autonomy	10	A 21- A 30
4	Collegiality	10	C 31- C 40
5	Honesty	10	H 41- H 50

3.3.1.3   Classroom Climate Inventory

In the qualitative phase of the study, the third part of data collection focuses on the Classroom Climate Inventory, which is centered around various Classroom Climate techniques. To evaluate the effectiveness of these techniques, the researchers adapted the Classroom Climate Inventory specifically for use in the Management Sciences and Social Sciences departments of public sector universities in Islamabad. This data collection tool is rooted in the principles of Classroom Climate Enhancement, which encompass three main components: managing learning activities to address individual learning needs, fostering student participation in learning activities, and providing support to students in their learning endeavors.

The *Classroom Climate Inventory* instrument used in this study is based on three foundational principles of classroom climate as outlined by Sriklaub et al. (2015). These principles include: **Management of Learning Activities**, **Encouragement for Participation**, and **Support for Students to Achieve Learning**. The instrument consists of 17 items, divided across three sub-constructs:

1. **Management of Learning Activities**: Comprising 5 items, coded as MA1 to MA5, this section assesses teachers' effectiveness in organizing and managing learning activities in the classroom.

2. **Encouragement for Participation**: Including 7 items, coded as EP6 to EP12, this construct evaluates the extent to which teachers foster student engagement and active participation.

3. **Support for Student Learning**: Made up of 5 items, coded SL13 to SL17, this segment measures the support teachers provide to assist students in achieving learning objectives.

This tool utilizes a 5-point Likert scale (ranging from Strongly Disagree to Strongly Agree) to capture participants' perceptions across these three key aspects, ensuring reliable measurement of classroom climate within each sub-construct.

Table 3.3.3   Summary of Classroom Climate Inventory

Section	Variables	No. of items	Coding range
1	Management of Learning Activities	5	MA 1- MA 5
2	Encouragement for Participation	7	EP 6- EP 12
3	Support Students to achieve Learning	5	SL 13-SL 17

3.3.2   Validity of Questionnaire

In this study, two scales were utilized, and ensuring the validity of the questionnaire was deemed essential, as emphasized by Frankel and Wallen (2006). Validation of the questionnaire was conducted through assessments of face, content, and construct validity. Professionals were engaged to verify the face and content validity of the questionnaires. Their valuable feedback and suggestions were incorporated into both scales, leading to adjustments in the organization of items, the language used in the items, and the total number of questions. These modifications were crucial to ensure the clarity and relevance of the questionnaire items for the intended purpose of the study.

Additionally, confirmatory factor analysis was employed to establish construct validity. This statistical technique is commonly used to confirm the underlying structure of a measurement instrument by examining how well the observed data fit the hypothesized theoretical model. Through confirmatory factor analysis, the researchers assessed whether the items in the questionnaire accurately represented the latent constructs being measured. This rigorous validation process helped ensure the reliability and validity of the scales used in the study.

3.3.3   Reliability of research tool

Reliability is fundamentally concerned with the consistency and stability of research findings derived from a questionnaire or instrument (Smith, 2015). It evaluates the extent to which the instrument yields consistent results over repeated administrations. In assessing reliability, various statistical tests are employed to determine the extent to which the instrument produces consistent results.

In this study, reliability was assessed for both instruments used: the Teacher Leadership Scale and the Classroom Climate Inventory. The reliability of the Teacher Leadership Scale,

comprising 50 items, was evaluated using Cronbach's Alpha coefficient. The obtained result indicated a reliability coefficient of .95. Similarly, the reliability of the Classroom Climate Inventory, which consisted of 17 items, was also assessed using Cronbach's Alpha coefficient. The analysis yielded a reliability coefficient of .98 for this instrument. These reliability coefficients suggest that both instruments demonstrated a high level of internal consistency, indicating that the items within each instrument were highly correlated with one another.

3.4 Data Collection tool for Phase II

In the second phase of the study, the data collection tool was employed to offer a comprehensive interpretation of the statistical findings obtained in phase I. Interviews were conducted to delve deeply into the leadership qualities of teacher leaders and their approaches to maintaining classroom dynamics. This method was chosen to provide nuanced insights into the viewpoints and experiences of students under the guidance of teacher leaders (Morgan, 1997; Krueger & Casey, 2015).

3.4.1 Data Collection Tool Construction (Phase II)

In the second (Qualitative) Phase of the study 16 questions were asked by the researcher to the students. These questions were based on the previous questionnaire that was earlier developed for teachers but the main difference in both data collection tools were nature of respondents. In the second phase students were asked to give a suitable answer according to their experience and knowledge to the concerned questions. Keeping in view the feasibility for students to answer the questions during given time researcher provide work sheet to interviewee in which interview questions were written in the form of open-ended questionnaire.

3.5 Pilot Testing

Pilot testing serves as a critical preliminary step in refining and enhancing the reliability of research instruments (Johnson et al., 2016). In the context of this study, pilot testing was conducted to evaluate the questionnaire designed for data collection in the initial quantitative phase. This trial involved a small group of participants from the target population, who completed the questionnaire and provided feedback on its clarity and comprehensibility (Smith & Alisat, 2019). The feedback obtained from the pilot testing was carefully analyzed to identify any potential issues or confusion within the questionnaire, ensuring its content validity and appropriateness

(Johnson et al., 2016; Smith & Alisat, 2019). The iterative nature of pilot testing aids in enhancing the quality and effectiveness of the research instrument, ultimately contributing to the robustness of the study's findings (Johnson et al., 2016).

Prior to commencing actual data collection, conducting pilot testing was considered essential. The pilot testing aimed to address several key aspects:

1. Identifying any need for addition or elimination of variables within the demographic sheet.

2. Assessing the relevance between the Teacher Leadership Scale and Classroom Climate Inventory.

3. Evaluating the appropriateness and comprehensiveness of the language used in the questionnaires.

The primary purpose of pilot testing is to identify potential problems before formally beginning the actual research, thereby saving time, effort, and resources. Pilot testing serves two main purposes: firstly, to assess the consistency and appropriateness of the research instrument in providing reliable results, and secondly, to evaluate the suitability of the chosen method of data collection for the specific context or population, including the time required to complete the instrument.

A pilot study was conducted to facilitate the evaluation of data collection procedures and validate the tools utilized in the study. In order to ensure the authenticity of the Teacher Leadership Scale and Classroom Climate Inventory, they were administered on a small scale. Thirty questionnaires of each type were distributed to faculty members from both the Management and Social Sciences Departments of public universities. However, these thirty respondents were later excluded from the final sample of the study. Prior to the commencement of the pilot testing, it was ensured that these individuals shared similar characteristics with the respondents of the main study. The researcher personally communicated with each participant and requested their valuable time and responses by filling out the questionnaires.

3.5.1   Validity of Tools

Validity is a crucial aspect of research methodology, ensuring that the tools used to measure research variables accurately capture the intended concepts (Creswell & Creswell, 2018). In the

context of this study, which examines the influence of teacher leaders on classroom climate, establishing the validity of research instruments is paramount for ensuring the credibility and dependability of research findings.

The significance of validity lies in its direct impact on the trustworthiness of research outcomes (Trochim & Donnelly, 2008). Valid instruments guarantee that the data collected genuinely reflect the constructs being studied (Burns & Grove, 2019). Conversely, instruments lacking validity can lead to misleading results and erroneous conclusions. Therefore, researchers must meticulously assess and enhance the validity of their measurement tools.

To ensure the validity of the research tools in this study, several measures were employed. Firstly, the questionnaire items were carefully developed based on established theoretical frameworks, such as the REACH model of Teacher Leadership (Merideth, 2000) and the Classroom Climate Measurement model (Sriklaub, Wongwanich & Wiratchai, 2014). This alignment with theoretical concepts ensures that the items effectively measure the intended constructs.

Pilot testing also played a vital role in the validation process. By administering the questionnaire to a small sample and analyzing their responses, potential issues with item wording, clarity, and comprehensibility were identified and addressed. This iterative process of refinement ensures that the instrument is easily understandable and accurately measures the targeted concepts (Creswell & Creswell, 2018).

In addition to pilot testing, the questionnaires underwent validation by a committee of experts in education and management sciences. Their feedback and recommendations led to further improvements in the instruments, ensuring their alignment with research objectives and theoretical frameworks.

Furthermore, the questionnaire's internal consistency and reliability were assessed using Cronbach's alpha coefficient. This statistical measure indicates the extent to which items within the questionnaire consistently measure the same underlying construct. A higher Cronbach's alpha value signifies stronger internal consistency, thereby enhancing the validity of the instrument.

In conclusion, ensuring the validity of research instruments is essential for maintaining the rigor and credibility of research findings. By aligning questionnaire items with theoretical frameworks, incorporating expert insights, conducting pilot testing, and evaluating internal consistency, this study ensures that the instruments effectively capture the essence of teacher leadership attributes and classroom climate. Valid instruments enhance the quality and reliability of research outcomes, thereby contributing to the advancement of knowledge in the field.

3.5.2   Proof Reading of Tool

Proofreading plays a crucial role in ensuring the quality and reliability of research tools within the study investigating "The Impact of Teacher Leaders on Classroom Climate at Higher Education Level." This process involves a meticulous examination of written materials by experts to identify and rectify any language and grammatical issues (Johnson & Johnson, 2019). The primary aim of proofreading is to uphold the accuracy, clarity, and consistency of the research tools, including the questionnaire, interview queries, and the final research report.

In the context of this study, proofreading serves as a vital step in refining the written materials to meet high standards of academic integrity and professionalism (Smith & Brown, 2020). Experts meticulously review the research tools to identify potential grammatical errors, such as incorrect word usage, sentence structure issues, spelling mistakes, punctuation errors, and inconsistencies in formatting (Williams & Garcia, 2018). By addressing these linguistic and grammatical concerns, proofreading enhances the overall readability and comprehensibility of the research tools, ensuring that they effectively convey the intended message to respondents and readers alike.

Furthermore, proofreading contributes to the credibility and trustworthiness of the research findings by presenting them in a polished and error-free manner (Taylor & Thomas, 2017). By eliminating language and grammatical errors, proofreading helps to maintain the integrity of the research process and enhances the researcher's reputation for scholarly rigor and attention to detail (Miller et al., 2021). Ultimately, the rigorous proofreading of research tools enhances their effectiveness as instruments for data collection and analysis, thereby strengthening the overall validity and reliability of the study's findings.

3.5.3   Reliability of Tool

Reliability is a fundamental aspect in evaluating the trustworthiness and consistency of research tools, such as questionnaires and surveys, utilized in a study (Huck, 2007; Robinson, 2009). In the context of our ongoing investigation into "The Impact of Teacher Leaders on Classroom Climate at Higher Education Level," ensuring the reliability of our research tools, particularly the questionnaire assessing teacher leadership attributes and classroom practices, holds paramount importance. The overarching goal is to obtain consistent measurements of the same constructs over time and across different conditions, thereby enhancing the credibility of our study's findings and the validity of our conclusions (Wilson, 2010; Cronbach, 1951).

Techniques like Cronbach's alpha provide a means to assess the internal consistency of our research tools, indicating the degree to which the items within a scale or construct consistently measure the same underlying concept. In our study, Cronbach's alpha was employed to test the reliability of the research instruments utilized as data collection tools (Wilson, 2010). Specifically, the reliability of the first tool, the Teacher Leadership Scale, was analyzed using SPSS version 20. The results revealed a Cronbach's Alpha Coefficient of 0.78, demonstrating satisfactory internal consistency (Cronbach, 1951). These findings are presented in detail in Table 3.5.1

Table # 3.5.1   Reliability of Teacher Leadership Scale (Pilot Testing)

Variable	No of items	Cronbach's Alpha
Teacher Leaders	50	.78

Moreover, reliability of second questionnaire; Classroom Climate Inventory was also analyzed through Cronbach's Alpha and Coefficient obtained was .80 that is show in table # 3.52

Table 3.5.2   Reliability of Tool for Classroom Climate Inventory (Pilot Testing)

Variables	No of items	Cronbach's Alpha
Classroom Climate	17	.80

3.6   Population

The population in a research study refers to the entire group of individuals or elements that share a common characteristic and are of interest to the researcher for a particular investigation (Johnson & Christensen, 2008). Understanding the population is crucial as it delineates the scope and generalizability of research findings, providing researchers with a clear understanding of the target group for whom the research outcomes are intended (Smith & Brown, 2015). Identifying and defining the population helps ensure that research outcomes are applicable and relevant to the specific group under study, establishing the boundaries within which the findings will be valid and applicable (Johnson & Christensen, 2008).

L.R. Gay (2011) expands on the concept of population as the group of interest to the researcher, where the research is conducted. It typically consists of a large collection of people or objects that form the primary focus of a scientific inquiry. In the context of the current study, aimed at investigating the impact of Teacher Leaders on Classroom Climate among university teachers in public sector universities of Islamabad, the population for phase I comprises faculty members teaching in the departments of Management Sciences and Social Sciences.

3.6.1   Population for Phase I

To identify the study population, the researcher consulted the Higher Education Commission (HEC) database, which provides updated records of universities. The study specifically targeted public sector universities in Islamabad, the federal territory of Pakistan. Within these universities, the focus was placed on faculty members teaching in the departments of Social Sciences and Management Sciences. According to the HEC database (2022–2024), the total population for the quantitative phase comprised 1,014 teachers, of which 663 were serving in the Faculty of Social Sciences and 351 in the Faculty of Management Sciences.

The selection of public sector universities in Islamabad as the population of this study ensures that the research outcomes remain directly relevant to the context of interest, namely, examining the impact of Teacher Leaders on Classroom Climate in higher education. By focusing on faculty members from Social Sciences and Management Sciences, the study narrows its scope to individuals actively engaged in teaching and administrative responsibilities within disciplines that significantly shape student learning and institutional culture. This targeted approach allows

for a comprehensive exploration of the research question in a defined yet highly relevant academic context.

Moreover, selecting universities instead of schools is justified by the fact that teacher leadership manifests more autonomously and holistically in higher education settings, where faculty members enjoy greater academic freedom, collegiality, and responsibility for shaping classroom climate. In universities, the role of teacher leaders extends beyond instructional delivery to curriculum development, mentoring, collaborative decision-making, and fostering innovation, making them an ideal population for investigating leadership impacts. This enhanced academic and organizational autonomy in higher education provides a richer ground for exploring how teacher leadership influences classroom climate compared to the relatively structured and hierarchical school settings.

Table 3.6.1   List of Universities as a Population (Phase I)

Sr No	List of Universities	Teachers of FSS	Teachers of FMS	Total
1	International Islamic University, Islamabad	109	57	**166**
2	National University of Modern Languages, Islamabad	51	20	**71**
3	Quaid-e-Azam University, Islamabad	103	15	**118**
4	Allama Iqbal Open University, Islamabad	90	24	**114**
5	Federal Urdu university of Arts, Science and Technology Islamabad	36	21	**57**
6	National university of science and Technology Islamabad	56	57	**113**
7	COMSATS University, Islamabad.	131	91	**222**
8	Bahria University, Islamabad	48	37	**85**
9	Air University, Islamabad	39	29	**68**
	Total	663	351	**1014**

Source: www.hec.gov.pk
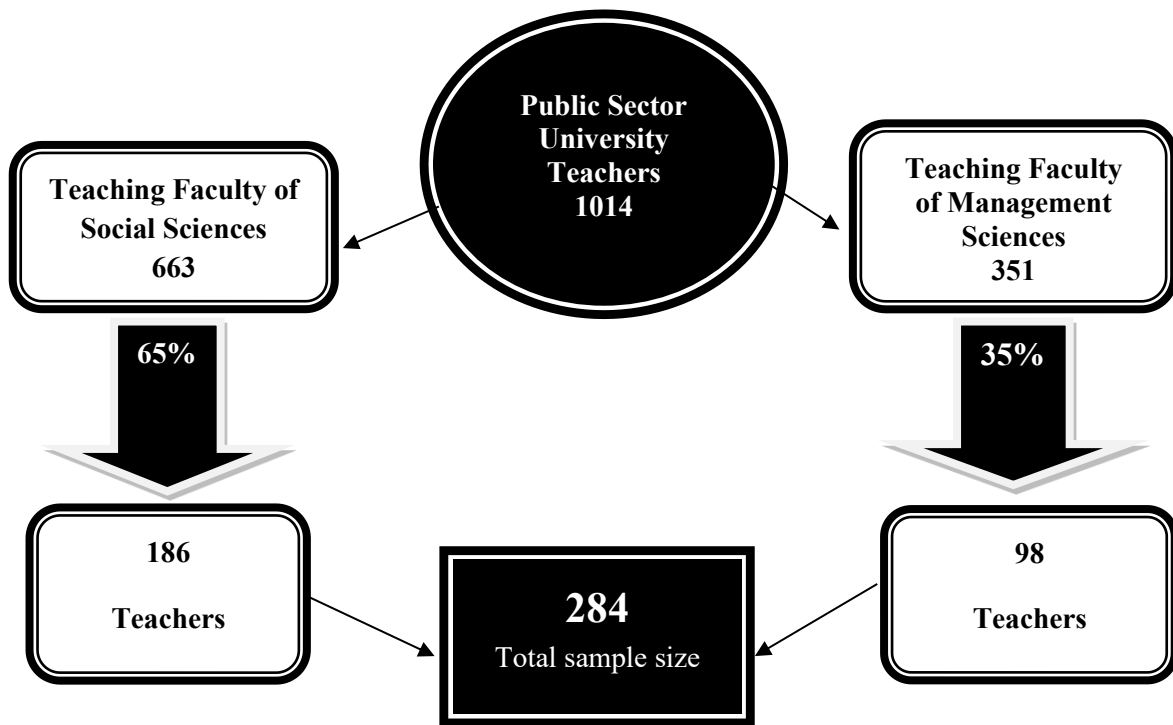
Figure 4 Description of phase I Population

3.6.2 Population for Phase II

For the second phase of current research all the students who were currently enrolled in BS programs Management Sciences and Social sciences department at public sectors in Islamabad were the population of the study. Moreover, according to HEC Data base 2022-2024 total population for qualitative phase were 95769, in which 46121 students were studied in Faculty of Social Sciences and 49648 students were studied at Faculty of Management Sciences.

Table 3.6.2   No of Students as a Population (Phase II)

Sr No	Public sector universities	No of students		Total
		FSS	FMS	
1	International Islamic University, Islamabad	9677	3386	13063
2	National University of Modern Languages, Islamabad	6981	7528	14509
3	Quaid-e-Azam University Islamabad	1777	981	2758
4	Allama Iqbal Open University, Islamabad	20818	25971	46789
5	Federal Urdu university of Arts, Science and Technology Islamabad	522	1662	2184
6	National university of science and Technology Islamabad	1387	1567	2954
7	COMSATS University, Islamabad	1388	2731	4119
8	Bahria University, Islamabad	3226	4302	7528
9	Air University, Islamabad	345	1520	1865
	Total	46,121	49,648	**95769**

Source: www.hec.gov.pk

3.7   Sampling

In research methodology, a sample is a subset of the population that is selected for data collection purposes, typically due to practical constraints such as time, cost, and feasibility (Arikunto, 2002). As Arikunto describes, it is essentially a smaller, manageable portion of the larger population from which it is drawn. Samples are crucial in research as they allow researchers to gather data efficiently and effectively, especially when it is impractical or impossible to study the entire population. However, the representativeness of the sample is paramount, ensuring that the findings obtained from the sample can be generalized to the entire population (Creswell, 2012).

To further elaborate, a sample comprises individuals, objects, or items selected from the population to obtain information about a specific problem within a limited timeframe (Education Centre, The Hillingdon Hospital, 2006). In the context of the current study, which employs a mixed-methods approach focusing on teachers and their students in the Social Sciences and Management Sciences departments of public sector universities, selecting a representative sample is essential due to the large size of both groups. Given the practical constraints, it would be unfeasible for the researcher to study the entire population within the available timeframe.

To address this, the researcher employed a stratified sampling technique in the quantitative phase (Phase I) of the study. This involved dividing the population into distinct subgroups, or strata, based on specific characteristics—in this case, the departments within the universities. By stratifying the population, the researcher ensured that each department was represented proportionally in the sample, thereby enhancing the representativeness of the findings.

Furthermore, it is important to consider the hierarchical nature of the sample structure, where students are nested within teachers, and teachers are nested within public universities. This multilevel nesting can significantly influence the relationships being studied, such as the impact of teacher leadership on classroom climate. Failing to account for this nesting can lead to inflated R^2 values and biased significance levels, as standard regression techniques do not adequately address the dependency of observations within nested groups (Raudenbush & Bryk, 2002). Therefore, employing multilevel modeling techniques is essential for accurately estimating these relationships and providing a clearer understanding of how teacher leadership affects classroom climate while accounting for the hierarchical data structure (Hox, 2010).

In the qualitative phase (Phase II) of the study, a purposive sampling technique was utilized to select the sample. Purposive sampling involves deliberately selecting individuals or cases that possess certain characteristics or experiences relevant to the research objectives (Palinkas et al., 2015). In this instance, the researcher targeted participants who could provide valuable insights into the impact of teacher leaders on classroom climate, such as students who had direct experience with teacher leaders.

Overall, the careful selection of samples using appropriate sampling techniques is essential for ensuring the validity and generalizability of research findings. By employing stratified sampling and purposive sampling, alongside consideration of the multilevel nesting structure, the researcher in the current study ensured that the selected samples accurately represented the larger populations of interest, allowing for meaningful and insightful analysis.

3.7.1 Sampling Technique (Phase I)

In the initial phase of this study, Proportionate Stratified Sampling was utilized to select the required number of faculty members of public sector universities from the two distinct strata: Social Sciences and Management Sciences Department. This technique was specifically chosen

due to the significant difference in the number of faculty members between the two sectors. Stratified Sampling involves dividing the population into distinct subgroups, or strata, based on relevant characteristics. Each subgroup is then sampled proportionally to its size in the overall population (Smith, 2020). The objective is to ensure adequate representation of each subgroup in the sample, minimizing bias and increasing sample diversity.

By employing stratified sampling, researchers can make accurate and reliable conclusions about the entire population, as each subgroup is adequately represented. This method helps in capturing the diversity within the population and allows for comparisons between subgroups, revealing patterns and trends that might not be apparent in a simple random sample (Smith, 2020). In the context of this research study focusing on faculty members from Social Sciences and Management Sciences departments in public sector universities of Islamabad, these departments represent distinct subgroups.

Stratified sampling ensures proportional representation of faculty members from each department in the sample, enhancing the precision and validity of the findings. This approach enables researchers to uncover nuances and differences between departments, providing a comprehensive understanding of the impact of teacher leaders across different academic areas.

In Proportional Stratified Sampling, members are selected from each stratum with the same ratio, based on random selection. This ensures fairness and unbiased representation of each subgroup within the population (Palys, 1997; Smith, 2020). This sampling technique allows for the inclusion of diverse perspectives and characteristics, leading to more accurate and meaningful research outcomes.

Overall, Proportionate Stratified Sampling is essential in this study to ensure fair and representative selection of faculty members from different departments, ultimately enhancing the validity and reliability of the research findings.

In the context of existing study based on the impact of Teacher Leaders on Classroom Climate, proportionate stratified sampling proves to be valuable. By focusing on specific departments, such as Social Sciences and Management Sciences, the technique allows us to ensure that our sample accurately represents the distribution of teachers within these departments. This is especially

important when these departments might have different sizes or compositions within the larger population.

3.7.1 Sampling Technique table for Phase I

Sampling Technique	Phase	Justification	Reference
Proportionate Stratified Sampling	Quantitative Phase	Creswell and Plano Clark (2017) explain that in mixed-methods research, different sampling techniques are often used for each phase because they align with the distinct goals of quantitative and qualitative approaches. Proportionate stratified sampling is typically used to ensure representativeness in the quantitative phase, enabling the results to be generalizable.	Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and Conducting Mixed Methods Research* (3rd ed.). SAGE Publications.

3.7.2 Sampling Technique (Phase II)

The second phase of this study was dedicated to capturing the in-depth perceptions and experiences of students under the mentorship of Teacher Leaders. This qualitative phase employed Purposive Sampling, "a targeted and strategic technique, to ensure a focused exploration of the research phenomenon" (Patton, 2002).

Purposive sampling is a non-random sampling technique where the researcher deliberately selects specific individuals, cases, or groups based on their unique qualities or characteristics that are relevant to the research objectives (Patton, 2002). In the context of your study's second phase, which focuses on qualitative data collection through interviews with students of teacher leaders, purposive sampling was chosen for its targeted and specific approach.

The purpose of using Purposive Sampling in Phase II of the study was to capture in-depth and context-rich insights from a select group of students who have direct experience with teacher leaders. Rather than randomly selecting participants, purposive sampling allowed for the deliberate identification of individuals with in-depth knowledge of the subject matter. who possess valuable information related to the impact of teacher leaders on classroom climate.

The rationale behind adopting purposive sampling in this phase was rooted in the aim to gather comprehensive and contextually rich data. By selecting students who had experienced teacher leadership firsthand, the study aimed to uncover detailed narratives, perceptions, and reflections. This deliberate selection process ensured that the collected data would be highly relevant to the research objectives, contributing substantively to the exploration of the impact of teacher leaders on classroom climate.

In comparison to other techniques, such as Random or Convenience Sampling, Purposive Sampling stands out for its ability to target participants who possess the specific knowledge and insights crucial for your study's qualitative phase. This tailored approach ensures that the collected data are highly relevant and can offer rich insights into the impact of teacher leaders on classroom climate, reinforcing the overall credibility and depth of your research findings (Creswell, 2013).

3.7.2 Sampling Technique Table for Phase II

Sampling Technique	Phase	Justification	Reference
Purposive Sampling	Qualitative Phase	Creswell and Plano Clark (2017) explain that purposive sampling is crucial in the qualitative phase to select participants who can provide rich, detailed insights, often exploring particular aspects of the research topic that the quantitative data might not cover. Similarly Teddlie and Yu (2007) explains	Creswell, J. W., & Plano Clark, V. L. (2017). *Designing and Conducting Mixed Methods Research* (3rd ed.). SAGE Publications.

Teddlie, C., & Yu, F. (2007). *Mixed Methods Sampling: A Typology with Examples*. Journal of Mixed Methods |

| | that purposive sampling allows the qualitative phase to focus on participants who are most likely to provide in-depth, relevant insights. | Research, 1(1), 77-100. |

3.8 Sample Size

Determining an appropriate sample size is a crucial aspect of research methodology, as it directly influences the quality and reliability of research findings. A well-calculated sample size ensures the accuracy of statistical analyses, the generalizability of results to the larger population, and the ability to detect meaningful patterns or differences (Smith, 2010). Achieving an ideal sample involves balancing the needs of efficacy, representativeness, reliability, and flexibility of the entire population under study. Therefore, researchers must carefully consider sample size before initiating the research process to ensure its adequacy and appropriateness (Creswell, 2012).

The accurate calculation and selection of sample size serve several important purposes. Firstly, it aims to obtain statistically significant results that accurately reflect the characteristics of the population. Additionally, determining an appropriate sample size ensures that research resources, including time and funding, are used efficiently and ethically (Smith, 2010).

In the current study, the population of **1014** individuals were divided into two strata: one comprising **663** individuals and the other comprising **351** individuals. To maintain equal representation from both strata, the decision to select **65%** of the sample from the Faculty of Social Sciences (FSS) and **35%** from the Faculty of Management Sciences (FMS) was based on the proportional representation of these strata in the overall population. Stratified sampling is considered effective when subgroups within a population vary in size, as it ensures that each subgroup is represented in the sample according to its actual prevalence in the population (Creswell & Creswell, 2018; Taherdoost, 2016). In the present study, the FSS had a substantially larger number of teachers than the FMS; therefore, a greater proportion of the sample was allocated to the FSS to maintain representativeness and reduce sampling bias. This proportionate allocation

approach enhances the precision of estimates, ensures equitable representation of both strata, and improves the external validity of the findings (Etikan & Bala, 2017).
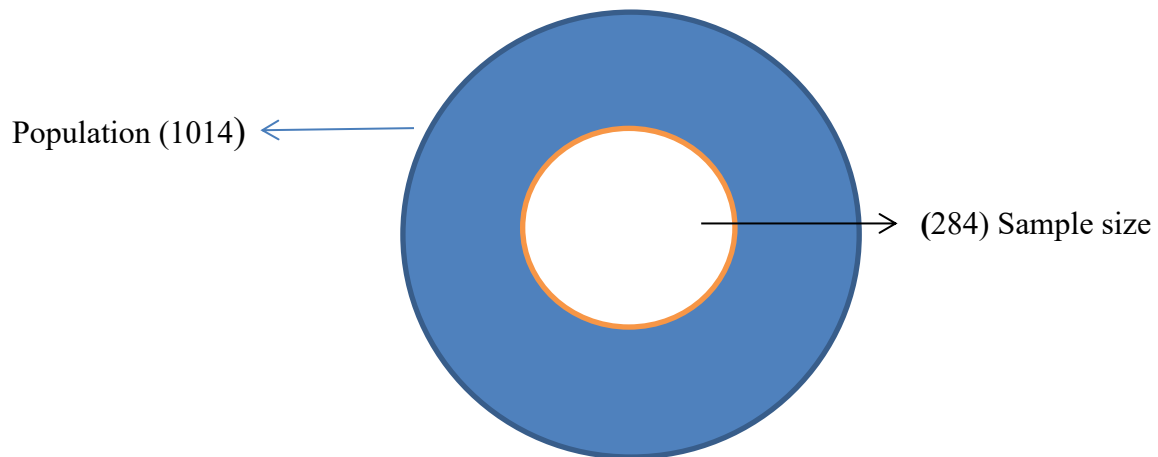
Figure 5 Sample Size Description (Phase I)

The sample size (284) was taken from following universities according to the feasibility of the researcher.

3.8.1 Sample Size Description for Phase I

Universities	Teachers of FSS	Teachers of FMS	Total Sample	Rate of return (96%)
	(65% n)	(35% n)		
1	31	16	47	45
2	14	6	20	19
3	29	4	33	32
4	25	7	32	31
5	10	6	16	15
6	16	16	32	31
7	37	25	62	60
8	13	10	23	22
9	11	8	19	18
Total	186	98	284	273

3.8.2 Sample size for phase II

In Phase II, Sample size was selected through Purposive sampling technique for this purpose 2 students of each Teacher Leader were selected as sample size. Sample size for phase II was based on the identification of Teacher Leaders, so the total sample size of qualitative phase (II) was **110.**

Universities	Teacher Leaders	Students	Data Obtained	Rate of return
1	4	8	5	63%
2	6	12	11	92%
3	5	10	8	80%
4	7	14	13	93%
5	8	16	14	86%
6	6	12	10	83%
7	4	8	7	86%
8	10	20	19	95%
9	5	10	9	90%
Total	**55**	**110**	**96**	**87%**

3.9   Data Collection

The data collection process for the study "The Impact of Teacher Leaders on Classroom Climate at Higher Education Level" was meticulously planned and executed to ensure the acquisition of accurate and reliable data that aligned with the research objectives. It comprised several sequential stages, each designed to facilitate the collection of both quantitative and qualitative data.

3.9.1   Preparation and Instrument Development

The preparation and development of research instruments were carefully planned to accurately capture the constructs central to this study: teacher leadership attributes and classroom climate. This process involved crafting a detailed questionnaire and structured interview questions tailored specifically to obtain insights from teaching faculty members. Given the complexity of these constructs, the researcher determined that Confirmatory Factor Analysis (CFA) was necessary to validate the questionnaire's structure before collecting data, ensuring that it reliably measured the underlying theoretical dimensions of teacher leadership and classroom climate (Byrne, 2016; Kline, 2015).

The rationale for choosing CFA over other validation methods lies in its ability to rigorously confirm the factor structure based on pre-established theoretical constructs. While exploratory methods like Exploratory Factor Analysis (EFA) are often used in the initial stages of tool development to uncover potential factor structures, CFA is unique in its capacity to test specific hypotheses regarding the relationships between observed items and latent constructs (Hair et al., 2019). The researcher's intent was to verify that each item in the questionnaire effectively corresponded to a specific aspect of teacher leadership or classroom climate, as suggested by the theoretical framework. Through CFA, each subdomain could be validated against its respective latent construct, ensuring the theoretical model's structural integrity within the research context (Brown, 2015).

In developing this instrument, the researcher was particularly mindful of ensuring both reliability and interpretability. By employing CFA, the researcher could precisely determine whether the data fit the hypothesized structure, allowing any adjustments to be made before full-scale data collection. For instance, items that did not load significantly onto their intended latent variables could be identified and potentially refined or removed, resulting in a more focused and effective instrument. This process strengthened the tool's ability to capture the nuances of teacher leadership and classroom climate—dimensions often characterized by subtle, multifaceted interactions in educational settings.

Furthermore, the researcher recognized that validating the instrument within the specific context of this study—rather than relying solely on previous validation efforts from other studies—was essential for accurately reflecting the unique characteristics of the population in question. This focus on contextually-grounded validation aligns with best practices in educational research, emphasizing the importance of an instrument's relevance to its specific study environment (Creswell, 2012).

In summary, using CFA allowed the researcher to demonstrate that the instrument was both theoretically grounded and empirically validated. The resulting tool not only aligned with the anticipated subdomains of teacher leadership and classroom climate but also provided a reliable basis for collecting meaningful data that could contribute valuable insights into how these constructs interact in public university settings.

3.9.1.1 Confirmatory Factor Analysis

For the purpose of instrument development, researcher used Confirmatory Factor Analysis (CFA) detail of this analysis is here under:

3.9.1.2 Factor Loadings

In the Factor loadings of CFA following points are to be discussed:

According to below mentioned figure "T Leader" and "C Climate" is meant by Teacher Leader and Classroom Climate both of these are observed variables in a following diagram. Moreover, Latent variables were also mentioned in this diagram by connecting arrows; these latent variables are actually constructs of both Teacher Leader and Classroom Climate. The arrows/straight lines that are connected with observed and latent variable are having factor loadings. Values of factor loading shows the strength of relationship between the variables. Error terms also shown the diagram these Error terms in statistical models, like Confirmatory Factor Analysis (CFA), serve the crucial role of accounting for unobserved factors or measurement inaccuracies. These terms allow the model to address discrepancies between the actual observed values and the values predicted by the model. By incorporating error terms, the model becomes more adept at accurately estimating parameters, enhancing the reliability of the analysis by acknowledging and accommodating inherent variability or imprecision in the observed data.
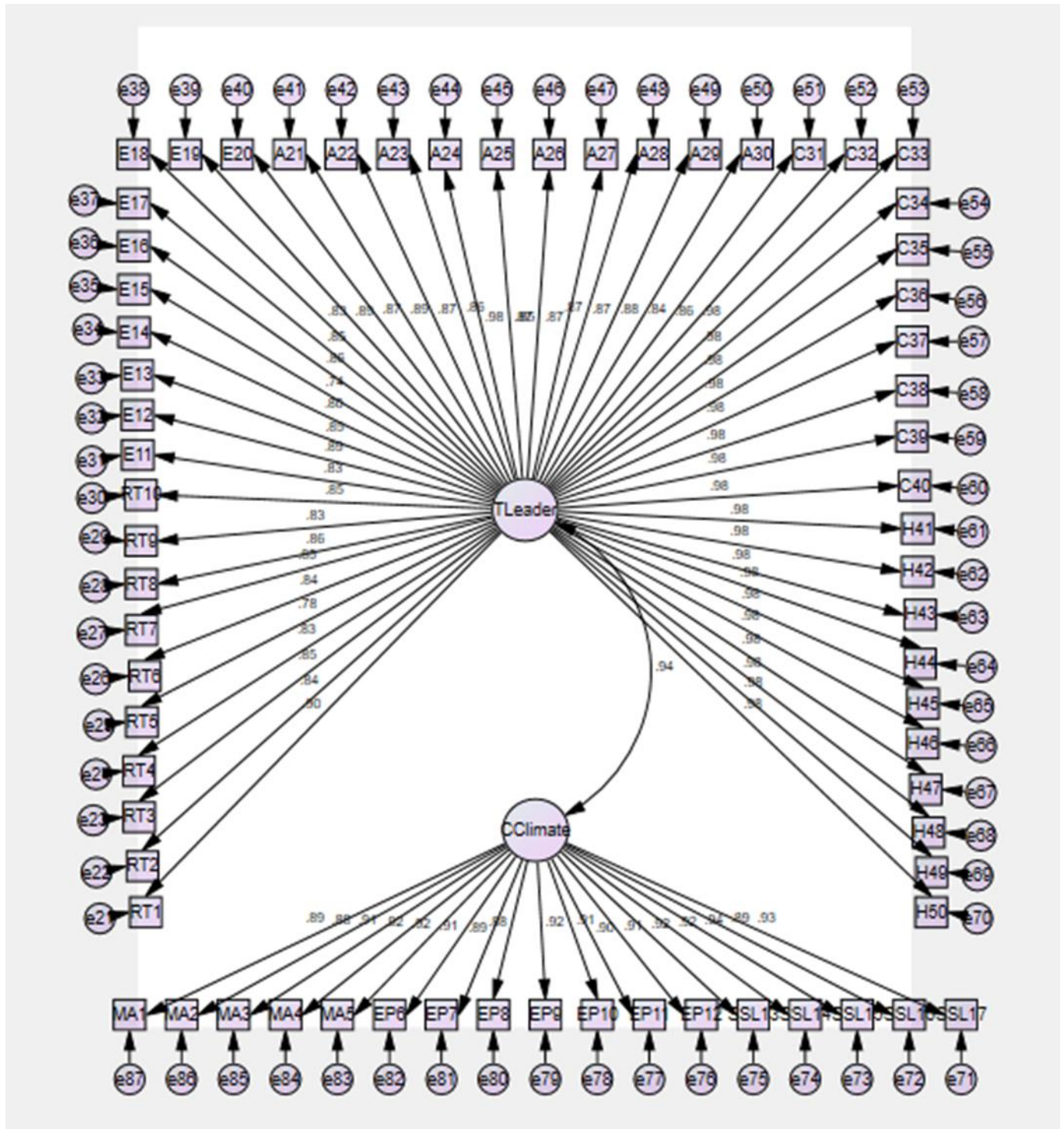
Figure 6 Factor Loadings of CFA

In Figure #6, the observed variables show a strong connection with each other, as indicated by their high factor loading of 0.94. This suggests a powerful and positive link between each observed variable and the latent factor, showing they are dependable indicators of the underlying construct.

For the latent variable, factor loadings ranging from 0.74 to 0.98 indicate strong relationships. These values, being close to 1 or -1, highlight the significant contribution of each variable to its respective latent factor. This closeness to 1 or -1 implies that changes in the observed variables strongly influence the latent construct, enhancing the overall reliability of the model.

In summary, the model effectively captures and represents the underlying constructs, with observed and latent variables playing crucial roles. The high factor loadings emphasize the reliability of the observed variables and the strong connections between the latent and observed variables, supporting the model's accuracy in measuring the targeted constructs in the statistical analysis.

Table 3.9.1.1   Two Factor & One Factor Model of CFA

Model	X^2 / df	CFI	NFI	TLI	RMSEA
2 Factor	2.50	.92	.91	.92	.07
1 Factor	3.00	.90	.89	.90	.08

Table 3.9.1.1 presents fit indices for the Two Factor and One Factor models in Confirmatory Factor Analysis (CFA), demonstrating both models meet the criteria for a good fit. In the **Two Factor Model**, the X^2/df ratio is 2.50, indicating minimal discrepancy between observed and expected data, which aligns well with acceptable fit standards. The Comparative Fit Index (CFI) value of .92, Normed Fit Index (NFI) of .91, and Tucker-Lewis Index (TLI) of .92 all fall within the good fit range, suggesting that the model provides a solid representation of the data structure. The Root Mean Square Error of Approximation (RMSEA) value of .07 further confirms a good fit with minimal error.

Conversely, the **One Factor Model** shows a slightly higher X2/dfX^2 / dfX2/df ratio of 3.00, which, while acceptable, indicates a less optimal fit compared to the Two Factor Model. The CFI value of .90 and TLI of .90 meet the threshold for good fit, while the NFI of .89 is close to this range, suggesting the model still provides an adequate fit to the data. The RMSEA value of .08, while acceptable, suggests a slightly greater degree of error compared to the Two Factor Model.

Overall, the Two Factor Model demonstrates better fit indices across multiple measures, indicating a more accurate representation of the underlying structure. This supports the theoretical

assumption that the constructs are better represented as two distinct factors rather than a single unified construct.
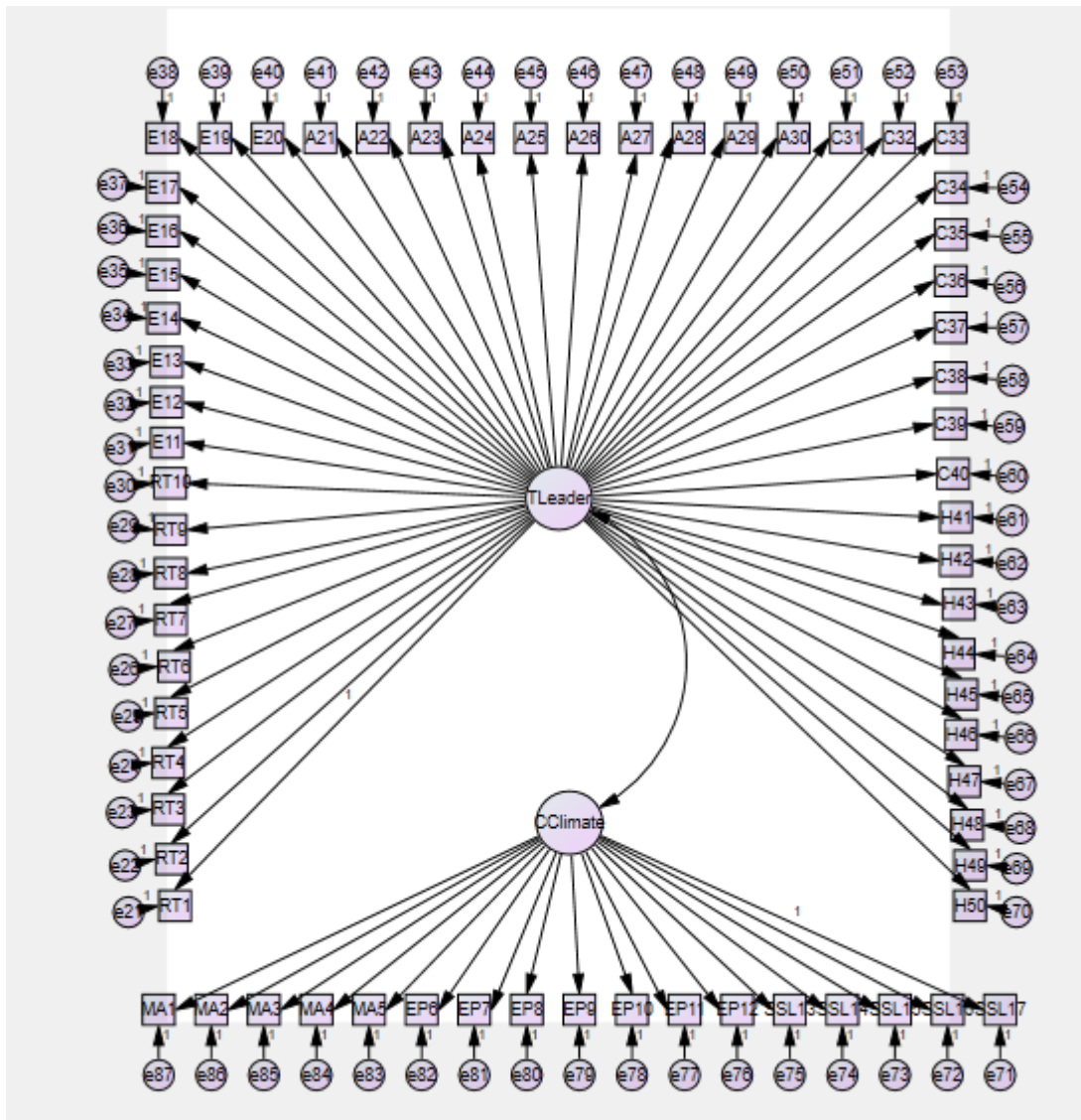
Figure 7 Two Factor Model Teacher Leaders & Classroom Climate

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3.9.1.3 Factor Analysis

Table 3.9.1.2   Single Factor Analysis of Teacher Leaders

Model	X^2 / df	CFI	NFI	TLI	RMSEA
1 Factor	2.50	.92	.91	.90	.07

In the **Table 3.9.1.2**, the single-factor model of Teacher Leaders demonstrates good fit indices across several key measures. The X^2/df ratio is 2.50, falling within the acceptable range for good model fit, indicating minimal discrepancy between observed and model-predicted data. The Comparative Fit Index (CFI) value of .92 and Normed Fit Index (NFI) of .91 suggest a good level of fit, implying the model adequately captures the underlying data structure. Additionally, the Tucker-Lewis Index (TLI) is .90, which meets the threshold for good fit, further supporting the single-factor structure. The Root Mean Square Error of Approximation (RMSEA) is .07, which also aligns with acceptable fit criteria, indicating a reasonable error level in the model.

Overall, these indices collectively suggest that the single-factor model provides an adequate fit to the data, supporting the construct validity of Teacher Leadership as a unified factor. However, while the fit is good, these values indicate room for potential refinement to further improve alignment between the theoretical construct and the observed data.
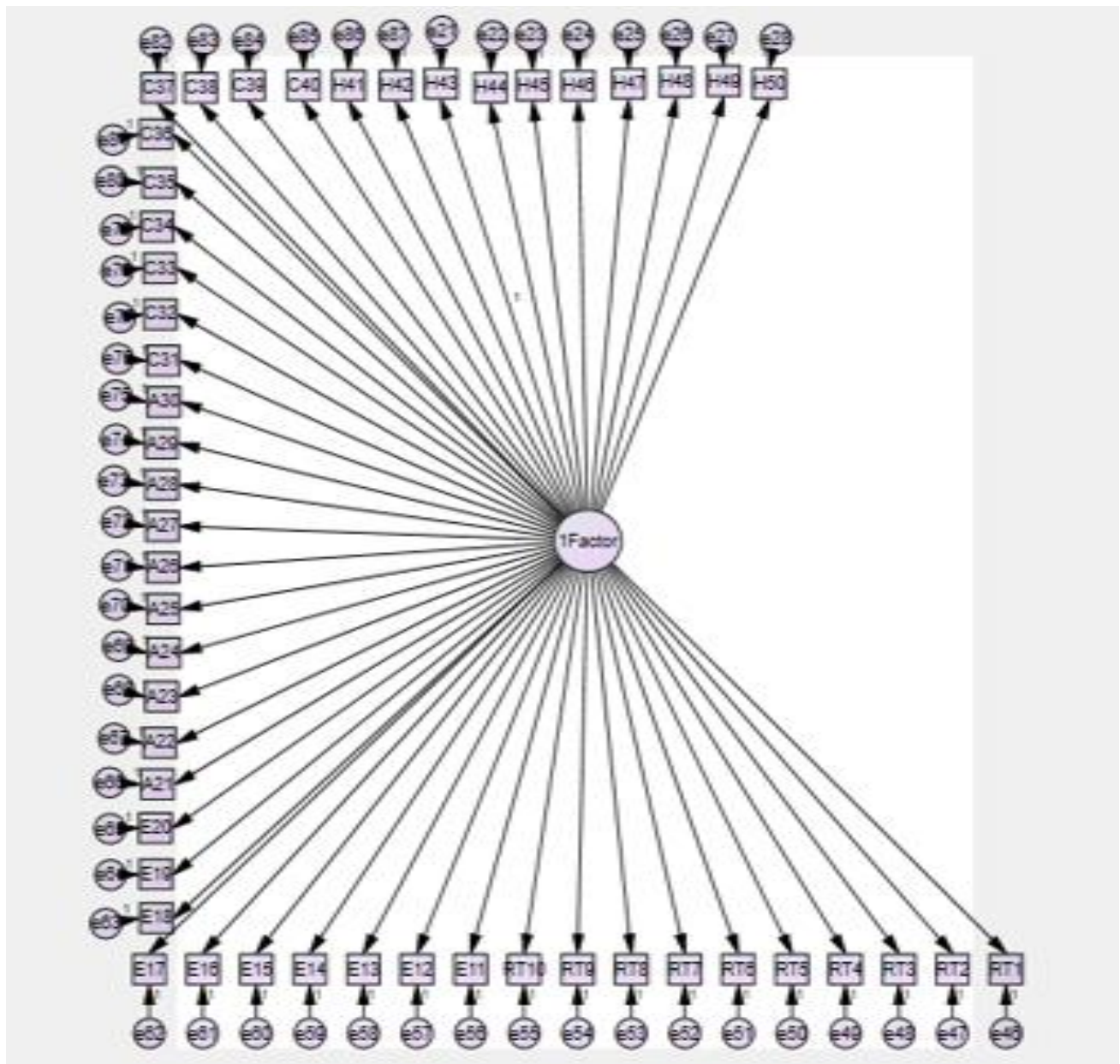
Figure 8 Single Factor Model of Teacher Leaders

Table 3.9.1.3   Five Factor Analysis of Teacher Leaders

Model	X^2 / df	CFI	NFI	TLI	RMSEA
5 Factor	2.80	.93	.91	.92	.06

 In the above **Table 3.9.1.4**, the five-factor model for Teacher Leaders demonstrates a good fit across multiple indices. The X^2/df ratio is 2.80, which falls within the commonly accepted range for a good model fit, suggesting that discrepancies between the observed data and model predictions are minimal. The Comparative Fit Index (CFI) of .93 and Normed Fit Index (NFI) of .91 both indicate a strong fit, meeting the threshold for a good model fit. Additionally, the Tucker-Lewis Index (TLI) of .92 supports the adequacy of the model structure, aligning with the theoretical assumptions.

The Root Mean Square Error of Approximation (RMSEA) of .06 falls below the .08 threshold, which indicates a close fit with minimal error in the model. Together, these fit indices suggest that the five-factor structure is a suitable representation of the data, providing a better alignment with the underlying theoretical constructs of Teacher Leadership. The good fit supports the validity of the model, indicating that the five factors may capture distinct yet related dimensions within the Teacher Leadership construct effectively.
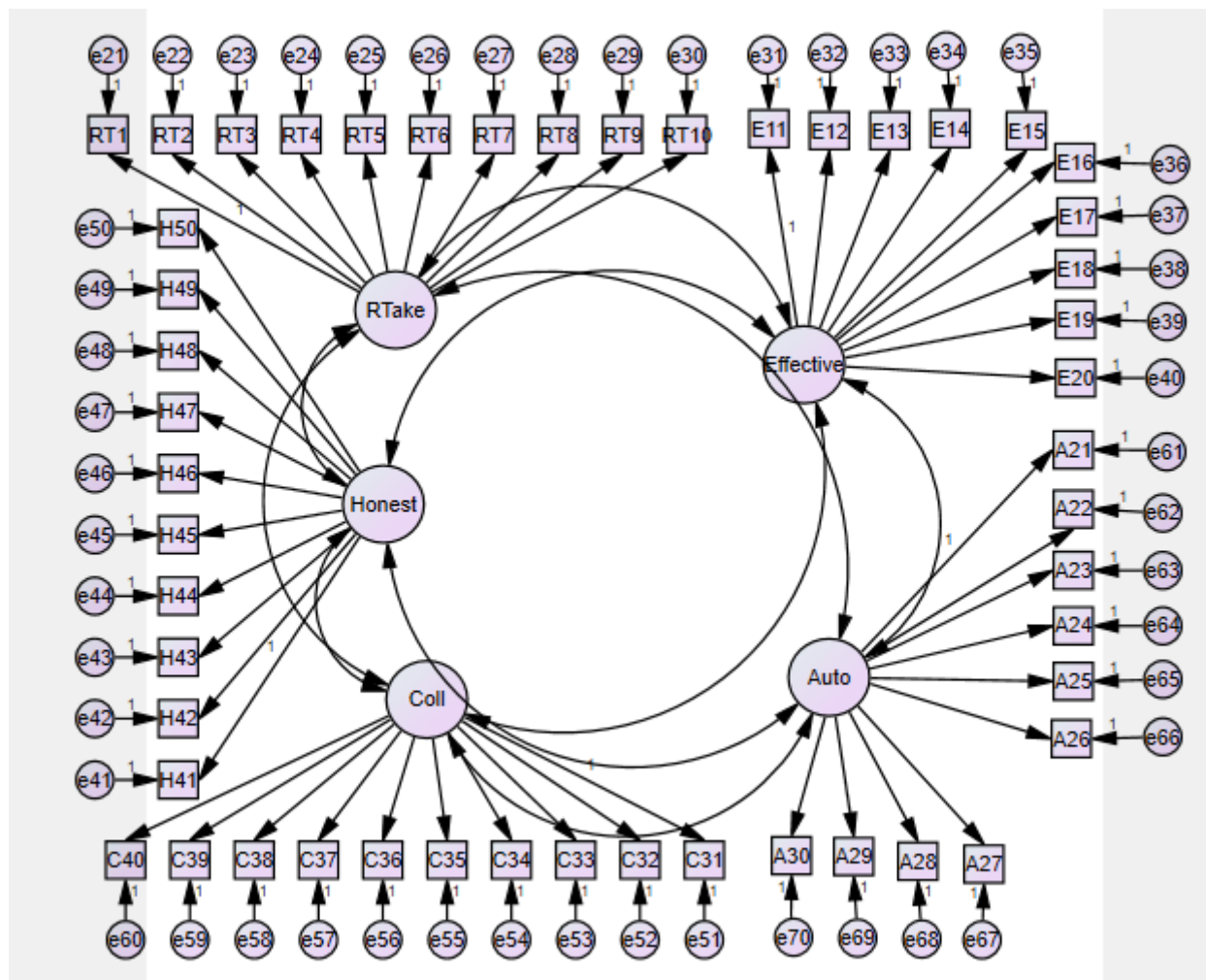
Figure 9 Five Factor Model of Teacher Leaders

Table 3.9.1.4 Three Factor Analysis of Classroom Climate

Model	X^2 / df	CFI	NFI	TLI	RMSEA
3 Factor	2.60	.91	.90	.89	.07

In **Table 3.9.1.5**, the three-factor model for Classroom Climate demonstrates good fit indices across all metrics evaluated. The X^2/df ratio is 2.60, which falls within the acceptable range for a good fit, indicating minimal discrepancies between the observed data and the model predictions. The Comparative Fit Index (CFI) of .91 and Normed Fit Index (NFI) of .90 suggest a strong model fit, with both values meeting the criteria for good fit performance. Furthermore, the Tucker-Lewis Index (TLI) of .89 is close to the acceptable threshold of .90, indicating a reasonable fit as well.

The Root Mean Square Error of Approximation (RMSEA) value of .07 also supports a good model fit, as it falls below the threshold of .08, signifying a close approximation of the model to the data. Collectively, these fit indices suggest that the three-factor structure effectively captures the distinct dimensions of Classroom Climate, reinforcing the validity of this model. This positive outcome supports the theoretical framework surrounding Classroom Climate, indicating that the factors included in the model align well with the constructs being measured.
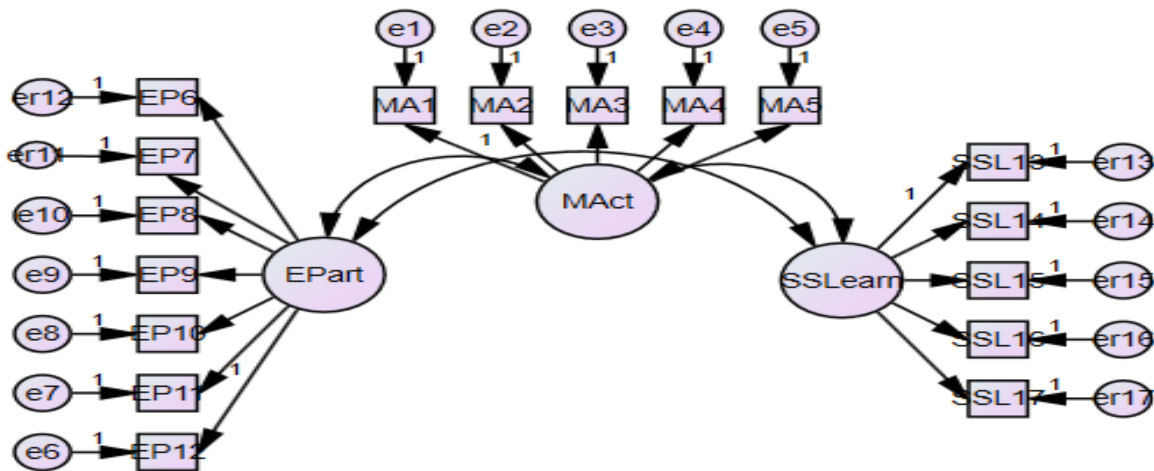
Figure 10 Three Factor Model of Classroom Climate

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Table 3.9.1.5   One Factor Analysis of Classroom Climate

Model	X^2 / df	CFI	NFI	TLI	RMSEA
1 Factor	3.10	.90	.89	.88	.08

In Table 3.9.1.6, the one-factor model for Classroom Climate shows acceptable fit indices across various metrics. The X^2/df ratio is 3.10, which is within the acceptable range for a good model fit, suggesting that the observed data aligns reasonably well with the model predictions. The Comparative Fit Index (CFI) value of .90 and the Normed Fit Index (NFI) of .89 indicate that the model captures a significant portion of the data's structure, though the NFI is just below the ideal threshold of .90, which is still considered acceptable.

The Tucker-Lewis Index (TLI) of .88 is close to the good fit criteria, indicating that the model is nearly adequate in representing the data. The Root Mean Square Error of Approximation (RMSEA) value of .08 is on the borderline of the acceptable range, suggesting a moderate level of error in the model fit.

Overall, while the one-factor model demonstrates acceptable fit indices, it may benefit from further refinement to improve alignment with the theoretical constructs of Classroom Climate. These results suggest that, although the one-factor model is viable, a more nuanced approach considering multiple factors might provide a more comprehensive understanding of the dimensions within Classroom Climate.
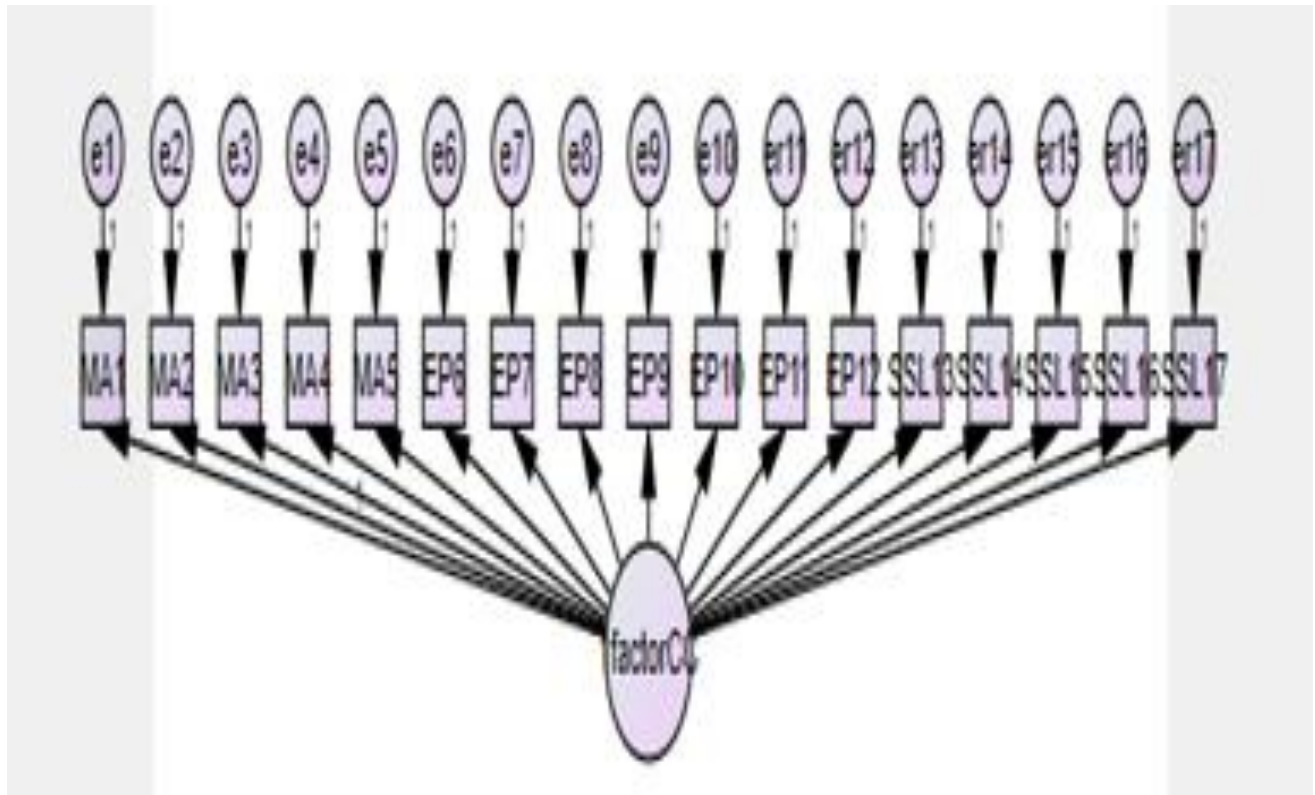
Figure 11 One Factor Model of Classroom Climate

3.9.2 Permission for Data Collection

Subsequently, permission for data collection was sought from the National University of Modern Languages, Islamabad, as well as from the sampled universities in Islamabad. This step ensured that the research was conducted in compliance with ethical guidelines and institutional regulations.

3.9.3 Distribution of Research Instruments

Following this, the distribution of research instruments was carried out by the researcher personally. Teaching employees of the sampled universities were approached, and they were requested to provide their responses to the questionnaires in a logical manner. This ensured that the data collection process was standardized and consistent across all participants, contributing to the reliability of the collected data.

3.9.4 Quantitative Data Collection (Phase I)

The quantitative data collection phase (Phase I) commenced with the systematic distribution of a structured questionnaire to teaching faculty members in the Social Sciences and Management Sciences departments of public sector universities in Islamabad.

Phase 1a: Identification of Teacher Leaders (Quantitative)

In the first stage of the study, data was collected from university teachers to identify Teacher Leaders using the Teacher Leadership Scale (TLS), which was designed on a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." The scale measured leadership attributes including Risk-taking, Effectiveness, Autonomy, Collegiality, and Honor, in line with the REACH Model framework. A stratified sampling technique was applied to ensure representation from both faculties, resulting in a total quantitative sample of 284 teachers, comprising 186 from the Faculty of Social Sciences and 98 from the Faculty of Management Sciences. Respondents scoring above the mean threshold (scoring above from 3) on the Teacher Leadership Scale were classified as Teacher Leaders for the next phase of the research.

Phase 1b: Assessment of Classroom Climate of Identified Teacher Leaders (Quantitative)

Following the identification of Teacher Leaders, a second quantitative phase was conducted to assess their classroom climate practices. This was measured through the Classroom Climate Measurement Model (2015), focusing on three core strategies: Management of Learning Activities, Encouragement of Student Participation, and Support for Student Learning. The data was also used to statistically analyze the impact of each Teacher Leadership attribute on these classroom climate strategies, using regression analysis to determine the strength and significance of relationships. This step provided empirical evidence of how Teacher Leaders influence the learning environment.

3.9.5 Qualitative Data Collection (Phase II)

The qualitative phase employed semi-structured interviews to gather in-depth insights aimed at explaining and elaborating on the quantitative findings. The purposive sampling technique was used to select students who had studied under the identified Teacher Leaders. Each interview lasted approximately 30–40 minutes, allowing sufficient time to explore the participants' perspectives in

detail. A total of 16 interview questions were posed to each participant, covering various dimensions of classroom climate and teacher leadership practices.

For the data collection process, the researcher personally conducted each interview, with the assistance of a colleague. In this arrangement, the researcher asked the questions and engaged with the interviewee, while the colleague meticulously recorded the responses in written form to ensure accuracy and completeness. The researcher also maintained a keen observational focus on the participants' non-verbal cues, such as facial expressions, gestures, and overall body language, which were documented to supplement the verbal data and to capture the nuances of the participants' experiences.

No audio recordings were made during the interviews, as certain universities had policies prohibiting the use of recording devices, and some students expressed reluctance to participate in recorded sessions. To address this limitation, detailed written notes were taken in real time, ensuring that all relevant information was preserved for subsequent analysis. Although audio recordings were not feasible due to institutional restrictions and participant reluctance, the researcher ensured the validity and trustworthiness of qualitative findings through multiple strategies. First, interviews were conducted in a structured manner using a pre-tested set of 16 open-ended questions, ensuring consistency across all participants. The researcher, accompanied by a trained colleague, meticulously documented each participant's responses in real-time, capturing both verbal statements and notable non-verbal cues such as body language, tone, and expressions. Detailed field notes were maintained immediately after each interview to supplement the primary documentation. Member checking was employed during the interview process, whereby responses were restated to participants for confirmation, ensuring accuracy and preventing misinterpretation. Additionally, the use of peer debriefing with the assisting colleague provided an extra layer of verification, minimizing researcher bias. These measures collectively strengthened the credibility, dependability, and confirmability of the data, compensating for the absence of audio recordings.

3.10   Data Analysis

After receiving the completed questionnaires, the process of analyzing the study's quantitative data was initiated. For this purpose, the Statistical Package for Social Sciences (SPSS) version 21 was employed. Initially, the questionnaires were systematically coded and then entered

into the SPSS software for data processing. Both sets of questionnaires, pertaining to teacher leadership attributes and classroom practices, were meticulously examined in alignment with the research objectives and hypotheses of the study.

Upon the collection of the filled questionnaires, the subsequent phase encompassed the analysis of the study's qualitative data. This analytical journey was driven by the aim to uncover deeper insights into the intricate interplay between teacher leadership and classroom climate.

3.10.1 Quantitative Data Analysis (Phase I)

In the quantitative (First) phase of the research, the hypotheses were tested using a range of statistical tests and techniques, including Reliability analysis to assess the consistency of measurements, Linear Regression analysis is used as data analysis for the purpose to understand the impact of teacher leaders on classroom climate. Percentage was calculated to identify Teacher Leaders and their Classroom Climate practices Rationale behind using Percentage and Regression analysis is; Percentage is used for the identification of Teacher Leaders from teaching faculty. Regression analysis, on the other hand, uncovers predictive relationships between variables, clarifying how specific factors (like teacher leadership) impact outcomes.

Quantitative data analysis was conducted using SPSS version 21. The Descriptive statistics were employed to explore teacher leaders and their classroom practices. Furthermore, Regression analysis, a method to identify relationships between variables, was applied to determine the extent of influence exerted by teacher leaders on classroom climate. These analyses collectively contributed to the comprehensive evaluation of how teacher leadership impacts the classroom atmosphere within higher education settings.

3.10.2 Qualitative Data Analysis (Phase II)

Thematic analysis, as described by Braun and Clarke (2006), is a systematic method used to identify, analyze, and report patterns within qualitative data. In the context of the research study "The Impact of Teacher Leaders on Classroom Climate at Higher Education Level," thematic analysis serves as a valuable approach to examining the qualitative data obtained from interviews conducted with both teacher leaders and students. In this study Thematic Analysis was done as much easily because interview questions were based on the earlier used questionnaire in phase I.

So in the current study Thematic Analysis involves several key steps. Firstly, researchers familiarize themselves with the collected data by thoroughly reviewing interview transcripts. Next, they systematically identify recurring patterns, topics, or themes within the data. This process entails coding segments of the data that are relevant to each theme or pattern, organizing them into categories, and generating overarching themes that encapsulate the essence of the data.

Throughout thematic analysis, researchers maintain a rigorous and transparent approach to ensure the trustworthiness and reliability of their findings. This involves documenting the decision-making process, discussing interpretations with other researchers or peers, and continuously refining the analysis to accurately reflect the data.

Thematic analysis allows researchers to gain a nuanced understanding of the experiences, perspectives, and interactions of teacher leaders and students within the context of classroom climate. By identifying common themes and patterns across interview responses, researchers can uncover underlying meanings, highlight significant insights, and generate rich narratives that contribute to the study's overall findings.

In summary, thematic analysis serves as a robust methodological approach for exploring qualitative data in the study. It provides researchers with a structured framework for uncovering and interpreting the complexities inherent in teacher-student interactions and their impact on classroom dynamics.

Thematic analysis was chosen for this study due to its effectiveness in identifying, analyzing, and interpreting patterns of meaning within qualitative data. This method is particularly suited to exploring complex themes around teacher leadership and classroom climate, as it allows for a flexible and thorough examination of participants' experiences and perspectives (Braun & Clarke, 2006). The analysis process involved coding the qualitative data into initial themes, reviewing and refining these themes, and ultimately organizing them into a coherent framework that reflects the study's research questions and objectives. This approach provided a structured yet adaptable means of capturing nuanced insights and producing findings that inform the broader context of the study. The purpose of employing thematic analysis in the current study is to delve into the qualitative data gathered from interviews and extract meaningful themes that reflect teacher leadership behaviors and their influence on classroom climate. Through this method, the

study aims to uncover underlying patterns and insights that might not be immediately apparent, enabling a comprehensive exploration of the intricate dynamics between teacher leaders and classroom climate. This methodology was selected due to its flexibility and effectiveness in capturing diverse viewpoints within the collected data.

The process began with the careful reading and familiarization of the interview transcripts. This preliminary immersion enabled the researchers to gain a holistic understanding of the participants' narratives. Subsequently, meaningful units of text, known as "codes," were assigned to segments of the data that captured key ideas and concepts. These codes were then grouped together to form overarching themes that represented the core aspects of teacher leadership's impact on classroom climate.

The identification of themes was not a linear process; rather, it involved constant comparison and reflection. Themes were refined, adjusted, and validated through discussions among the research team, ensuring that they accurately portrayed the richness of the data. This iterative approach emphasized the rigor and depth of the analysis, allowing for a comprehensive exploration of the qualitative findings.

In this qualitative phase, the data analysis went beyond mere description; it aimed to unravel the intricate connections and nuances embedded within the participants' responses. Through thematic analysis, the study sought to capture the essence of teacher leadership's influence on the classroom climate, unveiling the multifaceted dimensions that contribute to this dynamic relationship.

3.11   Research Ethics

In any research study, ethical considerations are paramount, particularly when human participants are involved. The principles of informed consent, confidentiality, and voluntary participation serve as foundational pillars to uphold the rights and well-being of individuals contributing to the study. Prior to their involvement, participants must be fully informed about the study's objectives, procedures, potential risks, and benefits. This ensures that they can make autonomous decisions regarding their participation, without any coercion or pressure. Moreover, researchers must prioritize the confidentiality of participants' personal information, taking measures to anonymize data and prevent the identification of individuals.

Respect for participants is another essential aspect of ethical research conduct. It involves treating individuals with dignity, sensitivity, and consideration for their rights and welfare throughout the research process. Researchers must establish a trusting and respectful relationship with participants, valuing their perspectives and ensuring that their voices are heard and respected. Furthermore, researchers have a duty to minimize any potential harm to participants, whether it be physical, psychological, social, or economic. This requires identifying and mitigating risks, as well as providing support if adverse effects occur.

Integrity in research is fundamental to maintaining the credibility and reliability of study findings. Researchers must conduct their work with honesty, transparency, and accuracy, avoiding bias or manipulation in data collection, analysis, and reporting. Compliance with legal and institutional regulations is also essential, necessitating the acquisition of necessary approvals from ethics committees or review boards before commencing the study. Additionally, researchers should disclose any conflicts of interest that may arise during the research process, ensuring transparency and mitigating potential biases.

Data security is crucial for safeguarding participants' privacy and confidentiality. Researchers must implement measures to protect research data from unauthorized access, manipulation, or misuse, adhering to data protection regulations. Finally, seeking ethical oversight and guidance from experienced researchers or ethics committees is vital for addressing any ethical concerns or dilemmas that may arise during the study. This ensures that the research is conducted ethically and responsibly, upholding the rights and welfare of participants at all times.

By adhering to these ethical principles, the study ensures that its findings are credible, trustworthy, and respectful of participants' rights. Ethical considerations also contribute to the study's overall integrity and reputation within the academic community.

3.12   Delimitation

The delimitations of a research study outline the specific boundaries and constraints that narrow the scope of the investigation. In the case of the present study on "The Impact of Teacher Leaders on Classroom Climate at Higher Education Level," several delimitations were carefully considered and justified.

Geographical Delimitation: The study focused exclusively on public sector universities located in Islamabad, Pakistan. This geographical limitation was primarily due to practical reasons, including accessibility and resource constraints. Conducting the study in a specific geographic area allowed for better management of resources and data collection efforts.

Participant Delimitation: The research was delimited to teaching faculty members in public sector universities of Islamabad. This decision was made to maintain a clear focus on the influence of teacher leaders on classroom climate. Restricting the study to teaching faculty ensured that the research remained aligned with the specific objectives and scope of the investigation.

Exclusion of Certain Personnel: While the study concentrated on teaching faculty, it excluded other university employees such as heads, directors, and clerical staff. This was to ensure that the research remained tightly focused on the relationship between teacher leadership and classroom climate, without being diluted by the inclusion of unrelated roles within the university structure.

Departmental Delimitation: The study was delimited to the departments of Social Sciences and Management Sciences in public sector universities. This selection was strategic, as these departments are often at the forefront of educational leadership and have a direct impact on classroom dynamics. Focusing on these departments facilitated a deeper exploration of the research objectives.

Theoretical Delimitation: The study was delimited to the REACH Model of Teacher Leaders and the Measurement Model of Classroom Climate. By adopting these specific theoretical frameworks, the research aimed to provide a comprehensive analysis within a well-defined conceptual framework.

These delimitations were carefully chosen to ensure the research's feasibility, focus, and relevance. They allow for a more in-depth examination of the identified research problem while acknowledging practical constraints and aligning with the study's intended objectives.

3.13 Limitations

Due to unforeseen and unexpected challenges that arose during the research process, the study's scope had to be delimited in certain ways. The initial target was to gather responses from

a preferred sample size of 284 participants, encompassing both the Management and Social Sciences departments of public sector universities. However, the actual number of received questionnaires amounted to 273 (96% of the intended sample), with the remaining 4% not obtained due to various factors such as participants' lack of interest in completing the questionnaires or submitting incomplete responses. Similarly, in Phase II, interviews were conducted with students of identified Teacher Leaders, where the desired sample size was 110, but data were obtained from 96 students, resulting in a return rate of 86%. The data collection process proved to be a highly time-consuming task, with challenges stemming from participants' varying levels of motivation, engagement, and availability. Despite efforts to ensure a comprehensive response rate, factors beyond the researcher's control, such as time constraints and individual preferences, contributed to the incomplete data collection. It is important to acknowledge that while the sample size was slightly smaller than intended, the collected responses still hold value and can provide meaningful insights into the study's objectives. The researcher's dedication to optimizing the data collection process within the given constraints demonstrates the adaptability and commitment required when conducting research under real-world circumstances.

Another notable limitation of the qualitative data collection process was the absence of audio recordings during interviews. This constraint arose due to institutional policies in certain universities prohibiting audio documentation, as well as the reluctance of some participants to consent to being recorded. Consequently, the researcher relied on detailed written notes taken by a colleague while simultaneously leading the interviews. Although this approach ensured that key points were captured, it inevitably limited the richness of the data, particularly in terms of capturing participants' exact words, tone, and nuanced expressions. Additionally, while the researcher made efforts to observe non-verbal cues such as body language and facial expressions, the lack of recorded transcripts may have constrained opportunities for thorough post-interview analysis and verification. This limitation should be acknowledged when interpreting the findings, as it may have influenced the depth and completeness of the qualitative insights.

A further limitation relates to the measurement and interpretation of certain leadership attributes and classroom climate strategies. For example, **risk-taking and collegiality** emerged as impactful teacher leadership attributes in the quantitative phase but were less frequently recognized in the qualitative phase. This discrepancy may be due to the fact that the interview

questions were more general and did not explicitly probe into specific practices such as taking instructional risks (e.g., experimenting with new pedagogies, challenging conventional norms) or fostering collegiality (e.g., encouraging collaboration, mutual respect, and shared decision-making). As a result, these attributes might have been underreported by students despite their significance in the statistical analysis. Similarly, **management of learning activities**, as a classroom climate strategy, was less emphasized in student accounts compared to encouragement of participation and support for learning. These gaps highlight a methodological limitation in fully aligning instruments across phases. Future research should design more targeted qualitative protocols to capture nuanced practices like risk-taking, collegiality, and classroom management strategies, which may not be as readily perceived or articulated by students.

CHAPTER 4

DATA ANALYSIS AND INTERPERTATION

In research, the process of data analysis holds a pivotal role, serving as a systematic approach to dissecting the entire research into integral categories based on specific questions related to the research problem (Calderon, 1993). According to Calderon, analysis involves evaluating each component or variable through analytical and logical reasoning. This chapter is dedicated to providing a detailed account of the analysis and interpretation of information obtained through both quantitative and qualitative measures.

The study under consideration focuses on investigating the impact of Teacher Leaders on their Classroom Climate, utilizing the REACH Model of Teacher Leaders (Meridreth, 2000) and the Classroom Climate Measurement model (Sriklaub et al., 2015) at the University Level. The research adopts an Explanatory Sequential Design, which is a mixed-methods process (Creswell, 2018). The results of the study revolve around the leadership attributes of Teacher Leaders and their influence on Classroom Climate.

The data collection involved both quantitative and qualitative measures. A survey was employed for quantitative data, and semi-structured interviews were conducted with students under the mentorship of Teacher Leaders in the Social Sciences and Management Sciences Departments at public sector universities in the Federal area.

To ensure the reliability of the data, a validation process was undertaken using both quantitative and qualitative approaches. Quantitative data were presented through tabular and graphical representations, complemented by relevant explanations. Qualitative data, obtained through semi-structured interviews, were narrated and subjected to thematic analysis.

The analysis was conducted in three units. Descriptive statistics were used to explore Teacher's responses regarding the leadership attributes of Teacher Leaders and to identify Classroom Climate strategies. Inferential statistics were employed to determine the impact of

Teacher Leaders on their Classroom Climate, allowing for the testing of inferences drawn from the study. Additionally, thematic analysis of responses from semi-structured interviews with students was conducted in the first phase to provide further explanation and confirmation of the collected quantitative data.

In summary, the study employs a robust analytical framework, combining quantitative and qualitative methods to comprehensively explore the impact of Teacher Leaders on Classroom Climate in university settings. The research design, data collection methods, and analytical procedures are systematically detailed, ensuring a rigorous and well-rounded approach to understanding the phenomenon under investigation.

4.1   Descriptive Statistics

Descriptive statistics play a crucial role in summarizing information gathered from a study's sample, providing insights that can be later generalized to the entire population. This process involves the use of relevant statistical tests and graphical representations.

Section I: Demographic Analysis The demographic analysis section aims to uncover specific details about the study participants. Including demographic information is essential as it signifies the diversity among the participants, contributing to a more comprehensive understanding of the sample (Gay, Mills & Airasian, 2012).

Section II: Identification of Teacher Leaders at Higher Education Level This section focuses on gauging the views of teaching faculty regarding leadership attributes based on the REACH Model of Teacher Leaders (Meridreth, 2000). Percentage was employed as data analysis technique to identify Teacher Leaders. This analysis provides an extensive exploration of Teacher Leaders and their attributes.

Section III: Assessing Classroom Climate Practices of Teacher Leaders at University Level This section delves into teachers' perspectives on classroom climate practices adopted by Teacher Leaders to maintain a conducive learning environment. A 5-point Likert scale is utilized to collect responses. Similarly, Percentage is applied to assess various classroom climate strategies adopted by Teacher Leaders, offering a deeper exploration into their leadership attributes.

In summary, these sections collectively contribute to a thorough analysis of both demographic information and the perceptions of teaching faculty regarding leadership attributes and classroom practices of Teacher Leaders at the university level.

4.2 Inferential Statistics

This section is dedicated to analyzing inferences drawn for the population, employing tools such as probability distribution and hypothesis testing as outlined by Creswell and Creswell (2017).

Section IV: Analyzing the Impact of Teacher Leaders on Classroom Climate at Higher Education Level: This section addresses the accomplishment of the third research objective, focusing on investigating the impact of Teacher Leaders on their Classroom Climate at the university level. To achieve this objective, linear regression analysis is applied to quantify and understand the nature and extent of this impact.

4.3 Thematic Analysis

Thematic analysis is described as an iterative approach involving the compilation, assembly, disassembly, interpretation, and conclusion of data to derive relevant codes. These codes are then transformed into meaningful themes or variables of interest in qualitative studies, following the principles outlined by Creswell (2018) and Yin (2015).

Section V: Exploring the views from students of Teacher Leaders regarding leadership attributes of Teacher Leaders and their Classroom Climate practices at university level: The analysis involves scrutinizing interview questions in the context of research objectives by generating themes and sub-themes for each question. Thematic analysis is employed for this purpose, aiming to extract accurate and detailed responses from the selected group of students.

In summary, these sections encapsulate the application of various statistical and analytical methodologies to address research objectives and hypotheses. The use of inferential statistics, linear regression analysis, and thematic analysis contributes to a robust and comprehensive exploration of the impact of Teacher Leaders on Classroom Climate in higher education settings.

Table 4.1   List of Objectives related Hypothesis and relevant Statistical Tests

SR#	Objectives	Hypothesis	Statistical tests	Explanation of statistical procedures
1	To identify Teacher Leaders among university teaching faculty based on their leadership qualities.	N/A	Descriptive Statistics (Percentage)	Descriptive statistics, also known as summary statistics, provide a quantitative summary of data. These statistics typically include measures such as frequency counts, percentages, averages, and measures of dispersion like the standard deviation (Best & Kahn, 2016; Mugenda & Mugenda, 2008; Tabachnick & Fidell, 2007). Standard deviation is a measure of the spread of data points around the mean or average. It quantifies the extent to which individual data points deviate from the mean, providing insight into the variability or dispersion of the dataset.
2	To assess the Classroom Climate strategies of Teacher Leaders at	N/A	Descriptive Statistics (Percentage)	Descriptive statistics, also known as summary statistics, provide a quantitative summary of data. These statistics

higher education institutions.

typically include measures such as frequency counts, percentages, and averages, which describe the distribution of participant scores. Additionally, measures of dispersion, such as the standard deviation (S.D.), are used to quantify the spread of data around the mean or average (Best & Kahn, 2016; Mugenda & Mugenda, 2008; Tabachnick & Fidell, 2007).

| 3 | To analyze the impact of Teacher Leaders on their Classroom Climate at higher education institutions. | There is no significant impact of Teacher Leaders on their Classroom Climate at higher education institutes. | Regression analysis (simple Linear regression) | Regression analysis is a statistical method employed to explore the correlation between one or multiple independent variables and a dependent variable. Its purpose is to model and quantify the extent and direction of the relationship among these variables. Within regression analysis, the dependent variable's value is forecasted using the values of one or more independent variables. The coefficients of these variables in the regression |

				equation demonstrate the strength of their influence on the dependent variable (Montgomery, Peck, & Vining, 2021).
4	To explore the views of students regarding leadership attributes of Teacher Leaders and their Classroom Climate practices at higher education level.	N/A-	Thematic Analysis	Thematic analysis constitutes a qualitative data analysis approach that encompasses the identification, examination, and interpretation of recurring themes, concepts, and patterns within transcripts of interviews (Creswell, 2018; Lewis et al., 2014; Ormston et al., 2014; Yin, 2015).
5	To design a Framework for Teachers for developing Teacher Leadership Qualities and fostering a positive classroom climate among teaching faculty at Higher Education Level.	N/A-	Gaps and Findings	Based on the research findings and identified gaps in the literature, a model for Teacher Leaders at Higher Education Institutes was proposed.

4.4   Integration of Results

Section VI: Integration of Quantitative and Qualitative results In the context of an Explanatory Sequential Design, in this section the essential requirement involves the integration of both qualitative and quantitative results. Following the analysis of qualitative and quantitative data, this research design necessitates the merging of these distinct aspects to offer a comprehensive insight into the study variables. This integration aims to derive meaningful findings that contribute significantly to the overall understanding of the research study (Cresswell, 2018).

4.1   Descriptive Statistics

4.1.1   Demographic Analysis

Table 4.2   Gender wise representation of Respondents

SR#	Gender	Frequency	Percentage
1.	Male	159	56%
2.	Female	125	43%
	Total	284	100.0

Table 4.2 presents a detailed analysis of the gender-based representation among respondents, offering valuable insights into the representation of male and female Teacher Leaders within the surveyed sample.

A substantial portion of the respondents, comprising 56%, identifies as male. This noteworthy presence indicates a significant representation of male educators in leadership roles within higher education. The insights garnered from this group contribute to a comprehensive understanding of the experiences, challenges, and perspectives of male Teacher Leaders in the academic setting.

Concurrently, female Teacher Leaders constitute 43% of the total respondents, showcasing a substantial presence within the surveyed group. The inclusion of perspectives from female educators is crucial for providing a holistic view of leadership experiences in higher education. The nearly equal representation of male and female respondents ensures that the findings encompass a diverse range of viewpoints, contributing to a more inclusive and nuanced understanding of the challenges and successes faced by Teacher Leaders across genders.
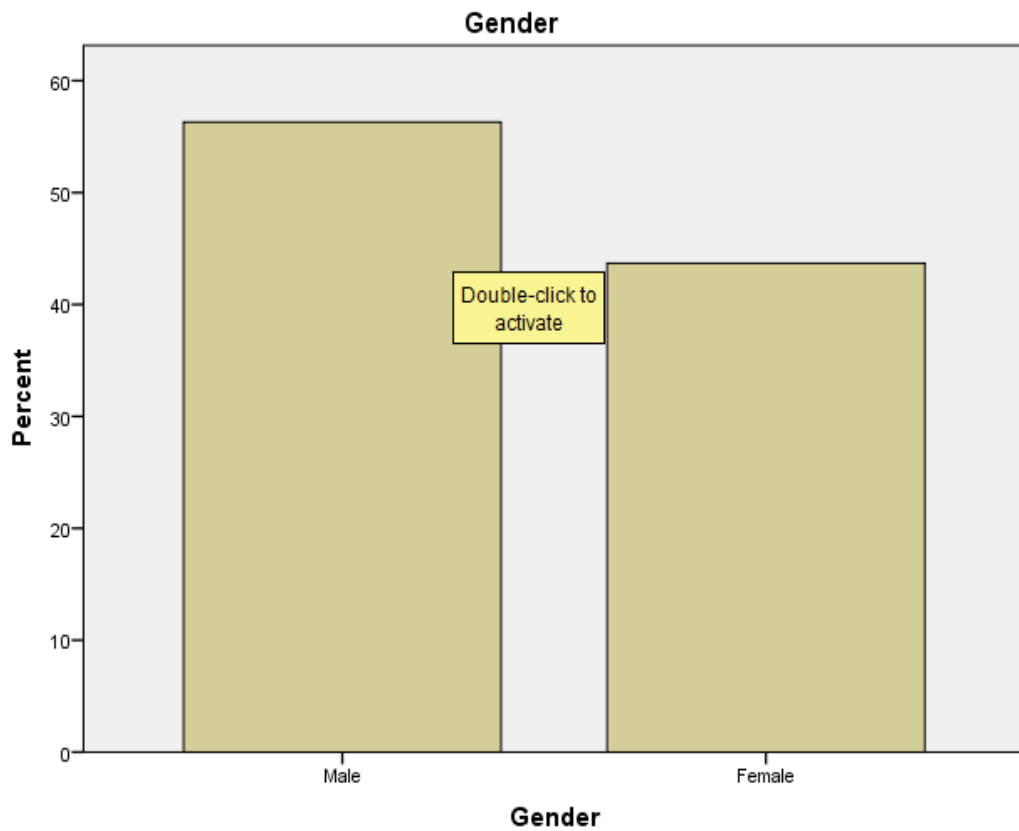
Figure 12 Gender wise representation of Respondents

Table 4.3   Department wise representation of Respondents

SR#	Department	Frequency	Percentage

1.	Management Sciences	183	64%
2.	Social Sciences	101	36%
	Total	284	100.0%

Table 4.3 provides a detailed overview of the representation of respondents based on their respective academic departments, shedding light on the diverse representation of Teacher Leaders across different disciplines.

A substantial portion of the respondents, constituting 64% of the total sample, hails from the Management Sciences department. This notable presence underscores the active participation of Teacher Leaders with expertise and leadership roles in the field of Management Sciences. The insights gathered from this group are likely to offer a nuanced perspective on educational leadership within the context of management-oriented disciplines.

On the other hand, the Social Sciences department contributes slightly more to the survey, representing 36% of the total respondents. This indicates a relatively higher representation of Teacher Leaders from the Social Sciences discipline within the surveyed group. The inclusion of perspectives from the Social Sciences department enriches the overall dataset, providing a broader understanding of educational leadership across diverse academic domains.
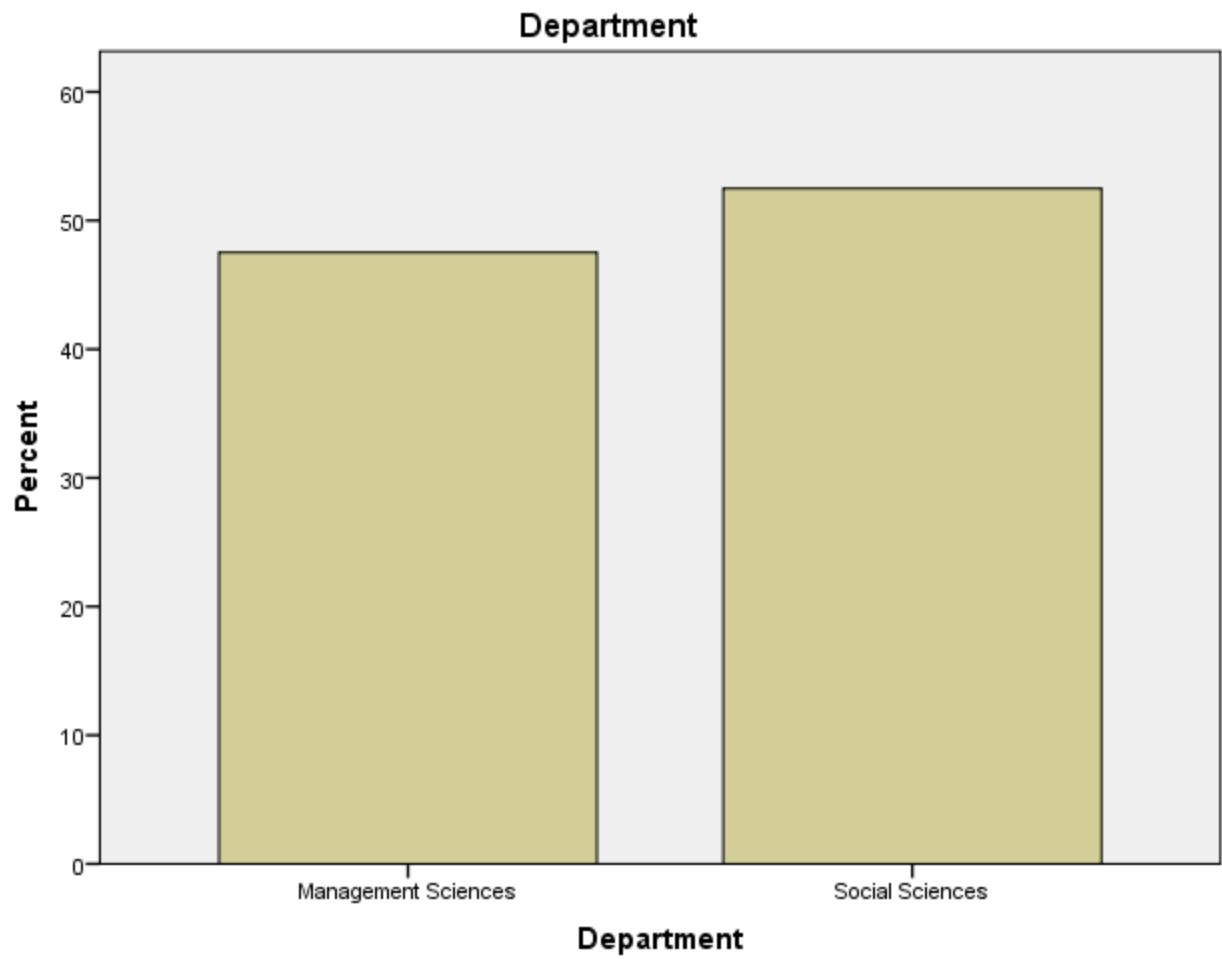
Figure 13 Representation of Departments

Table 4.4   Teaching Experience wise representation of Respondents

SR#	Teaching Experience	Frequency	Percentage
1.	1-5	134	47.2%
2.	6-10	17	6.2%
3.	11-15	18	5.9%
4.	16-20	62	21.7%
5.	Above 20	54	19.1%
	Total	282	100.0%

Table 4.4 presents a comprehensive breakdown of respondents categorized by their teaching experience, providing valuable insights into the distribution of Teacher Leaders in the surveyed sample.

The largest contingent comprises respondents with 1-5 years of teaching experience, representing a substantial portion at 47.2%. This indicates a predominant presence of relatively early-career Teacher Leaders in the surveyed group, potentially offering insights into the perspectives and experiences of those in the initial stages of their educational leadership roles.

The category of respondents with 6-10 years of teaching experience is a smaller but notable segment, constituting 6.2% of the total sample. This group contributes to the diversity of the Teacher Leaders surveyed, reflecting a range of mid-career experiences within the educational leadership landscape.

The teachers with 11-15 years of teaching experience represents 5.9% of the respondents. This mid-range category suggests a moderate presence of Teacher Leaders who have accumulated a considerable amount of experience but are still within a phase of active leadership.

Teacher Leaders with 16-20 years of teaching experience make up a substantial portion, accounting for 21.7% of the total sample. This indicates a significant representation of individuals with a more extensive teaching background, potentially bringing a wealth of experience to their leadership roles.

The group with over 20 years of teaching experience constitutes 19.1% of the respondents. This segment highlights the presence of highly experienced Teacher Leaders who have dedicated a substantial portion of their careers to education, offering a perspective shaped by extensive professional tenure.

In summary, Table 4.4 underscores the diverse distribution of Teacher Leaders based on their teaching experience. While the majority falls within the early career range of 1-5 years, the sample includes representation across various experience levels, providing a comprehensive and nuanced understanding of Teacher Leaders with different levels of professional tenure.
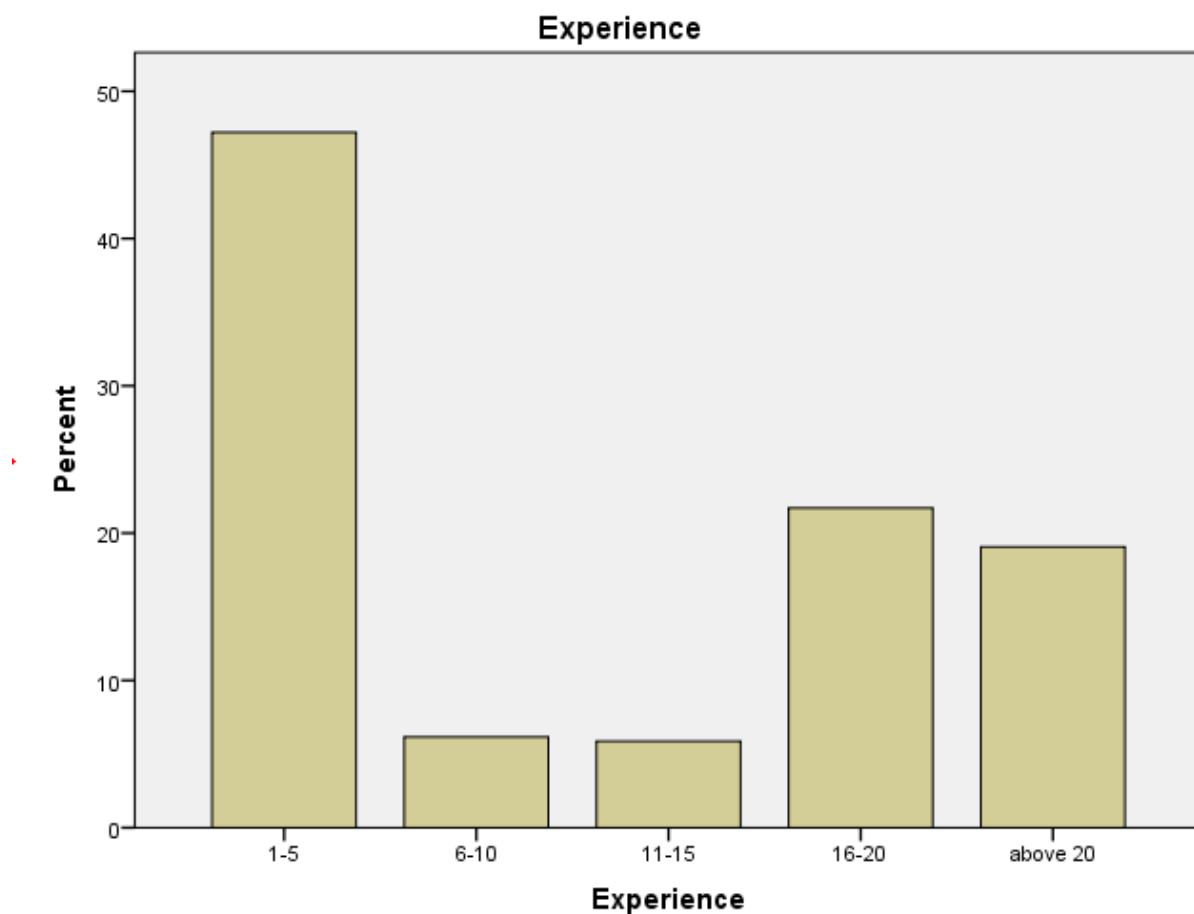
Figure #14 Experience wise representation of Teaching Faculty

4.1.2 Descriptive Statistics.

Objective no 1: To identify Teacher Leaders among university teaching faculty based on their leadership qualities.

Table 4.5   Identification of Teacher Leaders (n = 273)

Likert Scale	Score Value	Percentage	No of respondents	Total	Remarks
Strongly Disagree	1	12.8%	35		
Disagree	2	24.9%	68		
Neutral	3	32.2%	88	218	Non-Teacher Leaders
Agree	4	12.8%	35		
Strongly Agree	5	7.3%	20	55	Teacher Leaders
Total	-	**100%**	**273**		

Table 4.5 presents the identification of Teacher Leaders based on respondents' ratings on a five-point Likert scale. The total sample size for this analysis was 273 respondents. Among them, 35 respondents (12.8%) selected "Strongly Disagree," while 68 respondents (24.9%) chose "Disagree," indicating that they did not perceive the teachers in question as exhibiting leadership qualities. Similarly, 88 respondents (32.2%) expressed a "Neutral" opinion, reflecting uncertainty or mixed perceptions regarding the leadership abilities of the teachers. Collectively, these three categories (Strongly Disagree, Disagree, and Neutral) account for 218 respondents, who were classified as *non-Teacher Leaders* based on their responses. This group represents the majority of the sample.

On the other hand, 35 respondents (12.8%) selected "Agree," and 20 respondents (7.3%) selected "Strongly Agree," indicating that they perceived the teachers as displaying leadership qualities. These 55 respondents were classified as *Teacher Leaders*. This suggests that only a minority of teachers in the sample were identified as having strong leadership attributes, while the larger proportion either lacked these qualities or were not recognized for them by their peers or students.

The distribution highlights a significant gap between those perceived as Teacher Leaders and the rest of the teaching population, emphasizing the potential need for targeted professional development, leadership training, and institutional support to enhance leadership capacity among a wider group of teachers.

Objective no 2: To assess the Classroom Climate strategies of Teacher Leaders at higher education institutions

Table 4.6   Classroom Climate strategies of Teacher Leaders (n=55)

No of Teacher Leaders	Management of Learning activities	Encourage student's Participation	Support student's Learning
55	17	25	13
100%	30%	45%	25%

The results presented in **Table 4.6** highlight the distribution of **classroom climate strategies** adopted by the 55 identified Teacher Leaders. Among these strategies, the highest proportion of Teacher Leaders **45% (n=25)** focused on **Encouraging Student Participation**. This suggests that almost half of the Teacher Leaders prioritized creating an interactive learning environment where students were actively engaged in classroom discussions, collaborative activities, and decision-making processes.

The second most prevalent strategy was **Management of Learning Activities**, practiced by **30% (n=17)** of Teacher Leaders. This indicates that a considerable segment of Teacher Leaders emphasized structuring lessons, organizing resources, and ensuring smooth transitions between activities to maintain a productive learning environment.

The least implemented strategy was **Support for Student Learning**, reported by **25% (n=13)** of Teacher Leaders. While this approach is critical for addressing students' individual learning needs, offering feedback, and providing academic assistance, its relatively lower frequency suggests that direct, individualized support was less prioritized compared to fostering participation and managing activities.

Overall, these findings imply that Teacher Leaders in this study tended to focus more on strategies that promote student engagement and classroom interaction, while comparatively fewer concentrated on personalized learning support, which could indicate an area for professional development and balance in classroom climate practices.

4.2 Inferential Statistics

Objective no 3: To analyze the impact of Teacher Leaders on their Classroom Climate at higher education level ($H^0 1$)

Table 4.7 Impact of Teacher Leaders on their Classroom Climate (n=55)

Independent Variable	Dependent Variable	R^2	β	t- value	Sig
Teacher Leaders	Classroom Climate	.906 (90.6%)	.935	51.74	.00

The regression analysis shows that Teacher Leadership has a very strong and positive influence on Classroom Climate. The R^2 value of .906 indicates that 90.6% of the variation in classroom climate can be explained by the teacher leadership variable, which demonstrates a remarkably high explanatory power. This means that most changes or improvements in classroom climate can be attributed to teacher leaders' practices and attributes.

The beta coefficient (β = 0.935) signifies a very strong positive relationship between teacher leadership and classroom climate. In practical terms, for every one-unit increase in teacher leadership, there is an expected 0.935 unit increase in classroom climate scores, holding other factors constant. This suggests that higher levels of teacher leadership behaviours are consistently associated with more positive and effective classroom climates.

The t-value of 51.74 is extremely high, indicating that the relationship is statistically significant and not due to random chance. Furthermore, the p-value (.00) confirms that the result is significant at the 0.001 level, which means there is a less than 0.1% probability that the observed relationship occurred by chance.

Overall, the results provide strong empirical evidence that teacher leaders play a critical role in shaping a positive classroom climate.

Objective No 3: To Analyze the Impact of Teacher Leaders on their Classroom Climate at Higher Education Level ($H^0$1.1- 1.3)

Table No. 4.8   Impact of Risk Taking on their Classroom Climate *(All three strategies)*

Independent Variable	Dependent Variable	R^2	β	t- value	Sig
Risk Taking-Teachers who seek challenges and create new processes	Management of learning activities	.911 (91.1%)	.506	59.02	.00
	Encourage student's participation	.939 (93.9%)	.695	72.22	.00
	Support student's learning	.853(85.3%)	.476	44.42	.00

The results in Table 4.8 indicate that **risk-taking**, defined as teachers' willingness to embrace challenges and implement new processes, has a consistently strong and statistically significant influence on all three classroom climate strategies. However, the magnitude of its effect varies across the strategies.

For **management of learning activities**, the analysis shows that risk-taking explains **91.1%** of the variance (**R^2 = .911**) in how effectively these activities are organized and conducted. The beta value (**β = .506**) indicates a moderate positive influence, suggesting that teachers who actively seek challenges are able to design and execute classroom activities in a way that keeps the learning process structured, efficient, and engaging. This result highlights that innovative approaches contribute meaningfully to classroom organization and smooth management.

The most pronounced impact of risk-taking is observed in **encouraging student participation**, where it explains **93.9%** of the variance (**R^2 = .939**) with a high beta coefficient (**β = .695**). This suggests that teachers who take pedagogical risks—such as experimenting with new teaching techniques, creating interactive learning opportunities, or allowing more student-led discussions—are particularly effective in motivating students to take part in the learning process. This finding underscores the idea that innovative and bold teaching practices directly foster higher student involvement and engagement.

In the area of **supporting student learning**, risk-taking still demonstrates a strong positive influence, explaining **85.3%** of the variance (**R^2 = .853**) with a moderate beta value (**β = .476**). While the impact here is slightly lower than in the other two strategies, it still reflects the

importance of creative and unconventional methods in addressing students' learning needs. However, the comparatively smaller effect suggests that while risk-taking enhances engagement and classroom management, it may be less central to one-on-one or personalized learning support compared to other leadership traits.

Overall, the findings establish that **risk-taking is a vital driver of a dynamic classroom climate**, with its most significant contribution seen in fostering student participation, followed closely by its role in effective classroom management, and then in providing learning support. The statistical significance of all results (**p < .001**) reinforces the reliability of these conclusions.

Objective No 3: To Analyze the Impact of Teacher Leaders on their Classroom Climate at Higher Education Level ($H^0$1.4-1.6)

Table No. 4.9 Impact of Effectiveness on their Classroom Climate *(All three strategies)*

Independent Variable	Dependent Variable	R^2	β	t- value	Sig
Effectiveness- Teachers who exabits best practice, Professional growth in terms of its teaching methodology and embrace technology with great care for student's learning.	Management of learning activities	.901(90.1%)	.505	55.63	.00
	Encourage student's participation	. 853(85.3%)	.476	44.42	.00
	Support student's learning	.921 (92.1%)	.961	62.66	.00

The results presented in Table 4.9 show that **effectiveness**, characterized by teachers' demonstration of best practices, continuous professional growth, thoughtful integration of technology, and strong commitment to students' learning, exerts a consistently strong and statistically significant influence on all three classroom climate strategies. The level of impact, however, differs across the strategies.

For **management of learning activities**, the analysis reveals that effectiveness accounts for **90.1%** of the variance (**R^2 = .901**) in how effectively classroom activities are organized and executed. The beta coefficient (**β = .505**) indicates a moderately strong positive influence, meaning that teachers who adopt effective teaching methodologies and maintain high professional standards are highly capable of ensuring that lessons are well-structured, smoothly managed, and conducive to learning. This result emphasizes the value of skilled planning and execution in maintaining an organized learning environment.

When it comes to **encouraging student participation**, effectiveness explains **85.3%** of the variance (**R^2 = .853**) with a moderate beta value (**β = .476**). This suggests that effective teachers, while still fostering student involvement through engaging teaching strategies, have a slightly lower influence on participation compared to their impact on classroom management or learning support. This finding implies that while effective practices create an environment where students feel motivated to participate, other leadership qualities—such as risk-taking—might play a more direct role in energizing active student engagement.

The strongest influence of effectiveness is seen in **supporting student learning**, where it accounts for a remarkable **92.1%** of the variance (**R² = .921**) with a very high beta coefficient (**β = .961**). This result indicates that teachers who consistently apply best practices, upgrade their teaching skills, and integrate technology responsibly have a profound and direct impact on providing students with the guidance, feedback, and resources necessary for their academic growth. This highlights that effectiveness is most critical when it comes to ensuring that students' individual learning needs are met.

Overall, the findings confirm that **teacher effectiveness is a powerful determinant of a positive classroom climate**, with its greatest impact on supporting student learning, followed closely by its role in managing learning activities, and then in encouraging student participation. The statistical significance of all findings (**p < .001**) reinforces the robustness and reliability of these results.

Objective No 3: To Analyze the Impact of Teacher Leaders on their Classroom Climate at Higher Education Level ($H^0$1.7-1.9)

Table No.4.10 Impact of Autonomy on their Classroom Climate *(All three strategies)*

Independent Variable	Dependent Variable	R^2	β	t- value	Sig
Autonomy- Teachers who display initiative, independent thought, and responsibility.	Management of learning activities	.944 (94.4%)	.663	75.88	.00
	Encourage student's participation	.886 (88.6%)	. 474	51.25	.00
	Support student's learning	.856 (85.6%)	.453	44.84	.00

The results in Table 4.10 highlight the substantial influence of **Autonomy** on all three classroom climate strategies. Firstly, **Management of Learning Activities** exhibits the highest coefficient of determination (R^2 = 94.4%), indicating that teachers who demonstrate initiative, independent decision-making, and a strong sense of responsibility can explain 94.4% of the variation in effective learning activity management. The high β value (.663) and extremely significant t-value (75.88, $p < .001$) confirm that autonomy is a major driver in structuring and organizing learning experiences effectively.

For **Encouraging Student Participation**, autonomy also shows a notable impact, explaining 88.6% of the variance (R^2 = .886). The β value (.474) suggests a moderate yet significant positive influence, with a strong t-value (51.25, $p < .001$), indicating that when teachers take initiative and adapt their teaching independently, they can substantially motivate students to participate more actively in the learning process.

Regarding **Support for Student Learning**, the results indicate that autonomy accounts for 85.6% of the variance (R^2 = .856), with a β value of .453 and a high t-value (44.84, $p < .001$). This implies that autonomous teachers, while still significantly contributing to students' academic support, have a slightly lesser influence in this area compared to their impact on managing activities or fostering participation.

Overall, these results reveal that teacher autonomy is a powerful leadership attribute, particularly in organizing and managing classroom activities, while also meaningfully enhancing student

engagement and providing learning support. It underscores the importance of empowering teachers with the freedom and trust to make independent decisions in their professional practice.

Objective No 3: To Analyze the Impact of Teacher Leaders on their Classroom Climate at Higher Education Level (H^{0}1.10-1.12)

Table No. 4.11   Impact of Collegiality on their Classroom Climate *(All three strategies)*

Independent Variable	Dependent Variable	R^2	β	t- value	Sig
Collegiality-Teachers who promote community and interactive communication skills.	Management of learning activities	.827 (82.7%)	.447	40.27	.00
	Encourage student's participation	.885 (88.5%)	.626	51.11	.00
	Support student's learning	.815 (81.5%)	.431	38.59	.00

The results in Table 4.11 demonstrate the strong and positive role of **Collegiality**—defined as teachers promoting community and interactive communication skills—across all three classroom climate strategies.

In terms of **Management of Learning Activities**, collegiality explains 82.7% of the variance (R² = .827). The β value (.447) and the substantial t-value (40.27, p < .001) indicate that collaborative relationships among teachers contribute meaningfully to how well classroom activities are structured and managed. However, compared to other strategies, the influence here is slightly less pronounced, suggesting that while collegiality supports effective classroom management, other leadership attributes might play a stronger role in this domain.

For **Encouraging Student Participation**, collegiality has its most significant impact, explaining 88.5% of the variance (R² = .885). The relatively high β value (.626) and robust t-value (51.11, p < .001) highlight that when teachers foster a sense of community and open communication, students are more likely to engage actively in the learning process. This finding suggests that collegiality not only benefits teacher-to-teacher relationships but also translates into a more participatory and inclusive classroom environment.

Regarding **Support for Student Learning**, collegiality accounts for 81.5% of the variance (R² = .815), with a β value of .431 and a high t-value (38.59, p < .001). Although the effect remains statistically significant, it is the lowest among the three strategies. This implies that while collegiality fosters a supportive atmosphere, direct student support may rely more heavily on other leadership attributes such as effectiveness or honor.

Overall, these results emphasize that collegiality is particularly influential in motivating student participation and building an inclusive learning environment. By promoting collaboration, mutual respect, and effective communication, teacher leaders can significantly enhance the participatory aspects of classroom climate, while also making important though somewhat lesser contributions to classroom management and direct student support.

Objective No 3: To Analyze the Impact of Teacher Leaders on their Classroom Climate at Higher Education Level ($H^0$1.13-1.15)

Table No. 4.12 Impact of Honor on their Classroom Climate *(All three strategies)*

Independent Variable	Dependent Variable	R^2	β	t- value	Sig
Honor- Teachers who demonstrate integrity, honesty, and professional ethics.	Management of Learning activities	.788 (78.8%)	.423	35.45	.00
	Encourage Students Participation	.763 (76.3%)	.404	33.05	.00
	Support Student's Learning	.852 (85.2%)	.595	44.05	.00

The results of Table 4.12 illustrate the influence of **Honor**—characterized by teachers demonstrating integrity, honesty, and professional ethics—on the three dimensions of classroom climate.

For **Management of Learning Activities**, honor explains 78.8% of the variance (R^2 = .788), with a β value of .423 and a strong t-value (35.45, $p < .001$). This indicates that when teachers act with integrity and uphold professional ethics, they contribute positively to the organization and smooth functioning of classroom activities. However, compared to other classroom climate strategies, the effect here is moderate, suggesting that while honor plays a supportive role in managing learning activities, it may need to be complemented by other leadership attributes, such as autonomy or effectiveness, for stronger outcomes.

In relation to **Encouraging Student Participation**, honor accounts for 76.3% of the variance (R^2 = .763), with a β value of .404 and a t-value of 33.05 ($p < .001$). This is the lowest among the three strategies, indicating that although ethical and honest behavior fosters trust and respect, it does not necessarily translate into higher levels of student engagement as strongly as attributes like collegiality or risk-taking might.

The most pronounced effect of honor is observed in **Support for Student Learning**, where it explains 85.2% of the variance (R^2 = .852). The β value (.595) and the high t-value (44.05, $p < .001$) reflect that when teachers embody honesty, fairness, and ethical conduct, they significantly enhance the academic and emotional support provided to students. This underscores that ethical

leadership has a direct and meaningful impact on creating a supportive and nurturing learning environment.

Overall, these results reveal that honor is most influential in fostering a strong support system for students, moderately effective in managing classroom activities, and less impactful in directly encouraging student participation. The findings highlight that while ethical conduct is essential for trust and respect in education, its greatest strength lies in creating a supportive climate where students feel valued and cared for.

Reliability Analysis

Table No. 4.13 Reliability of Teacher Leadership Scale

SR#	Indicators	No of Items	Coding of Items	Cronbach Alpha
1.	Risk taking	10	RT1-RT10	.88
2.	Effectiveness	10	E11-E20	.89
3.	Autonomy	10	A21-A30	.91
4.	Collegiality	10	C31-C40	.85
5.	Honor	10	H41-H50	.90
Total	**Teacher Leadership Scale**	50		.95

The reliability analysis in Table 4.13 assesses the internal consistency of the Teacher Leadership Scale, measured through Cronbach's Alpha. The scale consists of five subscales, each designed to capture specific aspects of teacher leadership.

1. **Risk Taking**: Comprising 10 items (RT1-RT10), the Risk Taking subscale displays strong internal consistency, with a Cronbach's Alpha of .88. This indicates that the items measuring risk-taking behaviors among teachers align well, suggesting a coherent underlying construct.

2. **Effectiveness**: This subscale, with 10 items (E11-E20), demonstrates a high level of internal consistency, as reflected in a Cronbach's Alpha of .89. This suggests that the items effectively capture the construct of teacher effectiveness as a component of leadership.

3. **Autonomy**: The Autonomy subscale, also consisting of 10 items (A21-A30), shows excellent internal consistency with a Cronbach's Alpha of .91, indicating that the items consistently measure the autonomy dimension within teacher leadership.

4. **Collegiality**: The Collegiality subscale, comprising 10 items (C31-C40), has a Cronbach's Alpha of .85, demonstrating acceptable internal consistency. While slightly lower than other subscales, it still confirms a reliable measure of collegiality within teacher leadership.

5. **Honor**: With 10 items (H41-H50), the Honor subscale exhibits high internal consistency, with a Cronbach's Alpha of .90. This suggests that items focused on the honor aspect of teacher leadership reliably capture this dimension.

The total Teacher Leadership Scale, which integrates 50 items across the five subscales, shows a robust overall Cronbach's Alpha of .95. This high value indicates a strong degree of internal consistency for the scale as a whole, supporting its reliability in measuring the various facets of teacher leadership comprehensively.

Table No. 4.14   Reliability of Classroom Climate Inventory

SR#	Indicators	No of Items	Coding of Items	Cronbach Alpha
1.	Managing Activities	5	MA 1- MA 5	.83
2.	Encourage Participation	7	EP 6- EP 12	.80
3.	Support Student Learning	5	SSL 13-SSL 17	.83
Total	**Classroom Climate Inventory**	17		.98

Table 4.14 presents the reliability analysis of the Classroom Climate Inventory, assessing internal consistency using Cronbach's Alpha. The inventory consists of three subscales: Managing Activities (MA), Encourage Participation (EP), and Support Student Learning (SSL).

1. **Managing Activities (MA):** This subscale, comprising 5 items (MA 1- MA 5), demonstrates a high level of internal consistency with a Cronbach's Alpha of .83. This suggests that the items related to managing activities in the classroom consistently measure a cohesive underlying construct.

2. **Encourage Participation (EP):** The 7 items within this subscale (EP 6- EP 12) also exhibit a good level of internal consistency, as indicated by a Cronbach's Alpha of .80. This implies that these items collectively capture a reliable measure of the construct related to encouraging student participation.

3. **Support Student Learning (SSL):** With 5 items (SSL 13-SSL 17), the subscale focusing on supporting student learning demonstrates a high level of internal consistency, reflected in a Cronbach's Alpha of .83. This suggests that the items within this category consistently measure the targeted construct related to supporting students' learning experiences.

The total Classroom Climate Inventory, consisting of 17 items across the three subscales, demonstrates excellent internal consistency with an impressive overall Cronbach's Alpha of .98. This indicates a high degree of reliability for the entire inventory in measuring the intended constructs. In summary, the reliability analysis underscores the internal consistency and reliability

of the Classroom Climate Inventory, providing confidence in its ability to consistently measure the specified dimensions of classroom climate.

4.3   Thematic Analysis

Thematic analysis is a widely used qualitative research method for identifying, analyzing, and reporting patterns or themes within data. It involves systematically organizing and interpreting qualitative data to uncover underlying meanings, patterns, and insights. Previous research studies have extensively employed thematic analysis across various disciplines, including psychology, sociology, education, and healthcare, to explore complex phenomena, understand participants' perspectives, and generate rich, contextualized findings.

Braun and Clarke (2006) proposed a widely cited framework for conducting thematic analysis, consisting of six phases: familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the final report. This iterative process allows researchers to move back and forth between data and analysis, refining and developing themes through constant comparison and reflection.

In their study on the experiences of teachers implementing inclusive education practices, Smith et al. (2018) employed thematic analysis to analyze interview transcripts. They began by immersing themselves in the data, reading and re-reading transcripts to gain familiarity. Initial codes were then generated through line-by-line coding, capturing meaningful segments of data related to inclusive teaching practices. Through a process of constant comparison, themes began to emerge, such as teacher attitudes towards inclusion, challenges faced in implementation, and strategies for overcoming barriers.

Similarly, Johnson and Smith (2017) utilized thematic analysis to explore the factors influencing student engagement in online learning environments. They conducted interviews with students and analyzed the data thematically, identifying patterns related to motivation, interaction, and support. Themes such as self-regulation strategies, instructor presence, and peer interaction emerged from the data, providing valuable insights into the dynamics of online learning engagement.

Thematic analysis allows researchers to identify both manifest and latent themes within qualitative data, providing a rich and nuanced understanding of participants' experiences, perspectives, and behaviors. By systematically organizing and interpreting data, thematic analysis facilitates the generation of meaningful insights and the development of theoretically informed conclusions.

However, it is essential for researchers to maintain rigor throughout the analysis process, ensuring transparency, consistency, and reflexivity in their approach.

Before delving into the detailed thematic analysis, the following table presents the list of interview questions based on indicators of teacher leaders and classroom climate. Furthermore, themes and subthemes for each question are outlined below:

Table No. 4.15   Theme Mapping based on Interview questions

Indicator: Risk Taking	
Q.1 How your teacher accepts challenges for the creation of further possibilities?	
Theme: Teacher's Approach to Challenges	**Sub Themes:**
	1. Proactive Mindset
	2. Innovative Teaching
	3. Adaptability
	4. Creating Dynamic Learning Environment
Q.2 How does it feel when a teacher is open to trying new things in teaching? Does it make you more interested and excited about learning?	
Theme: Openness to Innovative Teaching	**Sub Themes:**
	1. Engaging Learning Experiences
	2. Positive Classroom Environment
	3. Motivation to Participate
	4. Student-Teacher Relationship
Indicator: Effectiveness	
Q.3 Do you think that your teacher has a capacity to effectively deliver the lecture by using different teaching methods, if yes than tell me what are those techniques which he uses?	
Theme: Varied Teaching Methods for Effective Delivery	**Sub Themes:**
	1. Multimedia Integration.
	2. Interactive Activities.
	3. Group Discussion

	4. Use of Real-life Examples

Q.4 Can you recall a specific instance where a teacher effectively connected different subjects or topics during a lesson? How did this approach influence your understanding and engagement?

Theme: **Interdisciplinary Teaching** **Approach**	Sub Themes: 1. Seamless Integration. 2. Holistic Understanding. 3. Captivating Lesson. 4. Promoting Interconnectedness

Indicator: Autonomy

Q.5 Have you seen a teacher taking part in making the school better, like suggesting improvements or changes? How did that affect your experience as a student?

Theme: **Teacher Involvement in School** **Improvement**	Sub Themes: 1. Initiating Positive Changes. 2. Creating a Vibrant Atmosphere. 3. Valuing Student Input. 4. Community and Collaboration

Q.6 How do you feel when teachers have the freedom to decide how they teach and plan assessments? Do you think it makes a difference in your learning?

Theme: **Teacher Autonomy in teaching and** **Assessment**	Sub Themes: 1. Dynamic Learning Experience. 2. Tailored Approaches. 3. Engaging and Relevant Lessons 4. Positive Learning Environment

Indicator: Collegiality

Q.7 Can you think of a time when teachers and school staff worked together to improve the classroom or solve problems? How did this collaboration affect the way you learn?

Theme: **Teacher and School Staff** **Collaboration**	Sub Themes: 1. Addressing Classroom Challenges. 2. Conducive Learning Space. 3. Teamwork and Commitment. 4. Positive Influence on Learning.

Q.8 How does it feel when teachers and administrators communicate and collaborate to make the school a better place? Could you share an example of when this collaboration positively impacted your experience as a student?

Theme: Teacher-Administrator Collaboration for School Improvement	Sub Themes:
	1. Implementing Initiatives
	2. Additional Support and Guidance
	3. Alignment with Student's Needs.
	4. Enhancing the School Community

Indicator: Honor

Q.9 Can you share an example of a teacher demonstrating honesty and integrity in the classroom? How did this contribute to a positive and respectful learning environment?

Theme: Teacher's Honesty and Integrity in the Classroom	Sub Themes:
	1. Addressing Mistakes Transparently
	2. Fostering Trust
	3. Creating Respectful Atmosphere.
	4. Valuing Honesty in Learning

Q.10 How important do you think it is for teachers to uphold ethical principles like honesty and integrity in their roles as leaders? Can you recall a situation where a teacher's commitment to such values positively influenced the classroom climate?

Theme: Importance of Ethical Principles in Teaching	Sub Themes:
	1. Creating Positive Classroom Climate.
	2. Acknowledging Diverse Perspectives.
	3. Encouraging Open Dialogue.
	4. Fostering a Climate of Respect and Trust.

Indicator: Managing Learning Activities

Q.11 How would you describe your teacher's level of preparation for their lectures? Can you provide an example of a well-prepared lesson that significantly contributed to your learning experience?

Theme: Teacher's Level of Lecture Preparation	Sub Themes:
	1. Consistent high Preparations.
	2. Integration of Real-World Examples.
	3. Use of Multimedia Resources.
	4. Encouraging Lively Discussions.

Q.12 In terms of managing learning activities, do you think your teacher effectively uses appropriate learning materials during lectures? If so, could you share specific examples of the materials they use and how it enhances your understanding of the subject?

Theme: Appropriate Use of Learning Materials	Sub Themes:
	1. Incorporation of Interactive Stimulations
	2. Integration of Case Studies.
	3. Engaging Content Delivery.
	4. Enhancing Understanding of Complex Concepts.

Indicator: Encourage Students Participation

Q.13 Does your teacher encourage you to ask questions about the subject? Can you share an example of when you felt supported in asking questions?

Theme: Encouragement of Asking Questions	Sub Themes:
	1. Active Encouragement
	2. Addressing Queries Patiently
	3. Comfortable Environment.
	4. Fostering Active Participation

Q.14 Could you share specific situations where your teacher actively motivated you to participate in classroom discussions or activities, and how did this contribute to creating a positive and inclusive learning environment for you?

Theme: Teacher's Active Motivation for Participation	Sub Themes:
	1. Group Project Dynamics.
	2. Valuing Every Student's Input.
	3. Fostering Collaboration.

	4. Enhanced Involvement.

Indicator: Support Students Learning

Q.15 In your opinion, does your teacher exhibit supportive behavior toward students? Can you share examples of how your teacher has demonstrated this support?

Theme: Teacher's Supportive Behavior	Sub Themes:
	1. Individualized Support.
	2. Additional Explanations.
	3. Extra Resources
	4. Encouragement for questions

Q.16 Does your teacher provide additional time and reading materials to help students? If so, could you share specific instances where this support has positively impacted your learning?

Theme: Teacher's Provision for additional Support	Sub Themes:
	1. Extended Office Hours.
	2. Supplementary Reading Materials.
	3. Exam Preparation Support.
	4. Enhanced Comprehension

4.3.1 Thematic Analysis of 1st Interview Question:

How your teacher accepts challenges for the creation of further possibilities?

I've observed that my teacher accepts challenges by approaching them with a positive and proactive mindset. They seem open to exploring new methods, incorporating innovative approaches, and adapting to changing circumstances. This creates a dynamic and engaging learning environment that encourages students to think critically and embrace challenges as opportunities for growth and learning.

Theme: Teacher's Approach to Challenges

In the context of the above statement, the theme revolves around the teacher's proactive and positive approach toward challenges, signifying a mindset that perceives obstacles not as impediments but as opportunities for both personal and educational growth. This overarching theme sheds light on how the teacher navigates difficulties, fostering an environment where

challenges are embraced, innovative solutions are sought, and adaptability is a key driver in creating a dynamic learning atmosphere.

Sub-themes:

Proactive Mindset: Seeking Challenges as Opportunities for Growth: This sub-theme underscores the teacher's intentional pursuit of challenges as avenues for professional and personal development. It reflects a proactive mindset, wherein challenges are not perceived as obstacles but as opportunities to acquire valuable insights and enhance one's capabilities. The teacher's resilience in the face of difficulties becomes evident, contributing to a culture of continuous improvement and growth within the educational environment.

Willingness to Explore New Methods and Approaches: This aspect delves into the teacher's openness to embracing innovative teaching methodologies. It signifies adaptability and a commitment to staying abreast of evolving educational practices. The teacher's willingness to explore new approaches demonstrates a proactive stance in enhancing the learning experience, catering to the dynamic needs of the student body and fostering an environment of exploration and experimentation.

Innovative Teaching: Incorporation of Creative Teaching Strategies: This sub-theme highlights the teacher's dedication to infusing creativity into their instructional methods. It emphasizes the deliberate incorporation of creative teaching strategies, fostering an environment where lessons go beyond traditional approaches. The teacher's commitment to experimentation and creativity contributes to a dynamic and engaging learning experience for students.

Use of Diverse Approaches to Address Challenges: This aspect explores the teacher's deployment of various teaching approaches to address challenges effectively. It reflects adaptability in tailoring methods to suit diverse learning needs, ensuring that the teaching approach is responsive to the unique characteristics and preferences of the student population. The teacher's embrace of diverse approaches contributes to a comprehensive and inclusive learning environment.

Adaptability: Adapting to Changing Circumstances and Unexpected Challenges: This sub-theme examines the teacher's ability to navigate unforeseen challenges and changing circumstances. It underscores the importance of adaptability in maintaining an effective teaching approach, ensuring

that the learning environment remains responsive to external factors. The teacher's capacity to adapt contributes to the resilience of the educational ecosystem.

Flexibility in Adjusting Teaching Methods Based on Evolving Student Needs: This aspect explores the teacher's flexibility in adjusting teaching methods based on the evolving needs and dynamics of the student body. It reflects responsiveness to the unique characteristics of students, ensuring that instructional strategies are tailored to support individual learning journeys. The teacher's flexibility contributes to a personalized and student-centered educational experience.

Creating a Dynamic Learning Environment: Fostering a Classroom Atmosphere that Encourages Critical Thinking: This sub-theme delves into how the teacher actively promotes critical thinking within the classroom. It emphasizes the role of the teacher in cultivating an environment where analytical skills are honed, encouraging students to engage thoughtfully with the subject matter. The teacher's efforts contribute to the development of a mindset that values critical inquiry and analysis.

Encouraging Students to View Challenges as Avenues for Further Possibilities and Learning: This aspect explores the teacher's influence in shaping a positive mindset among students. It highlights the teacher's role in encouraging students to perceive challenges as opportunities for growth, fostering resilience and a proactive approach. The teacher's guidance contributes to creating a culture where challenges are seen as avenues for continuous learning and development.

In summary, this detailed thematic analysis provides a comprehensive understanding of the teacher's approach to challenges. It showcases the multifaceted dimensions of the teacher's mindset, teaching strategies, adaptability, and influence in creating a dynamic learning environment. The sub-themes intricately capture the nuances of how these aspects contribute to the overall educational experience, highlighting the teacher's pivotal role in shaping a positive and growth-oriented atmosphere.

4.3.2   Thematic Analysis of 2nd Interview Question:

How does it feel when a teacher is open to trying new things in teaching? Does it make you more interested and excited about learning?

"When a teacher demonstrates openness to trying new things in teaching, it significantly enhances the overall learning experience for me as a student. The classroom transforms into an environment

where curiosity is sparked, and there's a sense of excitement about what each class might bring. This openness creates a positive atmosphere that goes beyond traditional teaching methods, making the learning process more dynamic and interactive".

Theme: Openness to Innovative Teaching:

The theme "Openness to Innovative Teaching" reflects the transformative impact of teachers who embrace novel approaches in their instructional methods, as described by the student. This theme encompasses several sub-themes, providing a comprehensive understanding of the nuances associated with the openness to innovative teaching.

Sub-Themes:

1. Engaging Learning Experience: The sub-theme of engaging learning experience emphasizes the transformative impact that teachers can have by incorporating innovative teaching methods. When teachers actively seek new approaches, they inject a sense of novelty into the learning process. The act of experimentation ensures that each classroom session brings a fresh and creative perspective, preventing monotony and capturing students' attention. By embracing varied teaching methods, educators cater to diverse learning styles, accommodating the needs and preferences of a broad student population. This sub-theme underscores the role of innovative teaching in making the learning experience dynamic, stimulating, and adaptable to the evolving needs of students.

2. Positive Classroom Environment: Within the positive classroom environment sub-theme, the focus extends to the broader implications of teacher openness. Teachers who are willing to try new things create an inclusive and empowering atmosphere where students feel encouraged to express their thoughts and ideas. This positive ambiance is characterized by open communication, mutual respect for diverse viewpoints, and a sense of collaboration among students. By fostering an inclusive environment, openness contributes to a classroom culture that values each student's unique contributions, creating a supportive and enriching setting for learning.

3. Motivation to Participate: The motivation to participate sub-theme delves into the intrinsic motivational aspects associated with teachers who embrace innovative teaching. The willingness to explore new approaches sparks curiosity among students, motivating them to actively participate in class activities. Anticipating dynamic and varied lessons creates intrinsic motivation, prompting students to engage more deeply with the subject matter. This motivation to participate goes beyond

compliance; it instills a genuine interest in learning, enhancing the overall quality of the educational experience and encouraging a proactive approach to academic engagement.

4. Student-Teacher Relationship: Exploring the impact on the student-teacher relationship, this sub-theme highlights how openness to innovative teaching methods contributes to building a strong foundation for positive interactions. Teachers who embrace openness foster transparent communication, mutual exploration of new approaches, and a shared commitment to learning. This creates a conducive and collaborative dynamic in the student-teacher relationship. It evolves into a partnership where both parties actively contribute to the educational journey, creating an environment where students feel supported, valued, and inspired to actively participate in their own learning.

In summary, each sub-theme contributes to a holistic understanding of the benefits of teacher openness to innovative teaching, from creating dynamic learning experiences to fostering positive relationships and intrinsic motivation among students.

4.3.3   Thematic Analysis of 3ʳᵈ Interview Questions

Do you think that your teacher has a capacity to effectively deliver the lecture by using different teaching methods, if yes than tell me what are those techniques which he uses?

Absolutely, my teacher demonstrates a remarkable capacity to deliver lectures effectively by employing various teaching methods. One technique is the use of multimedia presentations, which includes visual aids, slides, and videos to enhance understanding. Additionally, the teacher often incorporates interactive activities, group discussions, and real-life examples, making the learning experience more engaging and relatable. This diverse approach caters to different learning styles, keeping the class interesting and ensuring a comprehensive understanding of the subject matter.

Theme: Varied Teaching Methods for Effective Delivery

The theme "Varied Teaching Methods for Effective Delivery" encapsulates the multifaceted strategies employed by the teacher to ensure an impactful and engaging lecture delivery. This theme reflects the teacher's commitment to enhancing the learning experience through a diverse range of teaching techniques. The utilization of multimedia integration, interactive activities, group discussions, and real-life examples collectively contributes to creating a dynamic and comprehensive instructional approach.

Sub Themes:

Multimedia Integration: The incorporation of visual aids, slides, and videos to supplement lecture content. In this aspect, the teacher's utilization of multimedia elements is explored. This includes a detailed examination of how visual aids, slides, and videos are integrated into lectures to enhance the overall learning experience. Understanding the impact of multimedia elements on students' engagement and comprehension forms a crucial aspect of this sub-theme.

How multimedia elements contribute to a more visually stimulating and informative learning experience. This sub-theme delves into the specific ways in which multimedia elements contribute to a visually stimulating and informative learning environment. It examines the effectiveness of visual aids in conveying complex information, ensuring that the visual components enhance the overall educational experience for students.

Interactive Activities: The use of interactive activities to encourage student participation and engagement. Here, the focus is on the teacher's incorporation of interactive activities within the teaching methodology. The sub-theme explores the nature of these activities and how they contribute to fostering active student participation and engagement during lectures.

The impact of hands-on experiences in reinforcing key concepts and fostering a dynamic classroom environment. This aspect goes beyond the inclusion of interactive activities to assess the impact of hands-on experiences on reinforcing key concepts. It explores how these hands-on experiences contribute to creating a dynamic and participatory classroom environment.

Group Discussions: The facilitation of group discussions to promote collaborative learning. This sub-theme examines the teacher's approach to facilitating group discussions as part of the teaching strategy. It explores the dynamics of group interactions and their role in promoting collaborative learning among students.

How group interactions contribute to a deeper understanding of the subject through shared perspectives. Within this aspect, the focus is on understanding how group discussions contribute to a deeper understanding of the subject matter. It explores the role of shared perspectives in enhancing comprehension and providing students with a more comprehensive view of the topics discussed.

Real-life Examples: The use of real-life examples to connect theoretical concepts with practical applications. This sub-theme delves into the teacher's incorporation of real-life examples within lectures. It explores how these examples are strategically used to bridge the gap between theoretical concepts and their practical applications, making the content more relatable for students.

How incorporating real-world scenarios enhances the relevance and applicability of the lecture content. This aspect evaluates the impact of incorporating real-world scenarios on the relevance and applicability of the lecture content. It assesses how the inclusion of real-life examples enhances students' understanding by illustrating the practical implications of theoretical concepts.

Overall, the theme and its sub-themes showcase the teacher's commitment to effective and student-centered instruction. By adopting a variety of teaching methods, the teacher seeks to create an inclusive and engaging learning environment that addresses the diverse needs of students, fostering a deeper understanding and appreciation for the subject matter.

4.3.4   Thematic Analysis of 4th Interview Question

Can you recall a specific instance where a teacher effectively connected different subjects or topics during a lesson? How did this approach influence your understanding and engagement?

There was a memorable example when my teacher seamlessly connected different subjects during a lesson. The teacher integrated concepts from literature, history, and science to provide a holistic understanding of a particular era. This interdisciplinary approach not only made the lesson more captivating but also helped me see the interconnectedness of various subjects. It enriched my understanding by presenting a comprehensive view and sparked a deeper interest in exploring the relationships between disciplines.

Theme: Interdisciplinary Teaching Approach

In this context, the theme encapsulates the teacher's approach of seamlessly integrating diverse subjects within a single lesson. The objective is to create a holistic and interconnected learning experience for students. This involves transcending traditional subject boundaries and presenting a unified narrative that draws on concepts from literature, history, and science.

Sub- Themes:

1. **Seamless Integration:** Within the theme, the first sub-theme, *Seamless Integration*, emphasizes the teacher's adeptness in combining different topics cohesively. This involves skillfully blending concepts from literature, history, and science to form a unified and interconnected narrative. The aim is to create a lesson where various subjects seamlessly converge, providing students with a comprehensive understanding.

2. **Holistic Understanding:** The second sub-theme, *Holistic Understanding*, delves into the impact of this interdisciplinary approach on students' comprehension. By connecting diverse subjects within a lesson, the teacher contributes to a deeper and more nuanced understanding of the subject matter. This sub-theme highlights the educational value of presenting topics as interconnected components rather than isolated disciplines.

3. **Captivating Lessons:** Moving on to the third sub-theme, *Captivating Lessons*, the focus is on the role of interdisciplinary connections in making lessons more engaging. Through the integration of concepts from various subjects, the teacher captures students' interest and encourages their active involvement in the learning process. This sub-theme underscores the importance of creating lessons that resonate with students and stimulate their curiosity.

4. **Promoting Interconnectedness:** The final sub-theme, *Promoting Interconnectedness*, explores the broader impact of connecting different subjects. This approach encourages students to perceive subjects as interrelated components rather than isolated disciplines. By fostering interconnected thinking, the teacher contributes to a holistic understanding of the relationships between various disciplines.

In summary, the theme of *Interdisciplinary Teaching Approach* encompasses the teacher's strategy of seamlessly integrating diverse subjects to create a holistic, engaging, and interconnected learning experience for students. This approach aims to transcend traditional subject boundaries, fostering a deeper understanding and appreciation of the interconnected nature of knowledge.

4.3.5   Thematic Analysis of 5th Interview Question

Have you seen a teacher taking part in making the school better, like suggesting improvements or changes? How did that affect your experience as a student?

Yes, I have witnessed a teacher actively participating in initiatives to improve the school environment. The teacher contributed ideas for positive changes, such as introducing

extracurricular activities and advocating for student feedback mechanisms. This involvement not only created a more vibrant and inclusive school atmosphere but also made me feel that my opinions and experiences were valued. It enhanced my overall student experience by fostering a sense of community and collaborative efforts towards continuous improvement.

Theme: Teacher Involvement in School Improvement

In the context of above statement, the theme revolves around a teacher actively participating in initiatives aimed at enhancing the school environment. The teacher's engagement extends to suggesting positive changes, contributing to a vibrant atmosphere, valuing student input, and fostering a sense of community and collaboration for continuous improvement.

Sub-themes:

1. **Initiating Positive Changes:** The first sub-theme, *Initiating Positive Changes*, explores how the teacher actively suggests improvements and changes within the school environment. This involves examining specific initiatives or ideas proposed by the teacher to enhance the overall school experience. The focus is on the proactive role the teacher plays in identifying areas for improvement and suggesting constructive changes.

2. **Creating a Vibrant Atmosphere:** Moving to the second sub-theme, *Creating a Vibrant Atmosphere*, the emphasis is on the impact of teacher involvement in fostering a vibrant and dynamic school atmosphere. Initiatives undertaken by the teacher contribute to creating a positive and engaging environment for both students and educators. This sub-theme underscores the role of teacher-led initiatives in shaping the overall atmosphere of the school.

3. **Valuing Student Input:** The third sub-theme, *Valuing Student Input*, delves into the significance of teachers seeking and valuing student opinions and feedback. This approach enhances the overall student experience by promoting a sense of inclusivity. Here, the focus is on how the teacher's involvement contributes to a school environment where student voices are acknowledged and considered in decision-making processes.

4. **Community and Collaboration:** The final sub-theme, *Community and Collaboration*, explores the role of teacher participation in promoting a sense of community within the school. The collaborative efforts towards improvement create a positive and supportive

educational environment. This sub-theme highlights how the teacher's engagement fosters a sense of belonging and collective responsibility for the well-being of the school community.

In summary, the theme of *Teacher Involvement in School Improvement* encompasses a teacher's proactive role in initiating positive changes, contributing to a vibrant atmosphere, valuing student input, and fostering community and collaboration within the school environment. This engagement enhances the overall school experience by creating a positive, inclusive, and continuously improving educational atmosphere.

4.3.6   Thematic Analysis of 6th Interview Question

How do you feel when teachers have the freedom to decide how they teach and plan assessments? Do you think it makes a difference in your learning?

I appreciate it when teachers have the freedom to decide how they teach and plan assessments. It creates a more dynamic and tailored learning experience. The freedom allows teachers to adapt their methods based on our class's needs, making the lessons more engaging and relevant. This autonomy fosters a positive learning environment, and knowing that teachers can adjust their approach based on our learning styles makes a significant difference in my overall learning experience.

Theme: Teacher Autonomy in Teaching and Assessment

The theme centers around the appreciation expressed by students when teachers have the freedom to decide how they teach and plan assessments. This autonomy creates a dynamic and tailored learning experience, allowing teachers to adapt their methods based on the class's needs and making lessons more engaging and relevant.

Sub-themes:

1. **Dynamic Learning Experience:** The first sub-theme, *Dynamic Learning Experience*, delves into the impact of teacher autonomy on creating a dynamic and adaptable learning environment. It explores how the freedom to choose teaching methods enhances the flexibility and responsiveness of lessons. This sub-theme underscores the importance of autonomy in promoting an environment where teaching methods can evolve to meet the changing needs of the students.

2. **Tailored Approaches:** Moving to the second sub-theme, *Tailored Approaches*, the focus is on how teacher autonomy allows for tailored approaches to teaching and assessment. It examines the benefits of adapting methods based on the unique needs and preferences of the student body. This sub-theme emphasizes the role of autonomy in providing a customized educational experience that caters to the diversity of student learning styles.

3. **Engaging and Relevant Lessons:** The third sub-theme, *Engaging and Relevant Lessons*, explores the role of teacher freedom in making lessons more engaging and relevant. It analyzes how autonomy contributes to a more meaningful and student-centered learning experience. This sub-theme highlights the connection between teacher autonomy and the creation of lessons that capture student interest and align with real-world applications.

4. **Positive Learning Environment:** The final sub-theme, *Positive Learning Environment*, delves into the influence of teacher autonomy on fostering a positive and supportive learning environment. It examines how students perceive and respond to an educational setting where teachers have the freedom to decide their instructional methods. This sub-theme underscores the impact of autonomy on shaping a classroom atmosphere that promotes positivity and student well-being.

In summary, the theme of *Teacher Autonomy in Teaching and Assessment* reflects students' appreciation for the freedom teachers have in deciding how to teach and assess. The sub-themes further explore the impact of autonomy on creating a dynamic learning experience, allowing tailored approaches, making lessons engaging and relevant, and fostering a positive learning environment.

4.3.7   Thematic Analysis of 7th Interview Question

Can you think of a time when teachers and school staff worked together to improve the classroom or solve problems? How did this collaboration affect the way you learn?

Absolutely, there was a notable instance when teachers and school staff collaborated to enhance the classroom environment. They worked together to address issues related to classroom resources and organization. This collaboration positively influenced my learning by creating a more conducive and organized space. It showed that the school prioritized addressing challenges

collectively, fostering a sense of teamwork and commitment to providing an optimal learning environment for students.

Theme: Teacher and School Staff Collaboration

The theme revolves around a notable instance where teachers and school staff collaborated to enhance the classroom environment, positively influencing the student's learning experience. This collaboration addressed challenges related to classroom resources and organization, showcasing a collective effort to create an optimal learning environment.

Sub-themes:

1. **Addressing Classroom Challenges:** The first sub-theme, *Addressing Classroom Challenges*, explores the specific challenges or issues addressed by teachers and school staff through collaboration. It delves into how this joint effort focused on resolving problems related to the classroom environment. This sub-theme highlights the proactive approach taken by educators and staff to identify and overcome challenges collectively.

2. **Conducive Learning Space:** Moving to the second sub-theme, *Conducive Learning Space*, the focus is on the impact of collaboration on creating a more conducive and organized classroom space. It examines how joint efforts contributed to improving the physical and organizational aspects of the learning environment. This sub-theme underscores the importance of collaborative initiatives in enhancing the overall atmosphere for effective learning.

3. **Teamwork and Commitment:** The third sub-theme, *Teamwork and Commitment*, delves into the significance of collaboration in fostering a sense of teamwork among teachers and school staff. It explores how this collaborative approach reflects a commitment to providing an optimal learning environment for students. This sub-theme emphasizes the role of teamwork in creating a supportive and committed educational community.

4. **Positive Influence on Learning:** The final sub-theme, *Positive Influence on Learning*, explores the overall positive influence of teacher and school staff collaboration on the student learning experience. It analyzes how students perceive and benefit from a collaborative effort aimed at enhancing the classroom environment. This sub-theme underscores the impact of collaboration on creating a positive and enriching learning environment for students.

In summary, the theme of *Teacher and School Staff Collaboration* illustrates a collaborative effort to address classroom challenges, create a conducive learning space, promote teamwork and commitment, and positively influence the overall learning experience.

4.3.8 Thematic Analysis of 8th Interview Question

How does it feel when teachers and administrators communicate and collaborate to make the school a better place? Could you share an example of when this collaboration positively impacted your experience as a student?

When teachers and administrators communicate and collaborate to improve the school, it creates a positive and supportive atmosphere. An example that stands out is when they collaborated on implementing a mentorship program for students. This collaborative effort positively impacted my experience as a student by providing additional support and guidance. The communication between teachers and administrators ensured that the program aligned with students' needs, making me feel more connected to the school community and enhancing my overall learning experience.

Theme: Teacher-Administrator Collaboration for School Improvement

The theme focuses on instances where teachers and administrators collaborated to enhance the school environment, with a specific example highlighting the implementation of a mentorship program for students. This collaborative effort positively impacted the student's experience by providing additional support, aligning with student needs, and fostering a sense of community within the school.

Sub-themes:

1. **Implementing Initiatives:** The first sub-theme, *Implementing Initiatives*, explores how teachers and administrators collaborated to implement specific initiatives or programs aimed at enhancing the overall school experience. It delves into the collaborative decision-making process and the focus on initiatives that contribute to the betterment of the educational environment.

2. **Additional Support and Guidance:** Moving to the second sub-theme, *Additional Support and Guidance*, the focus is on the impact of collaborative efforts in providing additional support and guidance to students. It examines how the collaboration addresses specific

needs, emphasizing the importance of such support in creating a more nurturing and supportive learning environment.

3. **Alignment with Student Needs:** The third sub-theme, *Alignment with Student Needs*, explores the role of communication in ensuring that collaborative initiatives align with students' needs. It analyzes how this alignment contributes to the effectiveness and relevance of the implemented programs, emphasizing the importance of addressing student-specific requirements.

4. **Enhancing the School Community:** The final sub-theme, *Enhancing the School Community*, delves into the broader impact of teacher-administrator collaboration in fostering a sense of community within the school. It explores how students perceive and benefit from collaborative efforts aimed at making the school a better place. This sub-theme emphasizes the role of collaboration in creating a cohesive and supportive school community.

In summary, the theme of *Teacher-Administrator Collaboration for School Improvement* highlights collaborative efforts in implementing initiatives, providing additional support to students, aligning with their needs, and fostering a sense of community. The specific example of implementing a mentorship program illustrates how effective communication and collaboration positively impact the student's overall learning experience, emphasizing the importance of such initiatives in creating a supportive and enriching school environment.

4.3.9 Thematic Analysis of 9th Interview Question

Can you share an example of a teacher demonstrating honesty and integrity in the classroom? How did this contribute to a positive and respectful learning environment?

Certainly, there was a memorable instance when a teacher openly addressed a mistake in grading and took immediate corrective action. This demonstration of honesty and integrity contributed significantly to a positive and respectful learning environment. It showed transparency and accountability, fostering trust between the teacher and students. This experience emphasized that the classroom was a place where mistakes could be acknowledged and rectified, creating a respectful atmosphere where honesty was valued.

Theme: Teacher's Honesty and Integrity in the Classroom

The theme revolves around a memorable instance where a teacher openly addressed a mistake in grading, showcasing honesty and integrity. This demonstration significantly contributed to creating a positive and respectful learning environment, emphasizing transparency, accountability, trust-building, and the value of honesty in the learning process.

Sub-themes:

1. **Addressing Mistakes Transparently:** The first sub-theme, *Addressing Mistakes Transparently*, delves into how the teacher openly addressed and rectified a mistake in grading. It emphasizes the significance of transparency in acknowledging errors and the immediate corrective actions taken, highlighting the importance of such openness in maintaining trust within the classroom.

2. **Fostering Trust:** Moving on to the second sub-theme, *Fostering Trust*, the focus is on the role of the teacher's honesty and integrity in fostering trust between the teacher and students. It explores how students perceive and respond to a teacher who demonstrates transparency and accountability, underscoring the importance of trust in the teacher-student relationship.

3. **Creating a Respectful Atmosphere:** The third sub-theme, *Creating a Respectful Atmosphere*, examines how the teacher's actions contribute to creating a respectful learning environment. It delves into how the demonstration of honesty influences the classroom culture, fostering an atmosphere where integrity is valued and respected.

4. **Valuing Honesty in Learning:** The final sub-theme, *Valuing Honesty in Learning*, explores the impact of the experience on students' perception of the value of honesty in the learning process. It analyzes how such instances contribute to shaping students' attitudes toward integrity in education, emphasizing the enduring impact of honest and transparent behavior.

In summary, the theme of *Teacher's Honesty and Integrity in the Classroom* showcases a memorable instance where a teacher's transparent handling of a grading mistake contributed to a positive and respectful learning environment. The sub-themes highlight the importance of transparency in addressing mistakes, the role of honesty in fostering trust, the creation of a respectful atmosphere, and the lasting impact on students' attitudes toward integrity in education.

This theme emphasizes the foundational role of honesty in shaping a positive and trusting classroom culture.

4.3.10 Thematic Analysis of 10th Interview Question

How important do you think it is for teachers to uphold ethical principles like honesty and integrity in their roles as leaders? Can you recall a situation where a teacher's commitment to such values positively influenced the classroom climate?

The importance of teachers upholding ethical principles like honesty and integrity cannot be overstated. These values are crucial for creating a positive and trustworthy classroom climate. I vividly recall a situation where a teacher's commitment to these values positively influenced the classroom. During a challenging discussion, the teacher acknowledged diverse perspectives, encouraged open dialogue, and maintained honesty in addressing sensitive issues. This commitment fostered a climate of respect, trust, and inclusivity, making the classroom a space where students felt comfortable expressing their opinions.

Theme: Importance of Ethical Principles in Teaching

In reflecting on the theme of the *Importance of Ethical Principles in Teaching*, the narrative centers around a vivid instance where a teacher's commitment to honesty and integrity profoundly influenced the classroom environment. This theme highlights the foundational role of ethical principles in shaping a positive and trustworthy classroom climate, emphasizing values that go beyond academic instruction.

Sub-themes:

1. **Creating a Positive Classroom Climate:** The initial sub-theme, *Creating a Positive Classroom Climate*, explores the critical role of ethical principles, such as honesty and integrity, in establishing a positive and trustworthy atmosphere within the classroom. It delves into how these values contribute to the overall ambiance, fostering an environment conducive to effective learning.

2. **Acknowledging Diverse Perspectives:** Moving on to *Acknowledging Diverse Perspectives*, the focus is on the teacher's commitment to recognizing and incorporating diverse viewpoints in discussions. This sub-theme illuminates how inclusivity, guided

by ethical principles, positively shapes the classroom climate by embracing a variety of perspectives.

3. **Encouraging Open Dialogue:** The third sub-theme, *Encouraging Open Dialogue*, underscores the importance of honesty in fostering open and constructive communication. It explores how the teacher's commitment to ethical principles promotes an environment where students feel encouraged to express their thoughts openly, contributing to a climate of respect and understanding.

4. **Fostering a Climate of Respect and Trust:** Concluding with *Fostering a Climate of Respect and Trust*, this sub-theme explores the overall impact of the teacher's dedication to ethical principles. It delves into how students perceive and respond to a classroom environment characterized by honesty and integrity, emphasizing the enduring influence of these values on shaping a respectful and trusting learning space.

In summary, the theme of *Importance of Ethical Principles in Teaching* unfolds through a vivid narrative of a teacher's commitment to honesty and integrity. The sub-themes collectively underscore the pivotal role of ethical principles in creating a positive classroom climate, embracing diverse perspectives, encouraging open dialogue, and fostering a lasting sense of respect and trust among students. This theme accentuates the foundational significance of ethical values in shaping a holistic and enriching educational experience.

4.3.11 Thematic Analysis of 11[h] Interview Question

How would you describe your teacher's level of preparation for their lectures? Can you provide an example of a well-prepared lesson that significantly contributed to your learning experience?

My teacher consistently demonstrates a high level of preparation for lectures, which significantly enhances our learning experience. An exemplary instance was a lesson where the teacher seamlessly integrated real-world examples, multimedia resources, and engaging activities. The lesson not only clarified complex concepts but also sparked lively discussions among students. This level of preparation creates an environment where learning is dynamic, making the subject matter more accessible and enjoyable.

Theme: Teacher's Level of Lecture Preparation

The theme of the *Teacher's Level of Lecture Preparation* unfolds through a student's keen observation of the teacher consistently exhibiting a high degree of readiness for lectures. This

theme sheds light on how the teacher's preparedness significantly influences the overall learning experience, creating a dynamic and engaging atmosphere within the classroom.

Sub-themes:

1. **Consistent High Preparation:** Commencing with *Consistent High Preparation*, this sub-theme encapsulates the student's consistent observation of the teacher's meticulous readiness for lectures. It explores how this unwavering commitment to preparation becomes a cornerstone of the learning experience, shaping a classroom environment that prioritizes thorough understanding and effective communication.

2. **Integration of Real-World Examples:** The subsequent sub-theme, *Integration of Real-World Examples*, delves into how the teacher seamlessly incorporates real-world examples into lessons. This sub-theme emphasizes the positive impact of real-world illustrations in elucidating complex concepts, making the subject matter more relatable and accessible to students.

3. **Use of Multimedia Resources:** Moving on to *Use of Multimedia Resources*, this sub-theme explores the role of multimedia elements in enhancing the learning experience. It highlights how the strategic use of multimedia resources contributes to creating a dynamic and engaging classroom atmosphere, fostering an environment where students can actively participate in the learning process.

4. **Encouraging Lively Discussions:** The final sub-theme, *Encouraging Lively Discussions*, focuses on the teacher's ability to prepare lessons that stimulate lively discussions among students. It investigates how these discussions, sparked by well-prepared lessons, play a vital role in deepening understanding and cultivating an interactive learning environment.

In summary, the theme of *Teacher's Level of Lecture Preparation* provides insights into the student's perspective on the teacher's consistent high preparation. The sub-themes collectively emphasize the impact of this preparation on the overall learning experience, showcasing the integration of real-world examples, the use of multimedia resources, and the encouragement of lively discussions. This theme underscores the crucial role of teacher preparedness in fostering an environment where learning is not only comprehensive but also dynamic and enjoyable.

4.3.12 Thematic Analysis of 12th Interview Question

In terms of managing learning activities, do you think your teacher effectively uses appropriate learning materials during lectures? If so, could you share specific examples of the materials they use and how it enhances your understanding of the subject?

Regarding managing learning activities, my teacher effectively incorporates appropriate learning materials during lectures. For instance, in a recent lesson, the teacher utilized interactive simulations and case studies related to the subject matter. These materials not only made the content more engaging but also provided practical insights, deepening our understanding of complex concepts. The use of such materials enhances the overall learning experience by creating a dynamic and immersive classroom environment.

Theme: Appropriate Use of Learning Materials

The theme of *Appropriate Use of Learning Materials* emerges from a student's observation of the teacher's effective incorporation of diverse learning materials during lectures. This theme underscores the pivotal role played by the strategic integration of interactive simulations and case studies in creating a dynamic and immersive classroom environment.

Sub-themes:

1. **Incorporation of Interactive Simulations:** Commencing with the *Incorporation of Interactive Simulations*, this sub-theme delves into how the teacher seamlessly integrates interactive simulations into lessons. It explores the impact of these simulations on student engagement, making the content more dynamic and fostering an interactive learning experience.

2. **Integration of Case Studies:** The subsequent sub-theme, *Integration of Case Studies*, explores the role of case studies in providing practical insights during lectures. It highlights how the integration of case studies contributes to a deeper understanding of complex concepts, offering students real-world applications that enhance their overall comprehension.

3. **Engaging Content Delivery:** Moving on to *Engaging Content Delivery*, this sub-theme encapsulates the overall impact of using appropriate learning materials on creating engaging content delivery. It emphasizes how the strategic use of diverse

materials contributes to a classroom environment where students are actively involved, fostering an immersive and participatory learning experience.

4. **Enhancing Understanding of Complex Concepts:** The final sub-theme, *Enhancing Understanding of Complex Concepts*, focuses on specific examples of learning materials that deepen students' comprehension. It explores how these materials play a crucial role in elucidating intricate subject matter, contributing to a more profound understanding among students.

In summary, the theme of *Appropriate Use of Learning Materials* provides insights into the student's perspective on the teacher's effective incorporation of interactive simulations and case studies. The sub-themes collectively emphasize the impact of these materials on engaging content delivery, enhancing understanding of complex concepts, and creating an immersive classroom environment. This theme highlights the significance of thoughtful and varied learning materials in fostering an enriching and participatory learning experience.

4.3.13 Thematic Analysis of 13th Interview Question

Does your teacher encourage you to ask questions about the subject? Can you share an example of when you felt supported in asking questions?

Yes, my teacher actively encourages us to ask questions about the subject. An instance that stood out was during a challenging topic when the teacher explicitly invited questions and patiently addressed each query. This supportive approach creates a comfortable environment for asking questions, fostering a sense of confidence among students to actively participate in discussions.

Theme: Encouragement for Asking Questions

The theme of *Encouragement for Asking Questions* arises from a student's positive experience with a teacher who actively promotes an open and inclusive classroom environment by encouraging questions. This theme sheds light on the various aspects of the teacher's approach that contribute to creating a supportive learning atmosphere.

Sub-themes:

1. **Active Encouragement:** Commencing with *Active Encouragement*, this sub-theme explores how the teacher actively encourages students to ask questions. It delves into the positive impact of such encouragement on fostering an open and inclusive

classroom environment, where students feel empowered to actively engage with the subject matter.

2. **Addressing Queries Patiently:** The subsequent sub-theme, *Addressing Queries Patiently*, focuses on the teacher's approach in patiently addressing students' questions. It discusses how this patient approach contributes to a supportive learning atmosphere, creating a safe space where students feel comfortable seeking clarification and guidance.

3. **Comfortable Environment:** Moving on to *Creating a Comfortable Environment*, this sub-theme emphasizes the importance of fostering a comfortable environment for students to freely ask questions. It explores the role of a supportive atmosphere in building students' confidence, encouraging them to participate actively in classroom discussions without hesitation.

4. **Fostering Active Participation:** The final sub-theme, *Fostering Active Participation*, examines how the encouragement to ask questions positively influences students' active participation in classroom discussions. It delves into the overall impact of such encouragement on student engagement and learning, highlighting the reciprocal relationship between encouraging questions and fostering an environment conducive to active involvement.

In summary, the theme of *Encouragement for Asking Questions* showcases the teacher's proactive approach in creating an open and inclusive classroom environment. The sub-themes collectively highlight the positive impact of active encouragement, patient addressing of queries, the creation of a comfortable environment, and the fostering of active participation. This theme underscores the teacher's pivotal role in nurturing a learning atmosphere where students feel confident, engaged, and empowered to actively participate through asking questions.

4.3.14 Thematic Analysis of 14th Interview Question

Could you share specific situations where your teacher actively motivated you to participate in classroom discussions or activities, and how did this contribute to creating a positive and inclusive learning environment for you?

There have been instances where my teacher actively motivated me to participate in classroom discussions and activities. One notable situation was a group project where the teacher

encouraged each student to contribute their ideas and take on specific roles. This motivation not only enhanced my involvement but also created a positive and inclusive learning environment by valuing every student's input and fostering collaboration.

Theme: Teacher's Active Motivation for Participation

The theme of *Teacher's Active Motivation for Participation* stems from a student's positive experiences where the teacher actively encourages participation in classroom discussions and activities. This theme illuminates various dimensions of the teacher's approach that contribute to creating a dynamic and participatory learning environment.

Sub-themes:

1. Group Project Dynamics: Commencing with *Group Project Dynamics*, this sub-theme explores how the teacher incorporates group projects as opportunities for active participation. It delves into the specific roles assigned to students and analyzes the impact of these roles on their engagement, highlighting the teacher's strategic use of collaborative projects to stimulate participation.

2. Valuing Every Student's Input: The subsequent sub-theme, *Valuing Every Student's Input*, underscores the teacher's emphasis on valuing and incorporating each student's ideas. It delves into the contribution of this approach to creating a positive and inclusive learning environment, showcasing the teacher's commitment to recognizing the unique perspectives and contributions of every student.

3. Fostering Collaboration: Moving on to *Fostering Collaboration*, this sub-theme examines how active motivation contributes to fostering collaboration among students. It explores the overall influence of collaborative activities on the learning atmosphere, emphasizing the teacher's role in promoting teamwork and cooperative learning for a more enriched educational experience.

4. Enhanced Involvement: The final sub-theme, *Enhanced Involvement*, delves into the impact of active motivation on enhancing students' involvement in classroom discussions and activities. It explores how such involvement contributes to a more dynamic and participatory learning environment, emphasizing the teacher's ability to inspire and engage students in the learning process.

Summary Paragraph: In summary, the theme of *Teacher's Active Motivation for Participation* underscores the teacher's proactive role in creating a dynamic and participatory learning environment. The sub-themes collectively highlight the strategic use of group projects, the emphasis on valuing every student's input, the fostering of collaboration, and the enhanced involvement of students. This theme accentuates the teacher's influence in cultivating a positive, inclusive, and engaging atmosphere where students feel motivated to actively participate and contribute to the learning experience.

4.3.14 Thematic Analysis of 15ᵗʰ Interview Question

In your opinion, does your teacher exhibit supportive behavior toward students? Can you share examples of how your teacher has demonstrated this support?

Yes, my teacher exhibits supportive behavior toward students. An example that comes to mind is when a classmate faced challenges understanding a complex topic. Instead of moving on quickly, the teacher took the time to provide additional explanations, offered extra resources, and encouraged questions. This supportive approach creates a conducive learning environment where students feel valued and assisted in their academic journey.

Theme: Teacher's Supportive Behavior

The theme of *Teacher's Supportive Behavior* is derived from a student's belief that their teacher consistently exhibits supportive behavior towards students. This theme encapsulates various aspects of the teacher's approach that contribute to fostering a conducive learning environment where students feel valued and assisted in their academic journey.

Sub-themes:

1. **Individualized Support:** Commencing with *Individualized Support*, this sub-theme explores how the teacher offers personalized assistance to students facing challenges. It delves into the role of individualized support in addressing students' specific needs, highlighting the teacher's commitment to tailoring assistance based on the unique learning requirements of each student.

2. **Additional Explanations:** The subsequent sub-theme, *Additional Explanations*, emphasizes the teacher's willingness to provide extra explanations when needed. It delves into how this approach contributes to a supportive and understanding learning

environment, showcasing the teacher's commitment to ensuring that students comprehend challenging concepts through additional clarification.

3. **Extra Resources:** Moving on to *Extra Resources*, this sub-theme explores the provision of supplementary materials to aid students in grasping challenging concepts. It examines the impact of these extra resources on supporting students' learning, emphasizing the teacher's effort to go beyond traditional teaching methods to provide additional materials that enhance understanding.

4. **Encouragement for Questions:** The final sub-theme, *Encouragement for Questions*, delves into how the teacher actively encourages students to ask questions. It explores the positive effect of fostering an environment where questions are welcomed and addressed, showcasing the teacher's role in creating a classroom atmosphere that values curiosity and promotes student engagement.

In summary, the theme of *Teacher's Supportive Behavior* underscores the teacher's dedication to creating a supportive learning environment. The sub-themes collectively highlight the provision of individualized support, willingness to offer additional explanations, the provision of extra resources, and active encouragement for questions. This theme accentuates the teacher's pivotal role in fostering an atmosphere where students feel valued, supported, and encouraged in their academic pursuits.

4.3.15 Thematic Analysis of 16th Interview Question

Does your teacher provide additional time and reading materials to help students? If so, could you share specific instances where this support has positively impacted your learning?

Yes, my teacher is supportive in providing additional time and reading materials to help students. One instance that stands out is during exam preparations. The teacher extended office hours to clarify doubts, shared supplementary reading materials for in-depth understanding, and ensured that everyone had access to necessary resources. This support not only eased exam-related stress but also enhanced my overall comprehension of the subject.

Theme: Teacher's Provision of Additional Support

The theme of *Teacher's Provision of Additional Support* is rooted in a student's observation that their teacher is supportive in providing extra time and supplementary reading materials to aid students, particularly during exam preparations. This theme encompasses various facets of the

teacher's supportive approach, contributing to a more enriched and effective learning experience for students.

Sub-themes:

1. **Extended Office Hours:** *Extended Office Hours* explores how the teacher extends their availability beyond regular hours to provide additional support to students. It delves into the impact of this extended availability in addressing students' doubts and concerns, highlighting the teacher's commitment to ensuring that students have ample opportunities for clarification.

2. **Supplementary Reading Materials:** The sub-theme *Supplementary Reading Materials* focuses on the teacher's practice of sharing additional reading materials to deepen students' understanding. It examines how these supplementary materials contribute to a more comprehensive grasp of the subject matter, showcasing the teacher's dedication to enhancing the depth of students' knowledge.

3. **Exam Preparation Support:** *Exam Preparation Support* delves into the specific assistance provided by the teacher during exam preparations. It explores the role of this support in alleviating stress and promoting effective exam readiness, underlining the teacher's commitment to facilitating a conducive environment for students during crucial academic periods.

4. **Enhanced Comprehension:** The final sub-theme, *Enhanced Comprehension*, explores how the teacher's provision of additional time and reading materials contributes to students' overall comprehension. It highlights the positive impact of this support on the learning experience, emphasizing how the teacher's efforts go beyond the standard curriculum to foster a more profound understanding of the subject.

In summary, the theme of *Teacher's Provision of Additional Support* showcases the teacher's multifaceted approach in providing extra assistance to students. The sub-themes collectively highlight extended office hours, sharing supplementary reading materials, specific support during exam preparations, and the resultant enhancement in students' comprehension. This theme underscores the teacher's commitment to going above and beyond to ensure students receive the support needed for a comprehensive and successful learning journey

4.4 Integration of Results

Section VI: Integration of Quantitative and Qualitative results

In the context of the study titled "Impact of Teacher Leaders on their Classroom Climate at Higher Education Level," the integration of quantitative and qualitative results serves as a crucial step in providing a comprehensive understanding of the multifaceted dynamics within higher education classrooms. The study aimed to explore the influence of teacher leaders on the classroom climate, examining both the quantitative measures and the qualitative nuances that contribute to a rich depth of insights.

In the integration section of the study on the "Impact of Teacher Leaders on their Classroom Climate at Higher Education Level," the introduction serves as a crucial foundation for merging quantitative and qualitative results. The Explanatory Sequential Design by Creswell (2015) suggested integrating Quantitative and Qualitative results to understand the In-depth detail of research problem. In the context of current study process of integrating both Quantitative and Qualitative results can be illustrated as below:

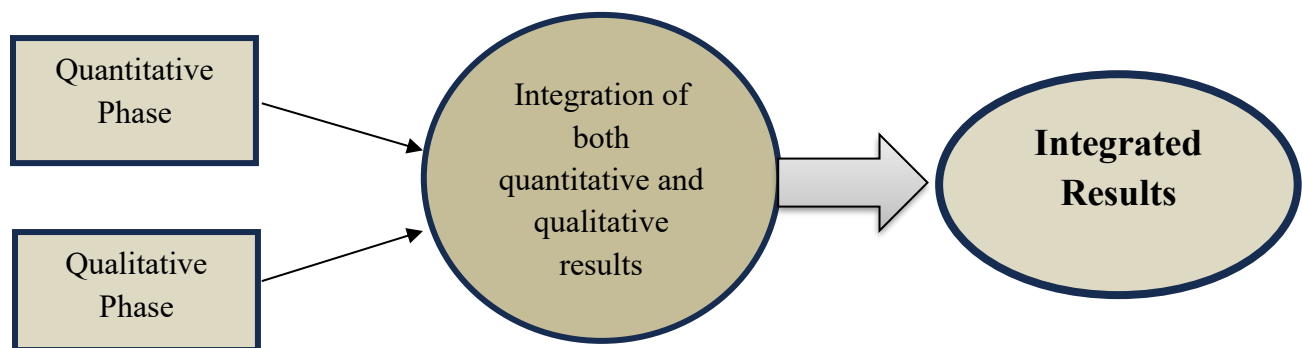*Figure 15 Integration of Quantitative and Qualitative results*

4.4.1 Introduction to Integration

Rationale Behind Integration: In this study, the integration of quantitative and qualitative results is paramount due to the multifaceted nature of the research question. The impact of teacher leaders on the classroom climate is a complex phenomenon that cannot be fully captured by either

quantitative measures alone or qualitative insights in isolation. By integrating both approaches, the study aims to provide a comprehensive and holistic understanding, delving into the intricacies that contribute to the overall classroom climate.

Need for Depth and Breadth

Quantitative data may offer numerical representations of specific aspects of teacher leadership impact, such as student satisfaction or performance metrics. On the other hand, qualitative data provides depth by exploring the nuanced experiences, perceptions, and interactions within the classroom. The decision to integrate these approaches stems from the acknowledgment that a blend of these methods will provide a more comprehensive and visible understanding of the impact of teacher leaders on the classroom climate in higher education.

The principal goal is to go beyond surface-level observations and statistical summaries. The study acknowledges that the depth and breadth of the impact of teacher leaders can only be fully understood by mixing together the statistical significance of quantitative data with the rich narratives and contextual understanding provided by qualitative insights.

Significance for the Current Study

In the context of this study, the integration addresses the details of teacher leadership in higher education classrooms. The quantitative aspect measures tangible outcomes, such as identification of Teacher Leaders by examining Teacher Leadership attributes in the Light of REACH Model of Teacher Leader (Meridreth,2000.), Classroom Climate strategies practiced by the teaching faculty and most importantly to find out the impact of Teacher Leader on their Classroom Climate., while the qualitative dimension explores detailed explanation of Quantitative findings with reference to emotional and relational aspects of above discussed variables. By integrating these, the study aims to reveal not only "what" impact teacher leaders have but also "how" and "why" these impacts manifest, offering a nuanced and comprehensive exploration of the phenomenon under investigation.

4.4.2   Linking Qualitative and Quantitative Phases

Connecting the qualitative and quantitative phases involves summarizing the essential themes extracted from the qualitative analysis, particularly those related to teacher leadership and

classroom climate. This involves a clear and explicit association of each identified theme with corresponding quantitative variables or measures used in the study on the impact of teacher leaders in higher education. This linkage helps establish a cohesive narrative that incorporates insights from both qualitative and quantitative data.

4.4.3 Integrated Results (Major Insights)

This section integrates the findings of Objectives 1, 2, and 3 by combining quantitative data with student insights. Qualitative findings from Objective 4; student's views about leadership attributes of Teacher Leader and their Classroom Climate practices were used to support and enrich these results. This provides a holistic view of how Teacher Leadership influences Classroom Climate in higher education. In the current study results were integrated keeping in view the alignment of research objectives. Detail of integrated results are as below:

Table No. 4.16   Objective 1 Identification of Teacher Leaders

Quantitative Findings	Qualitative Insights	Integrated Results
Only 55 out of 273 faculty (20.1%) were identified as Teacher Leaders.	Students confirmed their teachers showed strong leadership traits like effectiveness, autonomy, and honor whereas risk-taking and collegiality were less observed.	The student feedback supports the identification of Teacher Leaders but reveals that certain leadership behaviors; Risk Taking and Collegiality may be less commonly practiced and less noticeable in actual classroom settings.

Table No. 4.17   Objective 2 Classroom Climate strategies adopted by Teacher Leaders

Quantitative Findings	Qualitative Insights	Integrated Results
Results reveal that Teacher Leaders adopted: • 45% encouraged student participation • 30% Support student learning • 25% managed learning activities	Students reported that their teachers actively encouraged participation and provided academic support; however, effective management of classroom activities was less frequently observed.	Both findings show that Teacher Leader focuses more on student participation and individual support whereas management of learning activities were less observed

Table No.4.18   Objective 3 Impact of Teacher Leaders on their Classroom Climate

Quantitative Findings	Qualitative Insights	Integrated Results
Regression analysis showed a strong Positive impact of Teacher Leaders on their Classroom Climate (R^2 = 90.6%).	Students' responses aligned with regression results: they frequently recognized the positive influence of Effectiveness, Honor and Autonomy. Risk-taking and Collegiality were less discussed, despite showing high quantitative impact.	Teacher Leadership has a strong positive impact on Classroom Climate (R^2 = 90.6%). Students mostly noticed Effectiveness, Honor and Autonomy, while Risk-taking and Collegiality were less visible despite their high impact in data.

CHAPTER 5

SUMMARY, FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

This Chapter serves as the conclusion of the research journey, providing a comprehensive overview of the study's outcomes and their implications. The current chapter captures the key findings derived from the data analyses, engages in a thorough discussion of these findings, and ultimately draws conclusions. Additionally, it outlines practical recommendations based on the research outcomes. The following sections delve into the summary of results, the discussion of these results, the ultimate conclusions drawn from the study, and recommendations for future research and practical applications. This synthesis aims to offer readers a coherent and insightful understanding of the study's contributions to the field and its potential impact on educational practices.

5.1   Summary

The Current Study focuses to explore the Impact of Teacher Leaders on their Classroom climate at Higher Education Level. The rationale of the study is rooted in the evolving role of educators and the growing acknowledgment that their impact goes beyond the traditional boundaries of content delivery. The contemporary educational landscape recognizes that teachers, particularly those who assume leadership roles, play a pivotal role in shaping the entire learning environment. The traditional view of teachers as conveyors of information has evolved into a more nuanced understanding of their influence on the broader educational experience.

The recognition of teachers as leaders implies that they not only impart knowledge but also actively contribute to creating a holistic and conducive learning environment. This acknowledgment stems from the understanding that effective teaching extends beyond the transmission of facts; it involves cultivating an atmosphere that fosters intellectual growth, emotional well-being, and a sense of belonging among students. Teacher leaders, in particular, are seen as catalysts for positive change, capable of shaping the overall classroom climate.

The study's rationale is grounded in the belief that comprehending the intricate dynamics of teacher leadership is essential for fostering optimal learning environments in higher education institutions. By exploring these dynamics, the research aims to uncover the underlying connections between teacher leadership and the broader classroom atmosphere. This involves delving into the ways in which teacher leaders contribute to the creation of an educational setting that is not only academically enriching but also supportive, inclusive, and conducive to holistic student development. The study seeks to unravel these complex interconnections to provide insights that can inform educational practices and contribute to the ongoing discourse on effective teaching in higher education.

The problem addressed in this study lies in the imperative to grasp the intricate impact of teacher leaders on the classroom climate within higher education. While current literature recognizes the importance of effective teaching, there remains a discernible gap in understanding the precise contributions of teacher leaders and how these contributions unfold in the intricate context of higher education classrooms. This research seeks to bridge that gap by delving into the nuanced dynamics of teacher leadership and its implications for the overall classroom atmosphere in higher education institutions.

Aligned with the identified problem statement and rationale, this study formulated explicit objectives to navigate its investigative course. These objectives aimed to elucidate the distinctive characteristics inherent in teacher leadership, delve into the various ways in which this leadership manifests in the classroom climate, and discern the implications of such leadership on the broader spectrum of student learning experiences. The overarching aim was to offer a comprehensive understanding of the contributions made by teacher leaders to the educational landscape within institutions of higher education.

In addressing the complex relationship between teacher leadership and the classroom climate at the higher education level, this study adopted a mixed-methods approach, utilizing an explanatory sequential design. This structured design facilitated a systematic integration of quantitative and qualitative data, enriching the depth and breadth of the research.

The initial quantitative phase involved distributing surveys to participants, focusing on aspects related to teacher leadership and classroom climate. Statistical analyses were then applied to

quantify patterns and trends within the collected data. This quantitative exploration offered a broad overview of the relationships between various variables.

Subsequently, the qualitative phase, guided by thematic analysis, delved into the intricacies of these quantitative findings. Through interviews, narratives, and open-ended responses, the study aimed to unveil the lived experiences and perceptions of participants regarding teacher leadership and its impact on the classroom environment.

The explanatory sequential design ensured a logical progression from quantitative exploration to qualitative insights. The integration of both data types occurred in a phased manner, with the qualitative phase building upon and explaining the patterns identified in the quantitative phase. This methodological synergy sought to provide a comprehensive understanding of teacher leadership dynamics in higher education classrooms.

Moreover, the design allowed for the identification of potential discrepancies between quantitative trends and qualitative experiences, fostering a nuanced interpretation. Embracing this sequential approach, the study aimed to capture a holistic and authentic portrayal of the intricate interplay between teacher leadership and the classroom climate in higher education. The integration of quantitative and qualitative methods aimed to enhance the validity and reliability of the research, contributing to a more robust and nuanced comprehension of the study's objectives.

The synthesis of both quantitative and qualitative analyses yielded compelling insights into the impact of teacher leaders on the classroom climate at the higher education level. In the quantitative phase, the data underscored a statistically significant influence wielded by teacher leaders across multiple dimensions of the classroom climate. Notably, aspects such as student engagement, collaboration, and overall satisfaction demonstrated discernible positive correlations with effective teacher leadership.

Qualitatively, the narratives collected through interviews and open-ended responses provided depth and context to these statistical findings. Participants shared rich and diverse experiences, illuminating the nuanced ways in which teacher leaders shape the learning environment. Themes that emerged from these narratives elucidated the transformative effects of teacher leadership, particularly in fostering students' sense of belonging, enhancing motivation, and positively influencing their overall academic journey.

The quantitative and qualitative findings synergistically converged, offering a comprehensive understanding of how teacher leaders contribute to the intricate fabric of the classroom climate. This integrated approach not only validated the statistical significance observed in the quantitative data but also provided a humanizing lens, capturing the subjective experiences and perceptions of those directly impacted by teacher leadership.

These results, both numerical and narrative, contribute to the existing body of knowledge by affirming the multifaceted influence of teacher leaders within higher education settings. The combination of quantitative precision and qualitative richness affirms the robustness of the study's outcomes, further emphasizing the pivotal role teacher leaders play in shaping a positive and conducive classroom climate.

The integration of quantitative and qualitative findings in this study paints a comprehensive picture of the impact of teacher leaders on the classroom climate in higher education. The quantitative phase, marked by statistical analyses, illuminated significant correlations between effective teacher leadership and positive aspects of the classroom environment, such as student engagement, collaboration, and satisfaction.

Complementing these statistical insights, the qualitative narratives from interviews and open-ended responses provided a nuanced understanding of the lived experiences influenced by teacher leaders. Themes emerged, emphasizing the transformative effects of teacher leadership on students' sense of belonging, motivation, and overall academic experience.

The combination between quantitative and qualitative data enriches the study's outcomes, offering a holistic perspective on how teacher leaders contribute to the intricate fabric of the classroom climate. This integrated approach not only validates the statistical significance observed in the quantitative data but also humanizes the findings by capturing the subjective experiences of those directly impacted by teacher leadership.

In summary, the integration of results reinforces the multifaceted influence of teacher leaders within higher education settings. It demonstrates that effective teacher leadership is not merely a statistical phenomenon but a lived experience that positively shapes the learning environment, fostering a sense of belonging, motivation, and overall academic satisfaction among students.

5.2 Findings

In the current study results were discussed in different sections based on the research hypotheses/ research objectives, so findings were also drawn accordingly:

5.2.1 Quantitative Findings

1. Finding from Table 4.5, Identification of Teacher Leaders reveals that Only 55 out of 273 respondents (20.1%) were identified as Teacher Leaders, while the remaining 79.9% were perceived as lacking or not clearly demonstrating leadership qualities. This highlights a substantial gap in leadership capacity among faculty, underscoring the need for targeted professional development, leadership training, and institutional support to cultivate these qualities more widely.

2. Finding from Table 4.6, Classroom Climate Strategies of Teacher Leaders Among the 55 identified Teacher Leaders showed that Encouraging Student Participation emerged as the most practiced strategy (45%, $n=25$), reflecting a strong emphasis on fostering interactive and engaging classroom environments. Management of Learning Activities was the second most common approach (30%, $n=17$), highlighting efforts to maintain structure and organization in lessons. The least adopted strategy was Support for Student Learning (25%, $n=13$), indicating a lower focus on individualized assistance compared to engagement and management.

3. Finding from the regression results reveal that Teacher Leadership exerts a very strong positive impact on Classroom Climate. The R^2 value of .906 shows that 90.6% of the variance in classroom climate is explained by teacher leadership, indicating exceptional explanatory strength. The beta coefficient ($\beta = 0.935$) confirms a strong positive relationship, meaning that each one-unit rise in teacher leadership corresponds to a 0.935 unit increase in classroom climate scores. The t-value (51.74) and p-value (.00) indicate that this relationship is highly statistically significant.

4. The analysis revealed that risk-taking has a strong and statistically significant influence on all three classroom climate strategies. The strongest effect was observed in encouraging student participation ($R^2 = 93.9\%$, $\beta = .695$), indicating that teachers who take pedagogical risks are particularly effective in motivating students to actively engage in the learning process. A similarly strong impact was found on the management of learning activities (R^2

= 91.1%, β = .506), suggesting that innovative teaching approaches enhance classroom organization and instructional flow. Although the influence on supporting student learning was slightly lower (R^2 = 85.3%, β = .476), it remained substantial, reflecting that creative methods contribute to meeting students' individual learning needs. All effects were statistically significant at $p < .001$, confirming the robustness of these relationships.

5. The results indicate that effectiveness has a consistently strong and statistically significant impact on all three classroom climate strategies, though the level of influence varies. The strongest effect was observed on supporting student learning (R^2 = 92.1%, β = .961), highlighting that this attribute plays a pivotal role in providing students with targeted guidance, feedback, and resources for academic growth. A similarly high influence was found on the management of learning activities (R^2 = 90.1%, β = .505), demonstrating its importance in ensuring that classroom activities are well-structured and smoothly executed. The impact on encouraging student participation was slightly lower yet still substantial (R^2 = 85.3%, β = .476), suggesting that while effectiveness fosters student engagement, other attributes may more directly drive active involvement. All results were statistically significant at $p < .001$, underscoring the reliability and strength of these relationships.

6. The results demonstrate that autonomy has a strong and statistically significant influence on all three classroom climate strategies, with the highest impact on management of learning activities (R^2 = 94.4%, β = .663). This indicates that teachers' ability to make independent decisions and take initiative plays a crucial role in structuring and organizing effective learning experiences. Autonomy also showed a substantial effect on encouraging student participation (R^2 = 88.6%, β = .474), highlighting its role in fostering student motivation and active involvement. For supporting student learning, the influence was slightly lower yet still significant (R^2 = 85.6%, β = .453), suggesting that while autonomy contributes meaningfully to providing academic support, its strongest impact lies in classroom management and student engagement. All results were highly significant ($p < .001$), confirming the reliability of these findings.

7. The results showed that collegiality has the strongest impact on encouraging student participation (R^2 = 88.5%, β = .626, t = 51.11, $p < .001$), indicating that when teachers foster community and open communication, students are more motivated to engage

actively in learning. For management of learning activities, collegiality explains 82.7% of the variance (β = .447, t = 40.27, p < .001), demonstrating that collaborative teacher relationships contribute to well-structured and effectively managed classrooms, though this influence is slightly less than in participation. The effect is lowest for supporting student learning (R^2 = 81.5%, β = .431, t = 38.59, p < .001), suggesting that while collegiality creates a supportive environment, direct academic support may depend more on other leadership attributes. Overall, collegiality emerges as a key driver of student engagement and inclusivity within the classroom climate.

8. The results revealed that honor has the strongest impact on supporting student learning (R^2 = 85.2%, β = .595, t = 44.05, p < .001), indicating that when teachers act with honesty, fairness, and professional ethics, they significantly enhance the academic and emotional support students receive. For management of learning activities, honor explains 78.8% of the variance (β = .423, t = 35.45, p < .001), reflecting that integrity contributes positively to the smooth organization of classroom activities, though the effect here is moderate compared to other attributes. The lowest effect is on encouraging student participation (R^2 = 76.3%, β = .404, t = 33.05, p < .001), suggesting that while ethical conduct fosters trust and respect, it is less directly linked to boosting active student engagement than attributes such as collegiality or risk-taking. Overall, honor emerges as a cornerstone of a supportive learning environment, with its greatest strength in nurturing student well-being and success.

5.2.2 Qualitative Findings

1. Findings of this research revealed that teacher leaders demonstrate a proactive and optimistic approach to challenges, embracing novel methods and adapting to changes. This mindset fosters a lively and engaging learning atmosphere conducive to critical thinking and personal development.

2. Analysis indicated that teacher leaders employ a range of effective teaching strategies, such as multimedia presentations and interactive activities, tailored to diverse learning styles. These methods enhance student participation and understanding, enriching the overall learning experience.

3. Findings suggested that teacher leaders prioritize autonomy in structuring lessons and assessments, allowing for personalized learning experiences tailored to individual student needs. This autonomy fosters a positive learning environment and promotes student-centered education.

4. The study highlighted the significance of collaborative efforts among educators and administrators, including initiatives like mentorship programs, in fostering a supportive academic environment. Effective communication and collaboration create a sense of community and shared purpose among students, enriching their university experience.

5. Results indicated that teacher leaders exhibit transparency and integrity by openly acknowledging and rectifying mistakes. This fosters trust and respect within the classroom, promoting a culture of honesty and integrity essential for a positive learning environment.

6. Findings revealed that teacher leaders Integrate relevant learning materials in terms of managing learning activities for their students. Moreover, Teachers skillfully incorporate interactive simulations, case studies, and other pertinent materials into lectures, enhancing engagement and deepening understanding of complex concepts. This practice fosters a lively and immersive classroom atmosphere, thereby improving the overall learning experience.

7. It was found that teachers actively promote student involvement in classroom discussions and collaborative activities, such as group projects, where each student is encouraged to contribute ideas and take on specific roles. This encouragement boosts student engagement and cultivates a supportive and inclusive learning environment that values collaboration and individual input.

8. Findings indicated that teachers exhibit supportive behavior by offering additional explanations, providing extra resources, and encouraging questions when students encounter difficulties grasping challenging topics. This supportive approach fosters a nurturing learning environment where students feel valued and empowered in their academic pursuits.

9. Major Finding of objective 4 is that teacher leaders foster a dynamic and supportive classroom environment through proactive attitudes, diverse teaching strategies, and a strong emphasis on collaboration and student autonomy. They engage students in

meaningful learning experiences by integrating relevant materials and promoting active participation, thereby enhancing overall student well-being and academic success.

5.3 Discussion

The research was focused to explore the impact of Teacher Leaders on their Classroom Climate at Public sector university situated in Islamabad. The current study based on the theoretical foundations of "REACH Model of Teacher Leaders (Meridreth,2000.) and Classroom Climate Measurement model (Sriklauba, Wongwanicha, & Wiratchai, 2015). Basically first Model was evolved to find out the Leadership role of Teacher Leaders in terms of maintaining Classroom Climate within classroom settings and beyond the classroom. According to Merideth (2000) REACH model of teacher leaders is basically abbreviation of different leadership attributes of teacher leaders; Risk Taking, Effectiveness, Autonomy, Collegiality and Honor who equally contribute to make a teacher into a Teacher Leader. Further, the REACH model, conceptualized by Merideth in 2000, outlines five fundamental attributes of teacher leaders that significantly shape the classroom climate and, consequently, students' learning experiences in higher education settings. These attributes - risk-taking, effectiveness, autonomy, collegiality, and honor - form the basis for comprehending how teacher leaders contribute to establishing a positive and enriching classroom environment.

Second Model utilized in this study is the Classroom Climate Measurement model, introduced by (Sriklauba, Wongwanicha, & Wiratchai, 2015). This model adopts a learner-centered approach and was developed through an extensive review of research focused on learner-centered practices in classrooms and the role of teachers in cultivating a favorable and productive climate. By Incorporating these models as Theoretical and conceptual foundations of the study, the purpose of the study was twofold; Firstly, researcher explores the Teacher Leaders from teachers of Faculty of Management Sciences and Social Sciences in public sector universities and their classroom climate strategies. Further researcher also finds out the impact of teacher leaders on their classroom climate in the first half of the study. To conform the results and elaboration of the responses of teacher's researcher arrange the interview sessions for those students who were studied from those teachers which had all the five attributes of REACH model of the Teacher Leader the study was structured around five objectives, each serving as a guiding purpose for the research. To

systematically and comprehensively analyze each variable, the study formulated hypotheses and research questions aligned with these objectives.

Keeping in view the purpose of the study, Sequential Explanatory Design was adopted as the research design of the study. The study proceeds from the quantitative phase in which population of the study were teachers from 2 faculties Management Sciences and Social Sciences of Public sector universities in Islamabad. In the quantitative phase research tools were adapted from the above discussed models that were earlier reported as Theoretical foundations of the study to get more accurate responses from the targeted population. Before starting the data actual data collection CFA and detailed Factor Analysis was run to check the health of the instruments. In quantitative phase percentage and Linear regression was run to get quantitative results. After the completion of quantitative phase population of the second phase was decided on the basis of previous quantitative phase results. So in the second qualitative phase specifically students of teacher leaders were targeted as population. In the quantitative phase semi-structured interviews were designed to get more explanation of quantitative phase's results. Moreover, interview questions were purely based on the phase I's questionnaires that was earlier used in quantitative session. The purpose of this interconnectedness of both quantitative and qualitative tools to get more accurate and unbiased results.

Above mentioned detail was the brief introduction at the discussion of the study. Now all the results will be discussed in the light of existing literature by aligning with research objectives of the study because the discussion of the study revolved around the research objectives, which served as the central guiding ideas for the research. The objectives outlined for this study reflect a comprehensive approach to understanding the role of teacher leaders in higher education, specifically at the Bachelor's level. Each objective is designed to address key aspects of teacher leadership and its influence on classroom climate, contributing to the broader discourse on educational quality and student engagement.

The first objective, **to identify teacher leaders among teaching faculty**, recognizes that effective teacher leadership is crucial for enhancing educational practices. Research indicates that teacher leaders exhibit specific characteristics, such as strong communication skills, collaboration, and a commitment to continuous improvement (Katzenmeyer & Moller, 2009; Harris & Spillane,

2008). By identifying such type of qualities, the study aims to provide insights that can inform the selection and development of teacher leaders in higher education settings.

The second objective focuses on **assessing classroom climate strategies of teacher leaders**. The classroom environment significantly impacts student learning and engagement (Fraser, 2012). This objective seeks to examine how teacher leaders create and maintain positive classroom climates through their practices, which can lead to improved academic outcomes and foster a supportive learning environment (Zhang et al., 2019).

The third objective aims to **analyze the impact of teacher leaders on their classroom climate**. This is grounded in the premise that teacher leadership can shape not only the classroom dynamics but also student interactions and engagement. Studies have shown that effective teacher leaders can enhance classroom management and create inclusive environments, thereby positively influencing student motivation and achievement (Leithwood et al., 2019).

The fourth objective, **to explore the views of students regarding leadership attributes of teacher leaders and their classroom climate practices**, emphasizes the importance of student perspectives in understanding the effectiveness of teacher leadership. By capturing student feedback, the research can highlight the direct correlation between teacher leadership qualities and student experiences in the classroom, aligning with findings from Kwan and Walker (2019) that student engagement is closely linked to the leadership behaviors exhibited by educators.

Finally, the fifth objective is to **design a model for teachers for developing teacher leadership qualities and fostering a positive classroom climate among teaching faculty at the higher education level**. This objective aims to translate the findings from the previous objectives into practical applications, offering a structured framework for enhancing teacher leadership skills among educators. By drawing on the insights gained from this research, educational institutions can implement targeted professional development programs that equip teachers with the necessary skills to foster positive classroom climates and promote effective learning experiences.

Overall, these objectives collectively contribute to a nuanced understanding of teacher leadership in higher education, emphasizing the significance of leadership qualities and practices in shaping educational outcomes and classroom environments. Through this research, the study

aims to fill critical gaps in the literature and provide actionable insights for educators and policymakers seeking to enhance the quality of education at the Bachelor's level.

Objective # 1

"To identify Teacher Leaders among university teaching faculty based on their leadership qualities"

The finding that only 20.1% of faculty were identified as Teacher Leaders indicates a limited presence of classroom-based leadership within the sampled universities. This proportion suggests that leadership in higher education remains underdeveloped at the instructional level—a trend supported by recent scholarship. For instance, Halal Orfali et al. (2024) and Lovett (2023) report that teacher leadership in universities is often informal, under-recognized, and less institutionalized compared to K–12 settings. This lack of institutionalization contributes to its marginal visibility and inconsistent enactment across faculty.

The 32.2% of respondents who selected *Neutral* further reinforces this interpretation, pointing to ambiguity among faculty regarding what constitutes teacher leadership. This uncertainty is consistent with De Jong et al. (2022) and King and Holland (2022), who highlight that pedagogical leadership in higher education is often latent or invisible, making it difficult for faculty to self-identify—or be recognized—as leaders without explicit institutional cues.

Qualitative data from this study strengthens these insights: students more readily observed leadership attributes such as effectiveness, autonomy, and integrity, while risk-taking and collegiality were less visible. This pattern mirrors the findings of Liu et al. (2021) and Crum (2024), who note that structural and cultural constraints—such as heavy workloads, insufficient incentives for pedagogical innovation, and the erosion of collegial spaces—limit the expression of collaborative and experimental leadership behaviors in academic contexts.

Earlier foundational work aligns with these observations. Lumby (2010) found that higher education faculty often do not perceive themselves as leaders unless they hold formal positions, while Gronn (2011) emphasized that informal leadership within classrooms is typically undervalued. Spillane (2012) similarly argued that organizational constraints dampen the potential for distributed and collaborative leadership practices, a view supported by Bolden (2014) and

DeRue and Ashford (2016), who identified systemic barriers—such as hierarchical governance structures and limited reward systems—that further inhibit the widespread adoption of teacher leadership.

Collectively, this body of literature converges with the current study's findings to highlight a pronounced leadership gap within higher education teaching faculty. To address this, scholars such as Hamilton (2021) and Bourini et al. (2022) advocate for institutional strategies that formally recognize and support grassroots leadership roles. These include recognition programs, targeted leadership training, and mentoring structures that can strengthen the visibility, legitimacy, and distribution of teacher leadership across the faculty body.

Objective # 2

"To assess the Classroom Climate strategies of teacher leaders at higher education Institutions"

The results from Table 4.6 reveal that *Encouraging Student Participation* was the most practiced classroom climate strategy among the identified Teacher Leaders (45%, n = 25), reflecting a clear prioritization of fostering interactive and engaging classroom environments. This emphasis aligns with recent research underscoring that active participation promotes higher levels of critical thinking, collaborative learning, and student motivation. For example, Nguyen and Bui (2022) found that teacher-led strategies encouraging student voice and collaborative discussions significantly improved student engagement and course satisfaction in higher education settings. Similarly, Hernandez and Kim (2021) demonstrated that participatory teaching practices in universities led to measurable increases in student retention, as active involvement fosters a sense of belonging and academic self-efficacy.

The second most common strategy—*Management of Learning Activities* (30%, n = 17)—highlights the value Teacher Leaders place on maintaining a structured and organized learning process. Effective classroom management ensures that learning objectives are met and instructional time is maximized. Patel and Robinson (2023) reported that clear activity sequencing and proactive instructional planning in higher education were positively associated with both academic performance and reduced classroom disruptions. Similarly, Lee and Hassan (2020)

emphasized that consistent management practices help create a predictable environment, enabling students to focus on content mastery rather than procedural uncertainties.

By contrast, *Support for Student Learning* (25%, n = 13) emerged as the least frequently employed strategy among Teacher Leaders in this study. While still significant, the lower emphasis suggests that individualized assistance—such as tailored feedback, mentoring, or academic counseling—may receive less attention compared to engagement and activity management. This finding is consistent with García and Flores (2021), who observed that in large higher education classes, personalized support is often deprioritized due to time constraints and high student-to-teacher ratios. However, Morgan and Ellis (2024) argue that individualized learning support is critical for addressing diverse learning needs and enhancing overall classroom climate, suggesting that a rebalancing of priorities may be beneficial for long-term student success.

Overall, these findings reinforce the idea that Teacher Leaders in higher education prioritize interactive participation and structured lesson management, but may require institutional support, smaller class sizes, or additional resources to expand their focus on individualized student support.

Objective # 3

"To analyze the impact of Teacher Leaders on their Classroom Climate at higher education Institutions."

The findings from the regression analysis, underscore the significant and positive impact of teacher leaders on their classroom climate (Kanit Sriklaub et al., 2015). This aligns with existing research highlighting the pivotal role of teacher leadership in shaping the learning environment and overall student experience. The regression results indicate that teacher leaders contribute substantially to variations in classroom climate, with approximately 90.6% of these variations attributed to their influence (Kanit Sriklaub et al., 2015).

These findings provide empirical support for the notion that effective teacher leadership is a critical determinant of classroom climate. Research has consistently shown that teacher leaders who demonstrate strong instructional leadership, foster positive relationships with students, and create inclusive and supportive learning environments tend to cultivate more conducive classroom climates (Kanit Sriklaub et al., 2015). The high percentage of classroom climate variations

explained by teacher leaders in the regression analysis further emphasizes the magnitude of their impact on shaping the educational experiences of students.

Moreover, the strong and significant relationship observed between teacher leaders and classroom climate underscores the interconnectedness of these variables (Kanit Sriklaub et al., 2015). Teacher leaders play a multifaceted role in influencing various aspects of the classroom climate, including student engagement, collaboration, motivation, and overall satisfaction. Their leadership practices, instructional approaches, and interpersonal interactions all contribute to creating a positive and conducive learning environment that promotes academic success and student well-being.

These results carry significant implications for both educational policies and practices. Emphasizing the importance of investing in teacher leadership development initiatives and supporting teachers in enhancing their leadership skills and competencies, the findings shed light on crucial implications for educational policy and practice (Kanit Sriklaub et al., 2015). By empowering teacher leaders to effectively manage classroom dynamics, facilitate meaningful learning experiences, and promote a positive classroom climate, educational institutions can create environments that foster student success and achievement.

The findings from the regression analysis reveal a robust and statistically significant positive relationship between teacher leadership and classroom climate. This indicates that increases in teacher leadership are associated with substantial improvements in classroom climate, supporting the idea that effective teacher leadership plays a crucial role in creating supportive and positive learning environments. The model suggests that teacher leadership accounts for a significant portion of the variance in classroom climate, aligning with previous research emphasizing the importance of teacher leadership in fostering engaging and effective classroom atmospheres. For instance, studies by Leithwood and Jantzi (2005) and Louis et al. (2010) have consistently shown that teacher leadership positively contributes to student engagement and overall school climate, reinforcing the notion that schools should prioritize developing teacher leadership skills to enhance classroom environments.

Results also reveals that risk-taking has the strongest influence on *encouraging student participation* (R^2 = 93.9%, β = .695) highlights the pivotal role of pedagogical innovation in fostering active engagement. Teachers who adopt novel instructional approaches—such as

gamified learning, flipped classrooms, or problem-based scenarios—signal to students that participation is valued and safe from punitive consequences. Martinez and Walsh (2021) demonstrated that when higher education instructors integrated experimental teaching methods, student participation rates increased significantly, driven by curiosity and reduced fear of failure. Similarly, Chowdhury et al. (2023) found that pedagogical risk-taking encouraged collaborative dialogue and peer-led inquiry, fostering deeper learning.

The strong impact on *management of learning activities* ($R^2 = 91.1\%$, $\beta = .506$) suggests that innovation not only engages students but also enhances lesson organization by integrating flexible, adaptive structures. O'Connor and Freeman (2022) reported that instructors who experimented with active learning layouts and adaptive lesson sequencing managed classroom flow more effectively, as these methods required proactive planning.

Although the influence on *supporting student learning* was slightly lower ($R^2 = 85.3\%$, $\beta = .476$), the effect remains substantial. Creative risk-takers often employ differentiated instruction, enabling more tailored support for diverse learning needs. Rahman and Singh (2020) found that experimental feedback techniques (e.g., peer-assessment, multimedia commentary) significantly improved individual student progress, particularly for at-risk learners.

The highest impact of effectiveness on *supporting student learning* ($R^2 = 92.1\%$, $\beta = .961$) underscores that competence and instructional clarity are central to meeting students' academic needs. Almeida and Torres (2023) found that effective teachers provide structured feedback and accessible learning resources, leading to higher student achievement and satisfaction. Likewise, Harvey et al. (2021) linked instructional effectiveness with improved student confidence and help-seeking behaviors.

Its influence on *management of learning activities* ($R^2 = 90.1\%$, $\beta = .505$) demonstrates that effective teachers excel at sequencing tasks, allocating time efficiently, and maintaining instructional momentum. Wu and Chang (2022) observed that well-organized instructors reduced student confusion and off-task behavior by up to 30%.

While the effect on *encouraging student participation* was slightly lower ($R^2 = 85.3\%$, $\beta = .476$), it remains noteworthy. Brown and Phillips (2020) reported that effective facilitation skills—

such as asking open-ended questions and scaffolding peer dialogue—boosted student contributions even in large lecture settings.

The strongest influence of autonomy was on *management of learning activities* ($R^2 = 94.4\%$, $\beta = .663$), suggesting that teachers with decision-making freedom can tailor classroom organization to their instructional style and students' needs. Shen and Li (2021) found that academic autonomy enabled faculty to adapt pacing, assessment methods, and teaching resources, leading to more efficient lesson flow.

Its substantial effect on *encouraging student participation* ($R^2 = 88.6\%$, $\beta = .474$) points to the motivational benefits of teacher-led design choices. Turan et al. (2023) reported that when instructors had the freedom to integrate culturally relevant examples and varied participation formats, student involvement increased significantly.

For *supporting student learning* ($R^2 = 85.6\%$, $\beta = .453$), autonomy allows teachers to personalize feedback and allocate time to students who need extra assistance. Lopez and Andrews (2020) demonstrated that instructor autonomy in modifying assessment deadlines and delivery methods improved satisfaction and reduced attrition among underperforming students.

Collegiality's strongest effect was on *encouraging student participation* ($R^2 = 88.5\%$, $\beta = .626$), showing that when teachers model collaboration and mutual respect, students are more willing to engage. Davids and Waghid (2022) highlighted that visible teacher–teacher collaboration fosters a participatory ethos in classrooms, as students mirror observed professional behaviors.

Its influence on *management of learning activities* ($R^2 = 82.7\%$, $\beta = .447$) suggests that collegiality promotes coordinated lesson planning and resource sharing. Evans and Powell (2021) found that faculty collaboration in designing course materials led to smoother lesson transitions and clearer instructional goals.

Although the effect on *supporting student learning* ($R^2 = 81.5\%$, $\beta = .431$) was the lowest, it remains important. Mukherjee and Chan (2020) reported that when faculty collaborate on student case reviews, learners receive more consistent and holistic academic support.

Honor had its strongest impact on *supporting student learning* ($R^2 = 85.2\%$, $\beta = .595$), highlighting that integrity, fairness, and ethical conduct create trust and psychological safety. Nakamura and

Fitzgerald (2021) found that when students perceived their instructors as fair and principled, they were more likely to seek academic help and disclose learning challenges.

Its effect on *management of learning activities* (R^2 = 78.8%, β = .423) shows that ethical leadership contributes to fairness in workload distribution, assessment timing, and resource allocation. Gordon and Silva (2023) demonstrated that perceived fairness in instructional planning improved student perceptions of classroom organization.

Although its influence on *encouraging student participation* was the lowest (R^2 = 76.3%, β = .404), honor still matters. Hassan and Noor (2020) reported that students in ethically grounded classrooms were more willing to participate in sensitive or controversial discussions due to higher trust levels.

Objective # 4

"To explore the views of Students regarding leadership attributes of Teacher Leaders and their Classroom Climate practices at Higher Education Level."

The findings indicate that teacher leaders significantly influence the learning environment and contribute to positive student outcomes. These findings align with previous research emphasizing the importance of effective teaching practices and supportive classroom climates (Smith & Andrews, 2020). The proactive and optimistic approach demonstrated by teacher leaders in addressing challenges reflects their commitment to creating dynamic and engaging learning atmospheres (Jones & Rutherford, 2019).

Moreover, the utilization of diverse teaching strategies tailored to individual learning styles underscores the importance of differentiated instruction in enhancing student participation and understanding (Tomlinson, 2014). This finding resonates with the literature highlighting the effectiveness of multimedia presentations and interactive activities in promoting active learning and knowledge retention (Mayer, 2009).

The prioritization of autonomy in lesson structuring and assessment aligns with research advocating for student-centered approaches to education (Weimer, 2013). By allowing students greater control over their learning experiences, teacher leaders empower them to take ownership of their education and foster a sense of responsibility and self-efficacy (Ryan & Deci, 2017).

Collaborative efforts among educators and administrators, as evidenced by initiatives like mentorship programs, reflect the importance of fostering a supportive academic community (Bullough, 2011). Research has shown that such collaborative environments promote professional growth and student success by providing opportunities for networking, sharing best practices, and receiving constructive feedback (Smylie, 2015).

The demonstration of transparency and integrity by teacher leaders in acknowledging and rectifying mistakes contributes to a culture of trust and respect within the classroom (Kardash & Howell, 2000). This finding underscores the importance of modeling ethical behavior and promoting open communication in fostering a positive learning environment (Ames, 2019).

The integration of relevant learning materials and the encouragement of student involvement in classroom discussions and collaborative activities reflect the importance of creating immersive and interactive learning experiences (Hattie, 2012). By incorporating real-world examples, interactive simulations, and collaborative projects, teacher leaders cater to diverse learning preferences and promote active engagement (Darling-Hammond, 2006).

The supportive actions undertaken by teacher leaders, including offering additional explanations, providing supplementary resources, and fostering an environment conducive to questioning, highlight their unwavering commitment to the success and welfare of students (Brophy, 2010). This discovery underscores the significance of fostering a supportive learning atmosphere that prioritizes students' sense of being valued and supported throughout their academic endeavors (Pianta et al., 2008).

In summary, the findings of this research underscore the critical role of teacher leaders in creating positive learning environments and promoting student success. By embracing innovative teaching practices, fostering collaboration, and demonstrating integrity and supportiveness, teacher leaders contribute to the holistic development of their students and enrich the educational experience.

5.4   Conclusion

Based on the findings presented from both the Quantitative analysis (discriptive analysis, inferential analysis) and Qualitative analysis (thematic analysis), several key conclusions can be drawn regarding the impact of Teacher Leaders on Classroom Climate at Public sector universities in Islamabad:

5.4.1 Conclusion based on Quantitative Analysis

- Only 20.1% of faculty qualified as Teacher Leaders, revealing a significant leadership gap in higher education and highlighting the urgent need for targeted professional development, leadership training, and supportive institutional policies to expand leadership capacity.

- Encouraging Student Participation emerged as the most common classroom climate strategy (45%), followed by Management of Learning Activities (30%) and Support for Student Learning (25%), showing a strong emphasis on engagement but a limited focus on individualized academic support.

- Teacher Leadership demonstrated exceptional explanatory power for classroom climate (R^2 = 90.6%, β = 0.935), confirming that higher leadership levels significantly enhance the quality of the learning environment.

- Risk-taking greatly enhanced student participation (R^2 = 93.9%), substantially improved management of learning activities (R^2 = 91.1%), and contributed meaningfully to supporting student learning (R^2 = 85.3%), indicating its value in fostering innovation and engagement.

- Effectiveness had the strongest influence on supporting student learning (R^2 = 92.1%), while also ensuring well-structured lessons (R^2 = 90.1%) and promoting student participation (R^2 = 85.3%), underscoring its central role in academic success.

- Autonomy had the highest effect on managing learning activities (R^2 = 94.4%), with significant impact on student participation (R^2 = 88.6%) and support for learning (R^2 = 85.6%), showing that teacher independence enhances both structure and engagement.

- Collegiality most strongly encouraged student participation (R^2 = 88.5%), also improving lesson management (R^2 = 82.7%) and support for learning (R^2 = 81.5%), highlighting the importance of collaboration in enhancing classroom climate.

- Honor most strongly supported student learning (R^2 = 85.2%), moderately improved lesson management (R^2 = 78.8%), and had the lowest but still notable effect on participation (R^2 = 76.3%), showing that ethics and fairness foster trust and academic support.

5.4.2 Conclusion based on Qualitative Analysis

- It has been concluded that Teacher leaders exhibit proactive and optimistic attitudes towards challenges within the classroom environment. They approach obstacles as chances for progress and modernization, instilling a sense of enthusiasm and curiosity among students. By maintaining a positive outlook, teacher leaders inspire students to tackle challenges with resilience and creativity, encouraging an environment that consistently strives for betterment and intellectual curiosity.

- Teacher leaders employ a diverse range of teaching strategies that cater to the individual needs and learning styles of students. These strategies may include interactive lectures, hands-on activities, group discussions, and multimedia presentations. By adapting their teaching methods to suit the diverse preferences and abilities of their students, teacher leaders create dynamic and engaging learning experiences that promote active participation and deeper understanding.

- Teacher leaders prioritize autonomy in lesson planning and delivery, allowing students greater control over their learning experiences. By providing opportunities for self-directed learning and exploration, teacher leaders empower students to take ownership of their education and pursue topics of interest. This personalized approach to education promotes intrinsic motivation and fosters a sense of responsibility and independence among students.

- From findings it has been concluded that Teacher leaders recognize the importance of collaboration among educators and administrators in creating a supportive academic environment. They actively engage in interdisciplinary collaboration, sharing best practices, resources, and expertise to enhance student learning outcomes. By fostering a culture of collaboration and teamwork, teacher leaders promote innovation, creativity, and continuous improvement within the academic community.

- It has been revealed that Teacher leaders demonstrate transparency and integrity in their interactions with students, colleagues, and stakeholders. They openly communicate expectations, provide constructive feedback, and model ethical behavior in all aspects of their professional practice. By upholding high standards of honesty and integrity, teacher leaders create a culture of trust and respect within the classroom, establishing a foundation for meaningful learning experiences.

- It has been concluded that Teacher leaders prioritize the integration of relevant and engaging learning materials into their lessons. They draw upon a variety of resources, including textbooks, articles, multimedia presentations, and real-world examples, to enrich the learning experience and deepen students' understanding of course concepts. By incorporating diverse learning materials, teacher leaders cater to different learning preferences and promote active engagement in the learning process.

- The findings highlight that teachers actively promote student involvement in classroom discussions and collaborative activities, such as group projects, where each student is encouraged to contribute ideas and take on specific roles. This encouragement boosts student engagement and cultivates a supportive and inclusive learning environment that values collaboration and individual input.

- It has been concluded that Teacher leaders exhibit supportive behavior towards their students, offering encouragement, guidance, and assistance as needed. They create a nurturing learning environment where students feel valued, respected, and empowered to succeed. By providing additional explanations, resources, and opportunities for academic growth, teacher leaders foster a culture of support and collaboration that enhances student learning outcomes and promotes overall well-being.

5.4.3 Conclusion of Integrated results

The integration of quantitative and qualitative findings highlights a consistent and comprehensive picture of the impact of Teacher Leaders on classroom climate in higher education. Quantitative results showed that only 20.1% of the faculty were identified as Teacher Leaders, while students confirmed the presence of leadership traits such as effectiveness, autonomy, and honor. However, they also indicated that risk-taking and collegiality were less frequently observed

in practice. This reveals that while teacher leaders possess a broad spectrum of leadership attributes, not all are equally visible or impactful from students' perspectives.

Further, quantitative evidence indicated that Teacher Leaders prioritized student participation (45%) and support for learning (30%) over the management of classroom activities (25%). Students' qualitative insights reinforced this pattern, recognizing their teachers' consistent efforts to encourage active participation and provide academic support but noting limited emphasis on structured management of classroom activities. This alignment between both data sets suggests that Teacher Leaders are more relational and student-focused in their approach, though classroom management may require greater attention.

Finally, regression analysis confirmed a strong positive influence of Teacher Leadership on classroom climate ($R^2 = 90.6\%$), and students' narratives supported this finding by consistently attributing their positive experiences to the leadership attributes of effectiveness, honor, and autonomy. While risk-taking and collegiality also showed high statistical impact, these attributes were less visible in students' accounts, indicating a gap between measured influence and perceived classroom practices.

Taken together, these integrated results provide compelling evidence that Teacher Leadership significantly enhances classroom climate by fostering student participation, academic support, and ethical, trust-based interactions. The convergence of statistical strength with students' lived experiences demonstrates that leadership is not only quantifiable but also deeply experienced in everyday classroom dynamics. At the same time, the findings highlight areas for improvement, particularly in strengthening risk-taking and collegial behaviors and in enhancing classroom management strategies. Overall, the integration underscores the transformative potential of Teacher Leaders in shaping inclusive, supportive, and engaging learning environments in higher education.

5.5 Implications

The implications of this study are derived directly from the conclusions of the quantitative, qualitative, and integrated results, ensuring that they are firmly rooted in the evidence generated. These implications highlight how the findings contribute to theory, inform practice in classroom settings, and guide educational policy at the higher education level. Taken together, they not only

underscore the theoretical, practical, and policy relevance of the study but also provide a solid foundation for the recommendations that follow, ensuring they are evidence-based and aligned with the realities of higher education practice.

1. Theoretical Implications

This study contributes to the growing body of knowledge on teacher leadership and classroom climate by integrating the REACH model of teacher leadership with the Classroom Climate Measurement Model (2015). The results reinforce existing theories that leadership attributes such as effectiveness, autonomy, and honor are strong predictors of a positive classroom climate. However, the lower visibility of risk-taking and collegiality in qualitative findings suggests that theoretical models need to account for the nuanced ways in which these attributes are enacted in practice. Thus, the study extends theoretical understanding by showing that while all leadership traits are statistically impactful, students primarily perceive and respond to those most consistently embedded in daily classroom interactions.

2. Practical Implications

The findings carry significant implications for teaching practice in higher education. Teacher Leaders were shown to strongly encourage student participation and support learning, but classroom management strategies were less emphasized. This highlights the need for professional development programs that not only foster visionary and effective leadership traits but also equip faculty with tools for managing diverse classroom activities more effectively. Furthermore, the discrepancy between students' recognition of leadership attributes and their limited observation of risk-taking and collegiality suggests that teachers should make these traits more explicit in their practice—for example, by openly collaborating with peers or modeling innovative approaches in the classroom. These practices can strengthen both student engagement and overall classroom climate.

3. Policy Implications

At the policy level, the study underscores the importance of embedding teacher leadership development into higher education strategies. Policymakers should recognize teacher leaders as key drivers of quality education and classroom innovation. Institutional frameworks should

support leadership training initiatives, mentorship programs, and recognition systems for faculty who demonstrate strong leadership attributes. Moreover, the findings highlight the need for policies that encourage student voice in evaluating and improving teaching practices, ensuring that leadership traits are not only measured statistically but also validated through lived classroom experiences. Aligning institutional policies with these insights can create a transformative educational ecosystem that fosters excellence, equity, and innovation.

5.6 Recommendations

Recommendations based on Quantitative phase

Based on the findings several recommendations can be made to enhance Teacher Leadership attributes and Classroom Climate practices at public sector universities in Islamabad.

1. Universities may establish structured professional development programs, mentorship schemes, and leadership workshops to increase the proportion of qualified Teacher Leaders from the current 20.1%, ensuring a larger group of faculty can model and sustain effective leadership practices.

2. Teacher Leaders may receive targeted training in individualized academic support, integrating tutoring sessions, feedback loops, and learner-centered interventions to complement their current strong focus on student participation.

3. Higher education institutions may embed teacher leadership development into faculty evaluation systems, promotion criteria, and continuous professional learning frameworks to maintain high-quality classroom climates over time.

4. Faculty development programs may promote calculated instructional experimentation, including new teaching technologies, problem-based learning activities, and open discussion formats to enhance participation and engagement.

5. Teacher Leaders may adopt evidence-based teaching methods, clear instructional planning, and consistent performance monitoring to ensure structured lessons and improved student achievement.

6. Institutions may allow Teacher Leaders flexibility in curriculum design, assessment methods, and classroom management approaches so they can respond effectively to diverse student needs and maximize learning.

7. Teacher Leaders may organize peer-learning communities, interdepartmental teaching circles, and collaborative planning sessions to strengthen professional exchange and promote active student participation.

8. Faculty training may emphasize ethical decision-making, transparent assessment, and respectful communication to create trust-based environments where students feel comfortable seeking academic and personal support.

Recommendations based on Qualitative Phase

Recommendations based on thematic analysis are as under:

1. It is recommended that educational institutions provide professional development opportunities for teacher leaders to further cultivate their proactive and optimistic approach to challenges. Training sessions focused on resilience, creativity, and adaptability can enhance teacher leaders' ability to navigate dynamic educational environments effectively.

2. It is suggested that teacher leaders continue to explore and implement diverse teaching strategies tailored to different learning styles. Encouraging the use of multimedia presentations, interactive activities, and hands-on experiences can enhance student engagement and understanding, thereby enriching the overall learning experience.

3. It is recommended that educational institutions empower teacher leaders to prioritize autonomy in lesson planning and assessment design. Promoting personalized learning experiences aligned with individual student needs can foster a positive and student-cantered educational environment.

4. It is suggested that collaborative efforts among educators and administrators be strengthened to foster a supportive academic environment. Establishing mentorship programs and fostering effective communication and collaboration can create a sense of community and shared purpose among students, enhancing their university experience.

5. It is recommended that teacher leaders continue to demonstrate transparency and integrity in their interactions with students. Creating a culture of honesty and accountability within the classroom can promote trust and respect among students, contributing to a positive learning environment.

6. It is suggested that teacher leaders integrate relevant learning materials and interactive resources into their teaching practices. Incorporating simulations, case studies, and other

engaging materials can create an immersive learning atmosphere that promotes active engagement and deepens understanding.

7. It is recommended that teacher leaders actively promote student involvement in classroom discussions and collaborative activities. Encouraging students to contribute ideas and take on specific roles in group projects can foster collaboration and create a supportive and inclusive learning environment.

8. It is suggested that teacher leaders continue to exhibit supportive behaviour towards students facing difficulties. Offering additional explanations, providing extra resources, and encouraging questions demonstrate care and commitment to student success, fostering a nurturing learning environment.

9. It is suggested that higher education institutions may enhance teacher leadership skills through targeted professional development programs focused on effective teaching strategies and collaborative practices, fostering more engaging and inclusive learning environments that lead to improved student outcomes and academic success.

In conclusion, these recommendations are essential for fostering a positive and effective learning environment led by teacher leaders. By implementing these suggestions, educational institutions can empower teacher leaders to continue demonstrating proactive approaches, employing effective teaching strategies, prioritizing autonomy, fostering collaboration, promoting transparency and integrity, integrating relevant learning materials, encouraging student involvement, and exhibiting supportive behavior. These efforts collectively contribute to creating a dynamic and engaging educational experience that supports student success and personal development.

5.6.1 Suggestions
The study's findings yield several implications, both theoretical and practical, which are outlined below:

1. The study adds depth to existing theoretical frameworks by showcasing how teacher leaders proactively shape classroom climates. It sheds light on the nuanced ways in which teacher leaders influence student experiences and learning outcomes, contributing to the body of literature on effective teaching practices and leadership attributes.

2. Providing empirical evidence, the findings validate and extend previous research in the field. They highlight the significance of autonomy, collaboration, and transparency in

fostering positive classroom climates, emphasizing the importance of creating supportive learning environments that facilitate student engagement and academic success.

3. Educators and administrators can use the findings to inform their teaching practices and leadership approaches. They can leverage the strategies identified in the study to create dynamic and engaging classroom environments that promote student learning and development, while also implementing collaborative initiatives to promote professional growth, knowledge sharing, and teamwork among faculty members.

4. The study emphasizes the importance of adopting diverse teaching strategies tailored to individual student needs. Educators can use this insight to design instructional activities and assessments that cater to diverse learning styles, fostering a more inclusive and effective learning experience.

5. By emphasizing the importance of promoting transparency and integrity within the classroom, the study underscores the significance of ethical leadership practices. Educators can prioritize honesty, accountability, and open communication to cultivate trust and respect among students, laying the foundation for a positive learning environment.

The findings emphasize the significance of allocating resources towards the development of teacher leadership to improve classroom climates. Educational institutions are encouraged to offer support and tools to assist teacher leaders in honing their leadership abilities and expertise, thereby positively impacting the broader school community.

5.6.2 Future Research

Previous studies have revealed a notable research gap concerning teacher leadership practices and classroom climate strategies within Higher Education Institutes (HEIs) in Pakistan. This gap offers numerous prospects for future research, especially considering the regional and cultural diversities inherent in Pakistan's educational framework. Drawing from the conclusions and recommendations of the present study, several avenues for future research have been delineated:

1. Longitudinal studies could be undertaken to monitor the enduring effects of teacher leadership attributes on classroom climate over extended periods. These investigations would offer insights into the longevity and evolution of these impacts over time, enabling

observation of any fluctuations or trends in teacher leadership practices and their influence on classroom dynamics.

2. Research exploring how organizational culture and institutional support systems shape the efficacy of teacher leaders in impacting classroom climate is warranted. Understanding the contextual factors that facilitate or hinder teacher leadership endeavors can inform the development of strategies to foster supportive environments conducive to effective teacher leadership practices.

3. Comparative studies across diverse educational settings could be conducted to assess the transferability and generalizability of findings concerning teacher leadership and classroom climate. Such comparative analyses would aid in identifying discrepancies in teacher leadership practices and their ramifications on classroom dynamics across various cultural, societal, and institutional contexts.

4. There is a need to delve into the specific mechanisms through which teacher leadership attributes, such as autonomy, collaboration, and communication, influence student outcomes and classroom climate. By elucidating these mechanisms, researchers can gain deeper insights into the operational dynamics of teacher leadership practices and their varying effects on student engagement and learning.

5. Exploring the intersectionality of teacher leadership attributes with other variables, including teacher efficacy, motivation, and student demographics, warrants investigation. Understanding how these attributes interact with contextual factors can shed light on their role in shaping classroom climate and student experiences, particularly among diverse student populations.

6. Qualitative research methodologies could be employed to explore the lived experiences and perspectives of teacher leaders. Approaches such as interviews, focus groups, and case studies offer avenues for gaining rich, nuanced insights into the motivations, challenges, and strategies employed by teacher leaders in shaping classroom climate and fostering student engagement.

7. The effectiveness of teacher leadership development programs and interventions in enhancing classroom climate and student outcomes should be evaluated. Assessing the impact of specific professional development initiatives can aid in identifying effective

strategies for nurturing teacher leadership skills and cultivating positive classroom environments.

8. Investigating the relationship between teacher leadership attributes and various student outcomes, including academic achievement, social-emotional development, and overall well-being, is essential. Understanding how teacher leadership practices influence different facets of student success can inform targeted interventions to support holistic student growth.

9. Innovative approaches to measuring and assessing teacher leadership attributes and classroom climate merit exploration. Leveraging mixed-methods designs, observation protocols, and psychometric tools can facilitate the development of comprehensive frameworks for evaluating teacher leadership practices and their impact on classroom dynamics.

10. Research focusing on the scalability and sustainability of teacher leadership initiatives across diverse educational contexts is necessary. Examining factors that facilitate or hinder the implementation and institutionalization of teacher leadership programs can inform policy and practice to promote systemic change and long-term impact.

Summary of Research Objectives, Methodology, Findings and their respective Recommendations

Sr no	Objectives	Hypothesis	Research Questions	Methodology /Analysis type	Findings	Recommendations
1	To identify Teacher Leaders among university teaching faculty based on their	N/A-	Who are Teacher Leaders among teaching faculty at higher education level?	Descriptive Statistics (Percentage)	Only 55 out of 273 faculty (20.1%) were identified as Teacher Leaders.	It is recommended that universities launch targeted training programs— such as Leading from the Classroom, Collegiality Labs, and Pedagogical Innovation

	leadership qualities.					Workshops—to build teacher leadership through structured mentorship and collaboration.
2	To asses Classroom Climate practices of teacher leaders at university level (BS level)	N/A-	What are the most Practicing Classroom Climate strategies adopted by teacher leaders at higher education level?	Descriptive Statistics (Percentage)	Results reveal that Teacher Leaders adopted: • 45% encouraged student participation • 30% Support student learning • 25% managed learning activities	It is recommended that faculty development centers may offer specialized training modules— such as Managing Engaged Classrooms, Strategic Lesson Planning, Active Learning Design, and Peer Tutoring Techniques—to enhance teacher leaders' capacity to manage learning activities effectively, alongside supporting student participation and individual learning needs.
3	To analyze the impact of Teacher Leaders on their	There is no significant impact of Teacher Leaders on	N/A-	Inferential Statistics (Linear Regression)	The regression analysis reveals a significant positive	It is recommended that faculty development centers may conduct hands-on training modules like

#	Objective		Research Question	Analysis	Finding	Suggestion
	Classroom Climate at higher education institutions.	their Classroom Climate at higher education institutes.			relationship between teacher leadership and classroom climate, with teacher leadership explaining 90.6% of the variance in classroom climate.	Strategic Collaboration training, Innovative Teaching also including classroom simulations, peer feedback sessions, and real-time instructional experiments to embed leadership behaviours into daily teaching practice
4	To explore the views of Students regarding leadership attributes of Teacher Leaders and their Classroom Climate practices at Higher Education Level.	N/A	What are the views of students about the leadership attributes exhibited by teacher leaders and their classroom climate practices at the higher education level?	Thematic Analysis	Finding reveals that teacher leaders foster a dynamic and supportive classroom environment through proactive attitudes, diverse teaching strategies, and a strong emphasis on collaboration	It is suggested that higher education institutions embed teacher leadership development into ongoing faculty evaluation and promotion systems, by integrating leadership rubrics, reflective teaching portfolios, and student feedback analysis, ensuring continuous growth in leadership capacity linked to real classroom impact.

				and student autonomy. They engage students in meaningful learning experiences by integrating relevant materials and promoting active participation, thereby enhancing overall student well-being and academic success.	
5	To design a framework for Teachers for developing Teacher Leadership Qualities and N/A-	What components should be included in a framework aimed at developing teacher leadership qualities among	Integration of Quantitative results and Qualitative results to get detailed findings for the development of framework	Findings from the both Quantitative and Qualitative results showed that Risk Taking and Collegiality were less adopted leadership	It is recommended that higher education institutions may implement targeted professional development initiatives aimed at promoting risk-taking and collegiality among faculty members, alongside

fostering a positive classroom climate among teaching faculty at Higher Education Level.	educators and fostering positive classroom climate at the higher education level?	attributes on the other side faculty members also less practiced managing learning activities to maintain Classroom Climate. Rest of the leadership attributes of teacher leaders and classroom climate	enhancing strategies for managing learning activities, to cultivate a more dynamic and supportive classroom climate that benefits both teaching and student engagement.

5.6   Proposed Framework for Higher Education Institutions

As far as objective no 5 is concerned, a frame work was developed to facilitate teacher at higher education level for developing their Teacher Leadership qualities. This framework was Based on the research findings and identified gaps in the literature. This section deals with different steps for developing model for higher education institutions each heading follows the sequence of model development:

5.6.1   Identification and Discussion of less adopted Strategies from results

This heading is discussed in the light of results and their findings which were not satisfactorily achieved. Here is the list of leadership attributes of Teacher Leaders and Classroom Climate strategies which were less practiced by the teaching faculty of public sector universities Pakistan, Islamabad:

1. Risk Taking.

2. Collegiality.

3. Managing Learning activities

In the light of earlier discussed findings driven from the results Risk Taking and Collegiality were less adopted leadership attributes on the other side faculty members also less practiced managing learning activities to maintain Classroom Climate.

Based on the findings presented, it is apparent that certain leadership attributes, such as Risk Taking and Collegiality, are less adopted by faculty members in higher education institutions. This suggests a potential reluctance among teachers to embrace innovative or unconventional approaches in their roles as leaders within the academic community. The lack of emphasis on Risk Taking may hinder the exploration of new teaching methodologies or the implementation of transformative initiatives that could benefit student learning outcomes and overall institutional development.

Similarly, the findings indicate that there is a deficit in the practice of managing learning activities to maintain classroom climate. Effective management of learning activities is crucial for creating an environment conducive to learning, engagement, and academic success. The limited focus on this aspect suggests a need for greater attention to pedagogical strategies aimed at optimizing the learning experience for students. Without adequate management of learning activities, classrooms may lack structure, coherence, and effectiveness, potentially impeding student learning and academic achievement.

Overall, these findings underscore the significance of overcoming obstacles to the implementation of key leadership attributes and pedagogical practices among faculty members in higher education institutions. Strategies aimed at promoting a culture of risk-taking, fostering collegiality, and enhancing the management of learning activities can contribute to the development of dynamic, innovative, and supportive learning environments conducive to student success and institutional excellence.

5.6.2 Other Leadership Attributes and Classroom Climate Strategies from existing Literature

In the current study, the focus was primarily on leadership attributes such as risk-taking, effectiveness, autonomy, collegiality, and honour, along with classroom climate strategies like management of learning activities, encouraging student participation, and supporting student

learning. However, several other leadership attributes and classroom climate strategies could be explored in future research to provide a more comprehensive understanding of their impact on educational outcomes.

Leadership Attributes:

1. **Visionary Leadership**: Visionary leadership is crucial in educational settings as it provides a clear direction and inspires stakeholders towards common goals. In the context of classroom climate, visionary leaders articulate a compelling vision for student success and create a sense of purpose and motivation among educators and students (Avolio, Walumbwa, & Weber, 2009). Visionary leaders can create a positive learning atmosphere marked by enthusiasm, ambition, and collective endeavor through establishing high standards and promoting a culture of excellence. (Bass, 1990).

2. **Transformational Leadership**: Transformational leadership focuses on empowering and motivating individuals to realize their maximum capabilities, resulting in constructive organizational change (Bass & Riggio, 2006). In the classroom, transformational leaders inspire creativity, innovation, and intrinsic motivation among students and teachers alike (Leithwood, Harris, & Hopkins, 2008). Through cultivating a common vision, stimulating intellectual growth, and delivering personalized assistance, transformational leaders enhance classroom climate by promoting collaboration, growth mindset, and continuous improvement (Bryman, 1992).

3. **Emotional Intelligence**: Emotional intelligence (EI) entails the capacity to identify, comprehend, and regulate both one's own emotions and the emotions of others. (Goleman, 1995). In the educational context, teachers with high EI are better equipped to establish positive relationships, manage classroom dynamics, and support students' socio-emotional development (Brackett & Katulak, 2006). By demonstrating empathy, resilience, and effective communication skills, emotionally intelligent leaders foster trust, rapport, and a supportive classroom climate conducive to learning and well-being (Brackett et al., 2006).

4. **Adaptive Leadership**: Adaptive leadership involves navigating change, uncertainty, and complexity by encouraging flexibility, innovation, and resilience (Heifetz & Laurie, 1997). In classrooms facing diverse challenges and evolving educational landscapes, adaptive

leaders promote agility, problem-solving, and continuous learning (Northouse, 2018). By embracing feedback, fostering experimentation, and facilitating collective decision-making, adaptive leaders create an environment that values adaptation, experimentation, and growth, ultimately enhancing classroom climate and organizational effectiveness (Heifetz & Linsky, 2002).

5. **Ethical Leadership**: Ethical leadership emphasizes adherence to principles of honesty, equity, and responsibility in decision-making and conduct. (Brown & Treviño, 2006). In educational contexts, ethical leadership model include ethical conduct, promote moral reasoning, and uphold principles of justice and equity (Starratt, 2004). By demonstrating honesty, transparency, and respect for diverse perspectives, ethical leaders cultivate a culture of trust, respect, and ethical responsibility, contributing to a positive and ethical classroom climate (Starratt, 2004).

Classroom Climate Strategies:

1. **Culturally Responsive Teaching (CRT):** underscores the significance of acknowledging and appreciating students' cultural heritage, experiences, and viewpoints within the educational framework (Gay, 2010). Through the integration of culturally pertinent material, teaching techniques, and evaluation methods, CRT advocates for inclusiveness, fairness, and scholastic accomplishment among varied student demographics (Ladson-Billings, 1995). Studies indicate that CRT bolsters student involvement, drive, and performance by nurturing feelings of belongingness, cultural esteem, and academic confidence (Milner, 2017).

2. **Differentiated Instruction (DI):** Customizing teaching approaches(DI), materials, and evaluations to align with students' unique learning requirements, interests, and preferences characterizes differentiated instruction (Tomlinson, 2001). Through offering various directions to learning and adjusting the pace, complexity, and format of instruction, DI promotes engagement, mastery, and academic success for all learners (Tomlinson, 2014). Studies indicate that DI improves student achievement, self-esteem, and attitudes towards learning by addressing diverse learning styles, abilities, and backgrounds (Hall et al., 2012).

3. **Positive Behaviour Support (PBS):** Positive behaviour support focuses on promoting desirable behaviours and preventing or addressing challenging behaviours through proactive, evidence-based strategies (Sugai & Horner, 2009) Through instructing and reinforcing positive behaviours, establishing clear expectations, and implementing consistent consequences, PBS creates a safe, supportive, and respectful classroom climate conducive to learning (Lewis & Sugai, 1999). Research suggests that PBS reduces disruptive behaviours, improves social-emotional skills, and enhances academic engagement and achievement among students (Bradshaw et al., 2008).

4. **Restorative Practices (RP):** Restorative practices seek to repair harm, restore relationships, and build community by addressing conflicts and disciplinary incidents through dialogue, empathy, and accountability (Morrison, 2002). By facilitating meaningful interactions, repairing harm, and promoting empathy and responsibility, RP fosters a sense of belonging, mutual respect, and social-emotional learning in educational settings (Wachtel & McCold, 2000). Studies indicate that RP reduces disciplinary referrals, enhances school climate, and improves relationships among students and between students and educators (Gonzalez, 2016).

5. **Student Voice and Choice:** Student voice and choice involve Creating avenues for students to engage actively in decision-making processes, curriculum design, and learning activities (Cook-Sather, 2006). By empowering students to express their interests, preferences, and perspectives, student voice and choice promote autonomy, motivation, and ownership of learning (Fielding, 2001). Research suggests that incorporating student voice and choice increases student engagement, intrinsic enthusiasm, and intellectual progress through instilling a sense of intervention, accountability, and significance in the learning process. (Reeve, 2006).

5.6.3 Adaptability of leadership attributes and Classroom Climate strategies in Pakistani Context

Above mentioned Strategies and leadership attributes are extracted from literature with its detail. In the current study main purpose of these leadership attributes and classroom climate strategies were to Propose a new Framework for Teacher Leaders in Higher Education Institutions. By considering these additional leadership attributes and classroom climate strategies, future research can offer valuable insights into effective practices for promoting positive teaching and

learning environments in educational settings. In the context of Pakistani higher education, the adoption of these leadership attributes and classroom climate strategies can significantly contribute to overall progress and improvement in several ways:

1. **Visionary Leadership:** Visionary leaders in Pakistani HEIs can articulate a clear vision for the future of education in the country, emphasizing goals such as enhancing access, quality, and relevance. By championing initiatives such as the development of long-term strategic plans, innovative academic programs, and partnerships with industry stakeholders, visionary leaders can inspire faculty, students, and administrators to work towards common objectives. Pakistani higher education institutions (HEIs) can benefit from leaders who possess a clear vision for the future of education in the country. Visionary leaders can set ambitious goals, inspire stakeholders, and navigate the complexities of the education system to drive positive change.

2. **Transformational Leadership:** Transformational leadership in Pakistan's HEIs involves empowering stakeholders to embrace change and innovation. Leaders can encourage faculty members to adopt innovative teaching methods, integrate technology into the curriculum, and engage in interdisciplinary research collaborations. Through increasing a philosophy of creativity, collaboration, and continuous improvement, transformational influentials can drive optimistic transformation and enhance the overall quality of education. Transformational leadership can empower faculty members and administrators to innovate and adapt to changing educational needs. By promoting a culture of creativity, collaboration, and continuous improvement, transformational leaders can enhance teaching and learning experiences in Pakistani HEIs.

3. **Emotional Intelligence:** In the Pakistani context, where interpersonal relationships and cultural sensitivity are paramount, leaders with high emotional intelligence can effectively navigate complex social dynamics and promote a positive organizational climate. By demonstrating empathy, active listening, and conflict resolution skills, emotionally intelligent leaders can build trust, foster collaboration, and enhance morale among faculty, staff, and students. In the Pakistani context, where cultural sensitivity and interpersonal relationships play crucial roles, leaders with strong emotional competencies may excellently manage disputes, build trust, and motivate others. By understanding and

regulating their emotions, leaders can create a supportive and inclusive environment conducive to academic success.

4. **Adaptive Leadership:** Given the socio-political and economic challenges facing Pakistani HEIs, adaptive leadership is essential for responding effectively to change and uncertainty. Leaders can adapt institutional policies, practices, and resources to meet evolving educational needs, such as expanding access to online learning platforms, diversifying revenue streams, and forging partnerships with government agencies and industry partners. By promoting agility, resilience, and innovation, adaptive leaders can position HEIs for long-term sustainability and success. Considering the dynamic nature of Pakistan's higher education landscape, adaptive leadership is essential for addressing emerging challenges and seizing opportunities. Adaptive leaders can navigate political, social, and economic changes, mobilize resources, and foster resilience among stakeholders to ensure the sustainability and relevance of HEIs.

5. **Ethical Leadership:** Ethical leadership is critical in Pakistani HEIs to uphold integrity, transparency, and accountability. Leaders can establish clear ethical guidelines, codes of conduct, and mechanisms for addressing ethical dilemmas and conflicts of interest. By modelling ethical behaviour, fostering a culture of honesty and integrity, and holding themselves and others accountable for ethical standards, leaders can cultivate trust, credibility, and institutional reputation. Ethical leadership is paramount in Pakistani HEIs to uphold integrity, transparency, and accountability. Leaders who demonstrate ethical behaviour and promote ethical decision-making contribute to the credibility and trustworthiness of institutions, fostering a culture of academic excellence and social responsibility.

Classroom Climate strategies:

1. By embracing culturally responsive teaching, educators in Pakistan can create learning environments that honor and respect the diverse cultural backgrounds of students. This approach promotes inclusivity, fosters a sense of belonging among students from various ethnicities and backgrounds, and reduces the risk of cultural marginalization in the classroom. Culturally responsive teaching can also enhance students' cultural competence and critical thinking skills by exposing them to diverse perspectives and experiences.

Recognizing Pakistan's diverse cultural landscape, culturally responsive teaching strategies can help educators create inclusive and equitable learning environments. By valuing students' cultural backgrounds, experiences, and perspectives, educators can enhance student engagement, motivation, and academic achievement.

2. Implementing differentiated instruction acknowledges the diverse learning needs and abilities of students in Pakistani classrooms. By tailoring instruction to accommodate individual learning styles, interests, and readiness levels, educators can ensure that all students have access to meaningful learning experiences and opportunities for success. This personalized approach to teaching can help address disparities in academic achievement and promote equity in education, ultimately leading to improved learning outcomes for students across diverse socioeconomic backgrounds. With students in Pakistani classrooms possessing varying levels of readiness, interests, and learning styles, differentiated instruction can cater to individual needs and promote inclusive education. By adapting teaching methods, materials, and assessments, educators can maximize student learning outcomes and minimize achievement gaps.

3. Creating a positive and supportive classroom climate through positive behaviour support strategies can contribute to a conducive learning environment in Pakistani schools. By reinforcing positive behaviours, teaching social-emotional skills, and promoting a culture of respect and responsibility, educators can foster a sense of safety and belonging among students. This, in turn, can reduce incidents of disruptive behaviour, enhance student engagement, and improve overall academic performance. Promoting positive behaviour and discipline in Pakistani classrooms can contribute to a safe, supportive, and conducive learning environment. Positive behaviour support strategies, such as reinforcing desired behaviours, teaching social skills, and implementing restorative practices, can reduce disruptive behaviours and promote a culture of respect and responsibility among students.

4. Introducing restorative practices in Pakistani educational settings offers an alternative approach to addressing conflicts and disciplinary issues. By focusing on repairing harm, restoring relationships, and building a sense of community, restorative practices promote social-emotional learning and conflict resolution skills among students. This can contribute to a more harmonious school climate, reduce instances of violence and bullying, and

strengthen connections between students, educators, and the wider school community. In response to conflicts and disciplinary incidents, restorative practices offer a holistic approach to repairing harm, restoring relationships, and building community in Pakistani educational settings. By facilitating dialogue, empathy, and accountability, restorative practices foster a sense of belonging and collective responsibility among students and educators.

5. Encouraging students to voice their opinions, preferences, and interests in the learning process can foster a sense of ownership and agency in their education. In the Pakistani context, providing opportunities for student voice and choice can promote active engagement, critical thinking, and intrinsic motivation among students. By involving students in decision-making processes and offering them autonomy in their learning, educators can cultivate a culture of student-cantered education that values and respects student perspectives and contributions. Empowering students to actively participate in their learning process and decision-making can enhance their sense of ownership, autonomy, and engagement in Pakistani classrooms. By soliciting student feedback, providing opportunities for self-expression, and offering choices in assignments and activities, educators can foster critical thinking, creativity, and intrinsic motivation among students.

In summary, the integration of leadership attributes and classroom climate strategies outlined above presents a transformative opportunity for Pakistani higher education. By incorporating visionary leadership, transformational leadership, emotional intelligence, adaptive leadership, and ethical leadership, institutions can foster a culture of excellence, where administrators and faculty members work collaboratively to set clear goals, inspire others, and navigate change effectively. This can lead to improved organizational effectiveness, student outcomes, and institutional reputation (Aydin & Ceylan, 2009).

Furthermore, implementing culturally responsive teaching, differentiated instruction, positive behaviour support, restorative practices, and student voice and choice can create a conducive learning environment that promotes equity, inclusivity, and student success. By valuing students' cultural backgrounds, adapting instruction to meet diverse learning needs, fostering positive behaviour, resolving conflicts restoratively, and empowering student agency, educational

institutions can cultivate a supportive and engaging learning environment where all students feel valued, respected, and empowered to reach their full potential (Hammond, 2015; Marzano, 2007).

Moreover, the adoption of these practices aligns with global trends in education and can enhance Pakistan's competitiveness in the global knowledge economy. As the landscape of higher education continues to evolve, institutions that prioritize innovation, equity, and student-cantered learning are better positioned to meet the demands of the 21st-century workforce and contribute to national development goals (World Bank, 2020).

Overall, by embracing these leadership attributes and classroom climate strategies, Pakistani higher education institutions can foster a culture of excellence, equity, and innovation, thereby advancing the overall progress and quality of education in the country.

Objective # 5   To design a framework for developing teacher leadership qualities and fostering a positive classroom climate among teaching faculty at the higher education level.

5.6.4   Proposed Framework.

The proposed framework, titled **"Transformative Educational Ecosystem Framework: *Fostering Excellence, Equity, and Innovation*"** presents a structured approach to developing teacher leadership capacities and cultivating a positive classroom climate within higher education. This framework integrates key leadership attributes—such as visionary thinking, adaptability, ethical behaviour, emotional intelligence, risk-taking, and collegiality—with inclusive and evidence-based classroom practices. By organizing these elements into three core components; Input Variables, Processes and Outcomes, this framework provides a comprehensive roadmap for institutional transformation. Diagram of Proposed model is here:
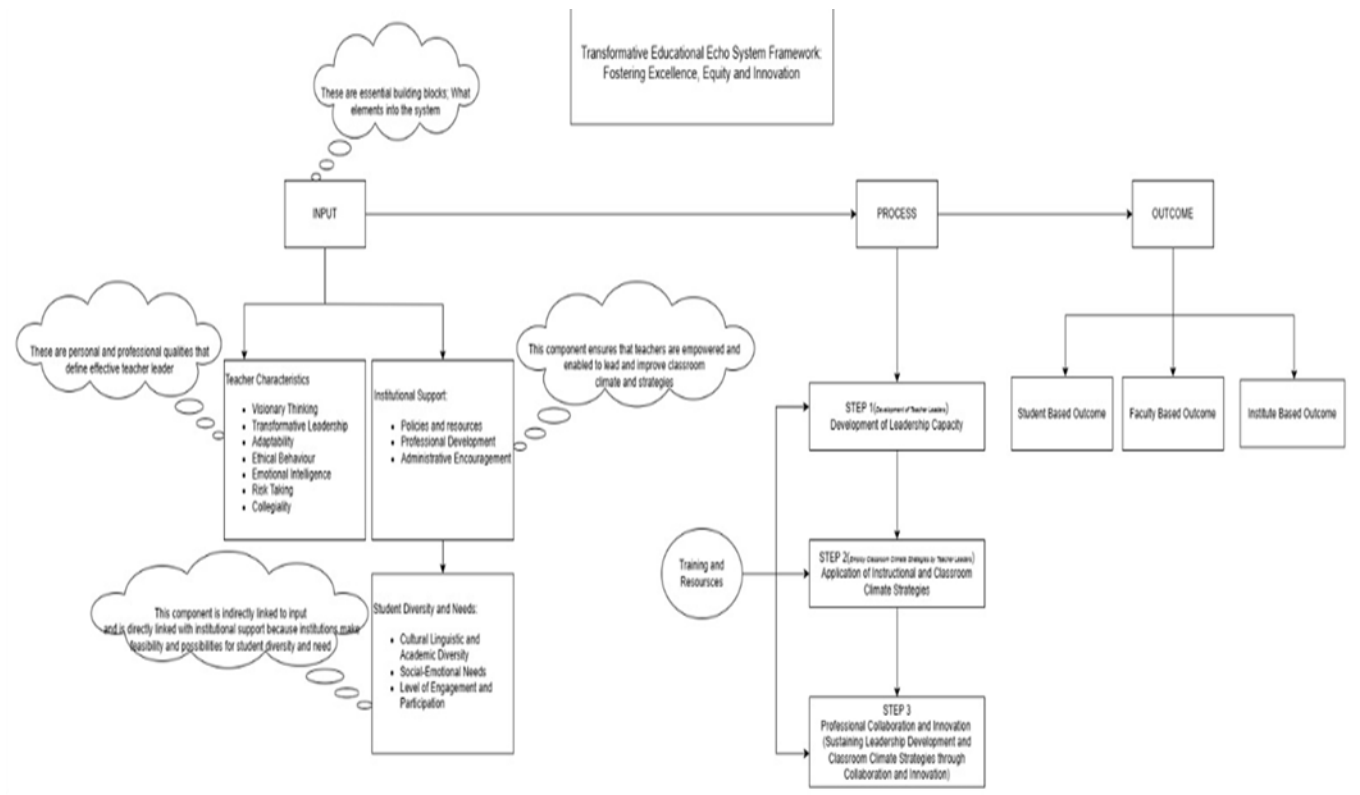
Figure 16 Proposed Framework for Higher Education "Transformative Educational Ecosystem Framework:Fostering Excellence, Equity and Innovation

1. Input Variables

These foundational components establish the necessary conditions for cultivating teacher leadership and transforming classroom practices. Each input interacts with the others to create a dynamic context that influences how educational change can be initiated and sustained.

a. Teacher Characteristics (Leadership-Oriented)

This component of the Input focuses on the foundational qualities that higher education faculty must possess or cultivate to function effectively as teacher leaders. These characteristics extend beyond subject expertise and encompass dynamic leadership traits such as forward-thinking vision, adaptability, ethical conduct, emotional sensitivity, collaborative spirit, and the confidence to lead change. Recognizing and nurturing these

attributes among university teachers sets the stage for impactful instructional practices and a thriving, student-centered classroom climate.

- **Visionary Thinking:** The capacity of educators to anticipate future educational trends, envision progressive goals, and guide others toward a collective academic vision. Teachers with this attribute think strategically and help shape the long-term direction of their institutions.

- **Transformative Leadership:** The ability to lead transformation by challenging outdated practices, inspiring peers, and implementing innovative solutions in teaching and learning. These educators serve as catalysts for meaningful academic reform.

- **Adaptability:** The skill to adapt teaching approaches and leadership decisions in response to changing classroom dynamics, student needs, or institutional demands. Teachers with this quality remain effective in uncertain or rapidly evolving environments.

- **Ethical Behaviour:** A strong commitment to ethical standards, fairness, inclusivity, and transparency in both instructional and administrative roles. Such teachers lead by example and foster a sense of trust and justice.

- **Emotional Intelligence** The ability to understand, manage, and respond to both personal and others' emotions with sensitivity. This enhances relationships with students and colleagues and promotes a supportive, emotionally healthy learning environment.

- **Risk taking:** The willingness to try out new teaching methods, tackle complex challenges, and take calculated risks to improve learning outcomes. These educators are not afraid to step outside their comfort zone for the sake of progress.

- **Collegiality:** A collaborative approach to working with peers, encouraging shared responsibility, knowledge exchange, and professional growth. This quality helps in building a collegial and cooperative academic culture

Together, these attributes serve as the core characteristics required for faculty to function effectively as teacher leaders in higher education.

b. Institutional and Environmental Support

Within the proposed framework, Institutional and Environmental Support functions as a critical input variable that directly shapes the conditions under which teacher leadership can emerge and thrive. As part of the foundational infrastructure of the higher education ecosystem, this element encompasses the policies, administrative mechanisms, and cultural norms that either facilitate or constrain lmeadership development. Institutions that actively promote innovation, allocate resources for professional development, and foster a culture of collaboration create an enabling environment for faculty to assume leadership roles. This supportive context is essential for translating individual leadership capacities into sustained pedagogical and institutional transformation.

- **Policies and Resources**: Institutional policies that promote innovation, shared leadership, and professional development are essential for nurturing teacher leadership capacities.
- **Professional Development**: Availability of structured leadership training programs, workshops, and seminars enables faculty to acquire and refine leadership skills.

c. Student Diversity and Needs

In the proposed framework, Student Diversity and Needs are conceptualized as a vital, indirect input that significantly informs institutional practices and teacher preparedness. Although this element is not embedded directly within the teacher's own characteristics, it has a consequential role in shaping institutional strategies and pedagogical responses. It is directly connected to Institutional and Environmental Support, which in turn influences how teacher leadership attributes are developed and enacted. Understanding and responding to the multifaceted diversity of students is essential for fostering equity, enhancing engagement, and creating inclusive classroom environments in higher education.

Key Dimensions:

- **Cultural, Linguistic, and Academic Diversity:** Variation in students' ethnic backgrounds, primary languages, and prior educational experiences that demand culturally responsive and differentiated instructional strategies.

- **Social-Emotional Needs:** Students may present with diverse emotional development, psychological needs, and varying degrees of support systems, all of which require empathy-driven and trauma-informed teaching practices.

- **Levels of Engagement and Participation:** Students differ in their motivation, willingness to participate, and preferred modes of learning. These variations necessitate adaptive learning environments and participatory teaching strategies to ensure equitable inclusion.

2. Processes

These are the mechanisms and actions through which the framework operates—what faculty and institutions do to activate the input variables.

Step I: Develop Leadership Capacities (Development of Teacher Leaders)

This step is foundational in transforming higher education institutions by cultivating teacher leaders. The goal is to embed leadership-oriented characteristics among faculty members through structured support and experiential learning opportunities.

- Organizing regular **training workshops**, **seminars**, and **coaching sessions** focused on the seven leadership attributes.
- Establishing **peer-mentoring programs** and leadership role assignments within departments.
- Providing platforms for teachers to engage in **shared decision-making** and school governance.

This is the **foundational step** where teachers are equipped with essential leadership attributes—such as visionary thinking, adaptability, emotional intelligence, ethical behaviour, collegiality, and risk-taking—through structured training programs.

Link with other steps: Without strong leadership capacity, teachers cannot effectively influence classroom practices or lead professional growth.

Step II: Instructional and Classroom Climate Strategies (Apply Leadership through Instructional and Classroom Climate Strategies)

After the completion of development of teachership capacities among teaching faculty, trained Teacher leaders employed some strategies for maintaining Classroom Climate. These strategies shape how teaching and learning take place in the classroom:

- **Inclusive Teaching:** This strategy focuses on creating learning environments that respect and integrate students' diverse cultural, linguistic, and social backgrounds. Teachers adapt content and pedagogy to reflect students' identities, ensuring all learners feel valued and represented in classroom instruction.
- **Flexible Instruction:** It involves tailoring teaching methods, content, and assessments to accommodate students' varied learning styles, readiness levels, and interests. This approach allows educators to differentiate support so every student can access the curriculum and succeed.
- **Supportive Discipline:** It refers to proactive behaviour management that emphasizes encouragement, positive reinforcement, and guidance rather than punishment. It aims to build students' self-regulation skills and foster respectful relationships in the classroom.
- **Restorative Approach:** This strategy uses dialogue and reflection to address conflict, repair relationships, and build accountability among students. Instead of focusing on blame, the restorative approach encourages mutual understanding and community building.
- **Student Empowerment:** promotes active participation by giving learners meaningful choices in how they learn and express their understanding. It includes practices that elevate student voice, foster autonomy, and develop leadership skills within the classroom setting.
- **Activity Management:** involves planning, organizing, and pacing classroom tasks efficiently to keep students engaged and minimize disruptions. It includes clearly defined

expectations, smooth transitions, and purposeful learning structures that support focus and productivity.

In this step, teacher leaders **utilise their leadership skills into classroom action** by adopting inclusive, responsive, and student-centred teaching practices. Strategies include differentiated instruction, culturally responsive teaching, behaviour support, and managing learning activities. **Link with other steps:** The leadership qualities developed in Step 1 empower teachers to **reshape the classroom environment** for equity and excellence in Step 2.

Step III Professional Collaboration and Innovation (Sustaining leadership development and classroom climate strategies through collaboration and innovation.)

This phase focuses on sustaining teacher leadership and effective classroom practices through structured collaboration and continuous innovation.

- Encouraging **team teaching**, cross-department collaboration, and co-creation of curriculum materials.
- Supporting **pilot projects** where innovative ideas can be tested.
- Promoting a culture of **collegiality** through joint publications, team evaluations, and collaborative planning.
- Fostering **risk-taking** by recognizing experimentation, even if it doesn't always lead to immediate success.

This step ensures long-term impact by fostering **peer collaboration, shared leadership, and continuous innovation**. Teachers engage in team teaching, professional learning communities, and action research to refine practices and lead change.
Link: Successful development of leadership capacities from step 1 and employment of those capacities into the classroom practices from Step 2 are **sustained and scaled** through collective efforts and a culture of continuous improvement in Step 3.

All the 3 steps of process followed through trainings and required resources.

A. Professional Training and Capacity Building

To develop the desired leadership attributes and classroom strategies, the framework integrates a structured training program for university faculty. These trainings include:

1. **Transformative and Ethical Leadership Training:** Focus on vision development, ethical decision-making, and leading institutional change.
   - *Trainer:* Senior academic leaders or certified consultants
   - *Objective:* Cultivate visionary and principled leadership
2. **Emotional Intelligence and Interpersonal Skills Workshops:** Help faculty manage emotions, build empathy, and communicate effectively with students and colleagues.
   - *Trainer:* Psychologists or HRD professionals
   - *Objective:* Build empathy, self-awareness, and communication
3. **Collaborative and Collegial Practice Sessions:** Promote teamwork, shared leadership, and peer mentoring through structured collaboration sessions.
   - *Trainer:* Experienced faculty or mentors
   - *Objective:* Foster teamwork and shared leadership
4. **Inclusive Pedagogy and Culturally Responsive Teaching:** Equip teachers with strategies to engage diverse learners and create inclusive classroom environments.
   - *Trainer:* Diversity education experts
   - *Objective:* Address classroom equity and diversity
5. **Risk-Taking and Innovative Teaching Workshops:** Encourage experimentation with new teaching approaches, managing learning activities, and reflective practice.

   - *Trainer:* Educational technologists and innovation facilitators
   - *Objective:* Encourage experimentation and adaptability

B. Resources Required for Training Implementation

Pakistani universities can conduct these trainings using the following resources:

- **Human Resources**: In human resources experts and support staff is included.

- **Expert Trainers/Facilitators:** Subject-matter experts in leadership, pedagogy, emotional intelligence, inclusion, and educational innovation.

- **Support Staff**: Coordinators, assistants, or IT personnel to manage logistics, attendance, and technical support.

- **Physical Infrastructure**: it refers to the physical matrials that are used in trainings such as:
  - **Training Venues**: Seminar halls, conference rooms, or classrooms equipped with audio-visual aids.
  - **Workshop Materials**: Whiteboards, flipcharts, markers, name tags, and stationery for group activities.

- **Technological Resources**: In training programs technological tools are also used as basic resource such as:
  - **Presentation Equipment**: Projectors, microphones, and laptops for delivering interactive sessions.
  - **Learning Management System (LMS)**: For hosting training modules, pre- and post-assessments, resource materials, and feedback forms.
  - **Interactive Tools**: Online platforms like Kahoot, Mentimeter, Jamboard, or Zoom for hybrid/online delivery.

- **Learning and Instructional Materials**: Resources that are based on some reading material such as:
  - **Training Manuals/Handbooks**: Custom modules aligned with leadership and pedagogical themes.
  - **Case Studies and Role-Plays**: Real-life scenarios that encourage reflection and active participation.
  - **Reading Material and Research Articles**: Related to leadership, inclusion, risk-taking, and collaborative teaching.

- **Financial Support**: In training programs financial resources such as:
  - Honoraria or Fees for Trainers

- o Material and Printing Costs

- o Refreshments, Transportation or Travel Allowances (if needed)

- o Software Licenses or Subscriptions (for digital tools used)

Summary: Process is the second layer of the proposed framework; it has 3 steps. step 1 is development of leadership capacities after the development of leadership capacities among university teachers step 2 of the process starts which is based on the instructional strategies that was applied in classroom settings in the result of successfully completion of step 1, further after the adoption of classroom climate strategies by the teacher leaders, step 3 of the process starts which is named as professional collaboration and innovation in this step above 2 steps (development leadership capacities and implications of classroom climate strategies will be sustained through collaboration and innovation.) furthermore all these 3 steps followed and operated with the help of trainings and required resources.

3. Outcomes

These are the intended results of the framework when input variables are effectively channelled through the processes.The ultimate goal is to produce measurable improvements across three levels:

a. Faculty Outcomes

- Teachers demonstrate stronger leadership behaviors both in and out of the classroom.
- Increased use of innovative, student-centered instructional strategies.
- Faculty feel more empowered, collaborative, and professionally satisfied.

b. Student Outcomes

- Students experience more inclusive and supportive learning environments.
- Higher motivation, participation, and academic performance.
- More meaningful student-teacher relationships and greater voice in their learning.

c. Institutional Outcomes (professional outcomes)

- Universities develop a culture of **excellence** (high academic standards), **equity** (inclusive and fair practices), and **innovation** (continuous improvement).
- Development of a pipeline of teacher leaders ready to contribute to institutional governance and reform.
- Increased institutional reputation, student retention, and community engagement.

Summary: Outcome is the last layer of the framework moreover these 3-dimensional outcomes are faculty-based outcomes, students-based outcomes and institutional based outcomes.

5.6.5 Detailed Implementation Strategy of the Transformative Educational Ecosystem Framework

To implement this model effectively, a systematic, phased approach supported by relevant resources has been outlined. This implementation plan facilitates the practical development of leadership qualities and the application of classroom strategies among university faculty, ensuring long-term impact and adaptability within diverse academic environments.

Phase 1: Institutional Readiness and Resource Allocation (Month 1)

Objective:

To prepare the institutional foundation for implementing the framework by mobilizing resources, ensuring administrative buy-in, and establishing a structured rollout plan.

Key Actions:

- **Form a Steering Committee:** Include senior faculty, administrators, and training coordinators to oversee implementation.
- **Assess Resources:** Evaluate the availability of venues, digital tools (like LMS), budget, and expert faculty.
- **Plan Budget:** Allocate financial resources for training logistics, materials, and trainers.
- **Develop Training Calendar:** Create a time-sensitive schedule aligned with academic terms and faculty workload.

Responsible Bodies:

Vice Chancellor's Office, Directorate of Faculty Development, and Quality Enhancement Cell (QEC)

Phase 2: Training Design and Delivery (Months 2–4)

Objective:

To design and deliver targeted capacity-building sessions that build leadership competencies and classroom innovation skills.

Key Actions:

- **Curriculum Development:** Align content with leadership attributes (visionary, ethical, adaptive, emotional intelligence, collegiality, risk-taking) and classroom climate strategies (e.g., culturally responsive teaching, managing learning activities).
- **Trainer Selection:** Use experienced internal faculty or external specialists in educational leadership and pedagogy.
- **Deliver Core Trainings:**
  1. Transformative & Ethical Leadership
  2. Emotional Intelligence
  3. Collegial Collaboration & Risk-Taking
  4. Inclusive & Culturally Responsive Teaching
  5. Managing and Differentiating Learning Activities
- **Collect Participant Feedback:** Use questionnaires to refine content and delivery.

Responsible Bodies:

Faculty Development Centers, HoDs, and External Trainers

Phase 3: Classroom Integration and Mentoring (Months 5–6)

Objective:

To support faculty in translating their training into classroom practice through mentoring and collaborative implementation.

Key Actions:

- **Develop Implementation Plans:** Require teachers to outline specific classroom strategies they will use.
- **Mentoring Support:** Pair trained teacher leaders with less experienced faculty for guidance.
- **Peer Support Circles:** Establish informal groups for sharing challenges and practices.
- **Monitoring Tools:** Apply observation rubrics and student feedback forms to track changes.

Responsible Bodies:
Heads of Departments (HoDs), Senior Faculty Mentors, Academic Committees

Phase 4: Monitoring and Feedback (Months 7–9)

Objective:
To evaluate the initial outcomes of implementation and adapt approaches based on evidence and feedback.

Key Actions:

- **Gather Student Feedback:** Regularly assess student perspectives on leadership behaviors and classroom environment.
- **Use Reflection Logs:** Encourage faculty to reflect on their progress and challenges in journals or digital platforms.
- **Conduct Observations:** Utilize trained observers to monitor classroom practices using predefined rubrics.
- **Hold Feedback Meetings:** Convene monthly reviews to analyze progress and adjust strategies.

Responsible Bodies:
Internal Monitoring Team, QEC, Academic Coordinators

Phase 5: Institutionalization (Months 10–12)

Objective:

To formally embed the framework into the university's academic policies and ensure its sustainability.

Key Actions:

- **Policy Integration:** Include leadership and classroom climate training in long-term faculty development policies.
- **Annual Development Planning:** Ensure training and follow-up are part of Continuous Professional Development (CPD).
- **Link to Appraisals:** Tie leadership development participation and outcomes to annual evaluations and promotions.
- **Recognition and Incentives:** Provide institutional rewards for exemplary teacher leaders (e.g., awards, travel grants).
- **Knowledge Dissemination:** Encourage publication and conference presentations on successful implementation stories.

Responsible Bodies:

Academic Council, HR Department, Curriculum Committees, Research & Development Wings
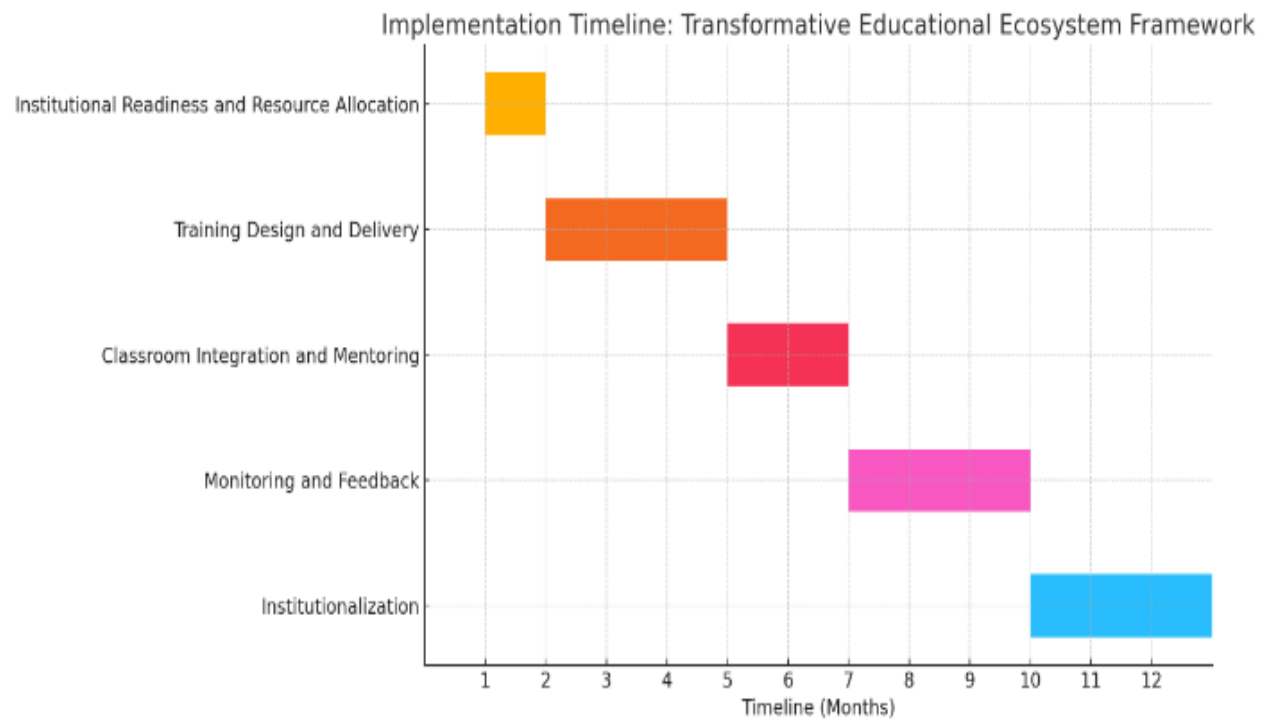
Figure 17 Suggested Timeline for implementation of model

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APPENDIXES

<div align="right">

Appendix A

</div>

Request for Proof-Reading and Validity of research tools

Respected Teachers,

I am Sara Aqiq scholar of PhD Education. My research topic is *"Impact of Teacher Leaders on their Classroom Climate at Higher Education Level"* and research Objectives are;

1. To explore the Teacher Leaders among university teaching faculty based on their leadership qualities.
2. To assess the classroom practices of teacher leaders at higher education level.
3. To analyze the impact of Teacher Leaders on their Classroom Climate at higher education level.
4. To explore the views of Students regarding leadership attributes of Teacher Leaders and their Classroom Climate practices at Higher Education Level.
5. To design a framework for developing teacher leadership qualities and fostering positive classroom climate among teaching faculty at higher education level.

I request your honor to please guide me by validation and proof-reading of my research instrument which is attached with this request. In the light of your valuable suggestions, I hope I can step forward to a right path of my research field.

With Best Regards.

<div align="right">

Sara Aqiq.

PhD Education.

</div>

Cover Letter of Questionnaire

COVER LETTER

IMPACT OF TEACHER LEADERS ON THEIR CLASSROOM CLIMATE AT HIGHER EDUCATION LEVEL

Sara Aqiq

PhD. Scholar

National University of

Modern Languages, Islamabad

Sara.aqiq@yahoo.com

Dear Respondents,

I am PhD Scholar at National University of Modern Languages, Islamabad and conducting a research on *"Impact of Teacher Leaders on their Classroom Climate at Higher Education Level"*. Kindly assist me by giving few minutes on completing a questionnaire. It is requested you to provide information about your leadership qualities and classroom practices. There are three major parts of this questionnaire dealing with your demographical information, Teacher Leadership Scale and Classroom Climate Inventory. You are requested to give your responses against the options ranging from 1to 5, that indicates your preferences of response from "Strongly Agree" to "Strongly Disagree". Questionnaires are provided below. You are requested to give valuable response to every question according to your own choices. Thank you.

Questionnaire For Teaching Faculty

1st Part: Demographic Section

1. Name: _____

2. Designation: _____

3. Department:

1	2
Social Sciences	Management Sciences

4. Contact no: _____

5. Email Address: _____

6. Class Level:

1	2	3	4
BS	Masters	Mphil	PhD

7. No of students: _____

8. Semester: _____

9. Shift:

1	2
Morning	Evening

2nd Part : Teacher Leadership Scale

Sr #	Codes	Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
		Risk Taking	**1**	**2**	**3**	**4**	**5**
1.	RT1	I enjoy to take risk	1	2	3	4	5
2.	RT2	I always well come the challenges	1	2	3	4	5
3.	RT3	I have self-command and control in a problematic situation.	1	2	3	4	5
4.	RT4	I think that challenges always bring new ideas.	1	2	3	4	5
5.	RT5	I always to explore the new avenues.	1	2	3	4	5
6.	RT6	I always prefer to execute innovative ideas	1	2	3	4	5
7.	RT7	I have lower level of fear to make new decisions.	1	2	3	4	5
8.	RT8	I believe that everything is possible.	1	2	3	4	5
9.	RT9	I have sense of adventure and want to try new thing	1	2	3	4	5
10.	RT10	I am curious about why things are the way they are.	1	2	3	4	5
		Effectiveness					
11.	E11	I effectively establish connections among disciplines.	1	2	3	4	5
12.	E12	I know how to use a variety of teaching methodologies in order to deliver the single topic.	1	2	3	4	5
13.	E13	I used to make informed choices about text books and materials.	1	2	3	4	5
14.	E14	I utilize teaching technology to enhance the learning process	1	2	3	4	5
15.	E15	I usually establish the relevance to students' own lives.	1	2	3	4	5
16.	E16	I have deep understating of curriculum.	1	2	3	4	5
17.	E17	I always have optimistic attitude about teaching profession and my students.	1	2	3	4	5
18.	E18	I always handle the students without any personal interest and grade their performance fairly.	1	2	3	4	5
19.	E19	I always try to make comfortable and supportive environment in classroom.	1	2	3	4	5
20.	E20	I have concern about student's personal problems and try to solve them as well.	1	2	3	4	5
		Autonomy					
21.	A21	I can easily take initiative.	1	2	3	4	5

22.	A22	I always like to utilize independent thoughts.	1	2	3	4	5
23.	A23	I always take responsibility at a very high level	1	2	3	4	5
24.	A24	I am an efficient decision taker as per the situation.	1	2	3	4	5
25.	A25	I am a self-governed person.	1	2	3	4	5
26.	A26	I use to try reflective reasoning for self-awareness	1	2	3	4	5
27.	A27	I am self-directed	1	2	3	4	5
28.	A28	I always think outside the box	1	2	3	4	5
29.	A29	I use to adopt complex and creative things.	1	2	3	4	5
30.	A30	I have ability to succeed in a rapidly changing environment	1	2	3	4	5
		Collegiality					
31.	C31	I used to prefer the interpersonal skills.	1	2	3	4	5
32.	C32	I always create harmonization of thoughts.	1	2	3	4	5
33.	C33	I believe in collegiality among teachers.	1	2	3	4	5
34.	C34	I used to enjoy group projects.	1	2	3	4	5
35.	C35	I believe that collaboration is a key to success.	1	2	3	4	5
36.	C36	I use to make healthy relationship with colleagues and students	1	2	3	4	5
37.	C37	I support and help other teachers to achieve common goals	1	2	3	4	5
38.	C38	I always cooperative with subordinates	1	2	3	4	5
39.	C39	I am comfortable to work with other staff members.	1	2	3	4	5
40.	C40	I respect other's abilities and views	1	2	3	4	5
		Honor					
41.	H41	I think that without honesty the life is valueless.	1	2	3	4	5
42.	H42	I possess Integrity to achieve goals of life.	1	2	3	4	5
43.	H43	I believe in professional ethics for success.	1	2	3	4	5
44.	H44	I am very strict to follow the principles in professional life.	1	2	3	4	5
45.	H45	I am self-determined to follow the ethical consideration through all the thick and thins.	1	2	3	4	5
46.	H46	I always speak truth no matter its good or bad for me in a certain condition	1	2	3	4	5
47.	H47	I always fair with others and cannot even think about personal benefit	1	2	3	4	5
48.	H48	I always accept the different responsibilities and respond positively to the given task	1	2	3	4	5
49.	H49	I cannot forget moral standards	1	2	3	4	5
50.	H50	I always treat people equally	1	2	3	4	5

3rd Part: Classroom Climate Inventory

Sr #	Codes		Strongly Disagree	Disagree	Often	Strongly Agree	Agree
		Management of Learning Activities	**1**	**2**	**3**	**4**	**5**
1.	MA1	I am well prepared for the lecture	1	2	3	4	5
2.	MA2	I try utilize new ideas in each class.	1	2	3	4	5
3.	MA3	I can easily manage various instructional techniques in a single lecture.	1	2	3	4	5
4.	MA4	I always use appropriate material.	1	2	3	4	5
5.	MA5	I always use such type of learning material as per the needs of student.	1	2	3	4	5
		Encouragement for Participation					
6.	EP6	I encourage the students to take part in every co-curricular activity.	1	2	3	4	5
7.	EP7	I use to prefer question answer session at the end of each lecture.	1	2	3	4	5
8.	EP8	I provide opportunities to the students for free discussions on the topic.	1	2	3	4	5
9.	EP9	I provide ethical friendly environment to boost the capabilities of students.	1	2	3	4	5
10.	EP10	I believe that question is key to learning process.	1	2	3	4	5
11.	EP11	I always appreciate question raisers.	1	2	3	4	5
12.	EP12	I use to encourage students to participate in learning activities.	1	2	3	4	5
		Support Students to achieve learning					
13.	SSL13	I help the students in learning activities.	1	2	3	4	5
14.	SSL14	I always give a moral support to the students.	1	2	3	4	5
15.	SSL15	I have a supportive behavior for the students even in stressful condition.	1	2	3	4	5
16.	SSL16	I try to provide extra time during my busy schedule.	1	2	3	4	5
17.	SSL17	I always support the students to achieve the learning outcomes.	1	2	3	4	5

Interview for Students

I well come you for this interview which no doubt will be a helpful for future of our education system. This interview will be recorded just to avoid mistakes. I ensure that your responses will be used specifically forth the purpose of research. The interview will be of 30-40 mins. Your cooperation during the interview will highly be appreciated.

1. How your teacher accepts challenges for the creation of further possibilities?
2. How does it feel when a teacher is open to trying new things in teaching? Does it make you more interested and excited about learning?
3. Do you think that your teacher has a capacity to effectively deliver the lecture by using different teaching methods, if yes than tell me what are those techniques which he uses?
4. Can you recall a specific instance where a teacher effectively connected different subjects or topics during a lesson? How did this approach influence your understanding and engagement?
5. Have you seen a teacher taking part in making the school better, like suggesting improvements or changes? How did that affect your experience as a student?
6. How do you feel when teachers have the freedom to decide how they teach and plan assessments? Do you think it makes a difference in your learning?
7. Can you think of a time when teachers and school staff worked together to improve the classroom or solve problems? How did this collaboration affect the way you learn?
8. How does it feel when teachers and administrators communicate and collaborate to make the school a better place? Could you share an example of when this collaboration positively impacted your experience as a student?
9. Can you share an example of a teacher demonstrating honesty and integrity in the classroom? How did this contribute to a positive and respectful learning environment?
10. How important do you think it is for teachers to uphold ethical principles like honesty and integrity in their roles as leaders? Can you recall a situation where a teacher's commitment to such values positively influenced the classroom climate?
11. How would you describe your teacher's level of preparation for their lectures? Can you provide an example of a well-prepared lesson that significantly contributed to your learning experience?
12. In terms of managing learning activities, do you think your teacher effectively uses appropriate learning materials during lectures? If so, could you share specific examples of the materials they use and how it enhances your understanding of the subject?
13. Does your teacher encourage you to ask questions about the subject? Can you share an example of when you felt supported in asking questions?

14. Could you share specific situations where your teacher actively motivated you to participate in classroom discussions or activities, and how did this contribute to creating a positive and inclusive learning environment for you?
15. In your opinion, does your teacher exhibit supportive behavior toward students? Can you share examples of how your teacher has demonstrated this support?
16. Does your teacher provide additional time and reading materials to help students? If so, could you share specific instances where this support has positively impacted your learning?

Thank you for giving me your precious time. Your devotion for the improvement of whole education system is worthwhile and appreciated.

CERTIFICATE OF VALIDITY

IMPACT OF TEACHER LEADERS ON THEIR CLASSROM CLIMATE AT HIGHER EDUCATION LEVEL

By Sara Aqiq.

PhD. Scholar, Faculty of Social Sciences, National University of Modern Languages, H-9, Islamabad, Pakistan

This is to certify that the questionnaire modified by the scholar towards her thesis has been assessed by me and I find it to have been modified adequately to assess the role of teacher leaders in managing their classroom climate at higher education level in public sector universities of Islamabad. It is considered that research instrument modified for the research above -titled is according to the objective and hypotheses of research, assures the validity according to the purpose of research, and can be used for data collection by the researcher with fair amount of confidence.

Name... Sadia Sharif

Designation... Lecturer in English

Institute... University of Education

Signature...

Date... 11. 03. 2034

CERTIFICATE OF VALIDITY

IMPACT OF TEACHER LEADERS ON THEIR CLASSROM CLIMATE AT HIGHER EDUCATION LEVEL

By Sara Aqiq.

PhD. Scholar, Faculty of Social Sciences, National University of Modern Languages, H-9, Islamabad, Pakistan

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Name. SHAFI ULLAH KHAN

Designation. Lecturer (BPS-18)

Institute. NUML

Signature.

Date. 11/03/2024

CERTIFICATE OF VALIDITY

IMPACT OF TEACHER LEADERS ON THEIR CLASSROM CLIMATE AT HIGHER EDUCATION LEVEL

By Sara Aqiq.

PhD. Scholar, Faculty of Social Sciences, National University of Modern Languages, H-9, Islamabad, Pakistan

This is to certify that the questionnaire modified by the scholar towards her thesis has been assessed by me and I find it to have been modified adequately to assess the role of teacher leaders in managing their classroom climate at higher education level in public sector universities of Islamabad. It is considered that research instrument modified for the research above -titled is according to the objective and hypotheses of research, assures the validity according to the purpose of research, and can be used for data collection by the researcher with fair amount of confidence.

Name...... Dr. Hafsah Zahur

Designation...... Assistant Professor

Institute...... NUMLs. Islamabad

Signature...........

Date....... 11/03/24

CERTIFICATE OF VALIDITY

IMPACT OF TEACHER LEADERS ON THEIR CLASSROM CLIMATE AT HIGHER EDUCATION LEVEL

By Sara Aqiq.

PhD. Scholar, Faculty of Social Sciences, National University of Modern Languages, H-9, Islamabad, Pakistan

This is to certify that the questionnaire modified by the scholar towards her thesis has been assessed by me and I find it to have been modified adequately to assess the role of teacher leaders in managing their classroom climate at higher education level in public sector universities of Islamabad. It is considered that research instrument modified for the research above -titled is according to the objective and hypotheses of research, assures the validity according to the purpose of research, and can be used for data collection by the researcher with fair amount of confidence.

Name: Dr. Muhammad Usman Shah

Designation: Assistant Professor

Institute: COMSATS University

Islamabad, Attock Campus

Signature:

Date: March 12, 2024

CERTIFICATE OF PROOF READING

Impact of Teacher Leaders on their Classroom Climate at
Higher Education level

By

Sara Aqiq.

PhD. Scholar, Faculty of Social Sciences, National University of Modern Languages, H-9,
Islamabad, Pakistan

It is certified that the research instrument developed for the research titled above has been checked and proof- read for the language and grammatical mistakes.it can be used for data collection by the researcher with fair amount of confidence.
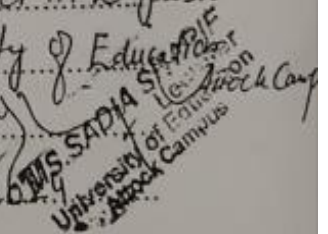
Name. SADIA SHARIF

Designation. Lecturer in English

Institute University of Education

Signature.....

Date... 11. 03.. 2019

CERTIFICATE OF PROOF READING

Impact of Teacher Leaders on their Classroom Climate at
Higher Education level

By

Sara Aqiq.

PhD. Scholar, Faculty of Social Sciences, National University of Modern Languages, H-9,
Islamabad, Pakistan

It is certified that the research instrument developed for the research titled above has been checked and proof- read for the language and grammatical mistakes.it can be used for data collection by the researcher with fair amount of confidence.

Name: Dr. Muhammad Usman Shah

Designation: Assistant Professor

Institute: COMSATS University

Islamabad, Attock Campus

Signature:

Date: March 12, 2024

CERTIFICATE OF PROOF READING

Impact of Teacher Leaders on their Classroom Climate at
Higher Education level

By

Sara Aqiq.

PhD. Scholar, Faculty of Social Sciences, National University of Modern Languages, H-9,
Islamabad, Pakistan

It is certified that the research instrument developed for the research titled above has been
checked and proof- read for the language and grammatical mistakes.it can be used for data
collection by the researcher with fair amount of confidence.

Name...Nadia...Akram...

Designation...Lecturer.......

Institute..NUML, Islamabad

Signature.....[signature]

Date...11..03-24...........

Topic Approval Letter

NATIONAL UNIVERSITY OF MODERN LANGUAGES
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF EDUCATION

ML.1-4/2017/Edu

Dated: 09-02-2021

To: Sara Aqiq,
781-Ph.D/Edu/F18

Subject: **APPROVAL OF Ph.D THESIS TOPIC AND SUPERVISOR**

1.   Reference to Letter No, ML.1/2/2020-Edu, dated 25-01-2020, the Higher Authority has approved the topic and supervisor on the recommendation of Faculty Board of Studies vide its meeting held on 16th Oct 2020.

   a. **Supervisor's Name & Designation**
      Dr. Saira Nudrat,
      Assistant Professor,
      Department of Education NUML, Islamabad.

   b. **Topic of Thesis**

   "Impact of Teacher Leaders on their Classroom Climate at Higher Education Level"

2.   You may carry out research on the given topic under the guidance of your Supervisor and submit the thesis for further evaluation within the stipulated time. It is inform you that your thesis should be submit within described period by **31 July 2023** positively for further necessary action please.
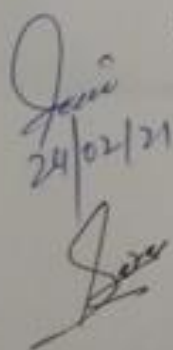
3.   As per policy of NUML, all MPhil/PhD thesis are to be run on turnitin by QEC of NUML before being sent for evaluation. The university shall not take any responsibility for high similarity resulting due to thesis run from own sources.

4.   Thesis are to be prepared strictly on NUML's format that can be had from (Coordinator, Department of Education)

Telephone No: 051-9265100-110 Ext: 2094
E-mail: ftabassum@numl.edu.pk

Dr. Marium Din
A/Head,
Department of Education

Distribution: Ms. Sara Aqiq (Ph.D Scholar)

Dr. Saira Nudrat (Thesis Supervisor)

24/02/21