Exploring The Challenges of Noisy Areas Faced by Teachers in Teaching and Learning in Urban Schools

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ABSTRACT

This research study aimed to explore the challenges encountered by teachers teaching in urban areas and noisy surroundings, leading to several issues in achieving required learning outcomes. For this purpose, the qualitative research approach of phenomenological research was used, and data was collected using in-depth semi-structured interviews. The population of this research study was primary school teachers of Mominabad, Karachi. Using purposive sampling techniques, N=10 teachers from n=3 schools were selected. Data was collected by using semi-structured interviews. The study results show that unusual noise distractions impact students' learning and distraction concentration, which affects cognitive development and hinders effective communication between teachers and students, leading to anxiety and waste of time and energy. Furthermore, it has been found that children exposed to continuous disruptive noise can experience poor reading ability, memory and academic performance, which may lead to failure in the educational process. It is recommended that there is a need for strategies to mitigate noise effects, such as considering infrastructure, implementing soundproofing measures, utilising technology to enhance communication, and providing training and support for teachers to manage the challenges posed by noise pollution.

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1. Introduction

Teachers in metropolitan educational settings have distinct obstacles, with one of the most widespread and influential problems being the abundance of noise in school environments. This study article explores the complex difficulties encountered by educators in urban schools due to the surrounding noise and its significant impact on the teaching and learning process. Urban environments are distinguished by elevated levels of noise resulting from traffic, construction activities, and diverse sources, so establishing a setting can considerably hinder efficient communication and focus (Fayyaz, Lashari, Nandwani, & Chang, 2023). The primary objective of this study is to provide a comprehensive understanding of the intricate elements associated with these issues by investigating their influence on teacher-student relationships, student engagement, and overall academic achievement (Samad & Lashari, 2022). This research aims to analyse the complexities of noisy environments in urban schools to identify effective strategies and interventions that can improve the quality of teaching and learning (Buriro, Mirjat, Pathan, Chandio, Lashari, & Gul, 2023). The ultimate goal is to create more favourable educational settings in urban areas. Within the dynamic settings of urban education, teachers face many obstacles that substantially influence the educational atmosphere and the teaching and learning process (Buriro et al., 2023). An omnipresent and frequently disregarded obstacle is the abundance of noise in urban regions, which disrupts the delicate equilibrium required for efficient teaching. This research aims to examine the

complexities of this issue. The presence of background noise in metropolitan environments poses distinct challenges, impacting the overall welfare of teachers and the interactions inside the classroom (Fayyaz, Lashari, Nandwani, & Chang, 2023). Educators must comprehend the complex nature of these difficulties as they endeavour to establish ideal learning environments. This study seeks to utilise qualitative approaches to examine the effects of noise pollution on teachers, specifically investigating its consequences on instructional strategies, teacher welfare, and, ultimately, the educational experiences of children in urban schools (Bushra, Lashari, Khan, & Pervaiz, 2024). This research aims to provide significant insights and recommendations to improve the efficiency of teaching and learning in urban education by thoroughly examining an overlooked aspect.

That irritating noise exposure impairs the cognitive functioning of learners studying in schools with noisy surroundings or urban settings. The research revealed strong associations between noisy environments and reading problems (Fayyaz, Lashari, Rafiq, & Jabeen, 2023). A new study led by the Barcelona Institute for Global Health (ISGlobal), a centre supported by the" la Caixa" foundation, has been published in PLoS Medicine conducted at 38 schools in Barcelona, suggests that traffic noise at schools has a damaging effect on the progress of working memory and concentration in primary-school students. The findings of this study reflect that, in this era of globalisation, suburbanisation is a prime trend, and of course, it is increasing challenges in educational settings situated in a territory of noise pollution (Bushra et al., 2024; Foraster et al., 2022). Schools in urban settings worldwide wrestle with the universal issue of noise, which also affects the communities they serve (Faulkner & Murphy, 2022). The impact of noise on teaching and learning is a global concern (Bukhari et al., 2023). It is the demand of the time and imperative to understand how this issue upsets and endangers the quality of teaching and learning experiences. Research from various corners of the world has indicated that teachers in urban settings encounter substantial challenges in dealing with noise disruptions (Buriro et al., 2023; Fayyaz, Lashari, Nandwani, & Chang, 2023; Heissel, Persico, & Simon, 2022). Therefore, it is vibrant from the literature studies to get the complex phases of issues due to noisy school settings and their implications on education.

The rise in development and metropolitan schools are threatened with parallel challenges explored as genuine issues teachers and learners face in Pakistan's urban educational settings. For instance, a study by Aziz, Zuberi, Hassan, and Haroon (2022) highlights the growing concerns about noise pollution in Karachi's schools. Considering these issues as a national cause is essential to develop awareness and a comprehensive root of the problem (Fayyaz, Lashari, Rafiq, & Jabeen, 2023). Every educational setting has a unique and dynamic educational landscape with its surrounding challenges. Though noise pollution's impact on education is a topic that requires more extensive investigation, research provides valuable insights into how this issue influences the teaching and learning environment. An article by Aziz et al. (2022) explores the noise challenges teachers and students face in Sindh's schools. These studies contribute to the broader understanding of the problem and are essential in formulating context-specific solutions. While there is limited research focusing on this particular issue within the country, studies conducted by researchers have begun shedding light on the significance of the alarming situation and its consequences on teaching and learning practices.

1.1. Statement of the problem
This research highlights the increasing universal issue of noise pollution and its detrimental effects on the teaching and learning process in urban educational settings. Teachers in urban school settings face various challenges in teaching and learning due to unwanted noises. These challenges include communication difficulties, decreased concentration and focus, and increased stress levels due to distraction by irritating noises during the regular learning process. These disrupt classroom activities and hinder effective communication between teachers and students, affecting students' ability to learn and retain information. Additionally, noise pollution makes it harder to create a conducive learning environment. Noise harms hearing ability and acts ineptly in teaching and learning activities in urban settings. This research study highlights the need for strategies to mitigate its effects, such as implementing soundproofing measures, utilising technology to enhance communication, and providing training and support for teachers to manage the challenges posed by noise pollution. Urbanisation is a global phenomenon, and with it comes the ever-increasing noise challenge that affects schools and classrooms worldwide. Teachers and students in urban areas are

confronted with various noise sources, including traffic, construction, industrial activities, and even noise within the school premises. The adverse effects of noise on educational outcomes have been widely documented in international literature (Thompson et al., 2022).

Aziz et al., (2022) said that urbanization is increasing, which is also an indicator of noise pollution and is responsible for intensifying problems related to noise pollution. Moreover, creating substantial barriers to effective teaching and learning, this issue must be addressed uniquely and requires further investigation and tailored solutions. Research has also begun to acknowledge the significance of noise pollution in urban schools. However, the problem in Pakistan remains under-researched, particularly in Sindh, where the educational landscape has diverse challenges. The study by Zaman, Sajjad, and Gharsheen (2023) suggests that the issue is pertinent to the region. However, a comprehensive understanding of the problems encountered by urban school set-up teachers and students in Sindh is yet to be developed. This research aims to address and grasp the difficulties in teaching and learning by teachers in urban settings. It seeks to provide insights into the nature and extent of the problem due to urbanisation, which is drastically affecting the educational landscape, ultimately contributing to the development of effective strategies and policies to mitigate the impact of noise on education in urban areas.

1.2. Research Objectives
- To assess the specific challenges that teachers face in urban noisy schools.
- To explore how noise pollution affects urban school teaching and learning.
- To evaluate effective noise pollution mitigation solutions for urban schools to improve teaching quality and student learning.

1.3. Research Questions
1. How is it challenging to teach in a school in a noisy area (Urban setting)?
2. How does noise pollution affect the teaching and learning process?
3. How can we mitigate the effects of noise in schools in urban settings?

2. Literature Review
Pakistan's largest city and economic hub, Karachi, shelters 15 million people, and people use multiple modes of transportation for daily travel. It is a bitter fact that this city suffers from unadorned problems due to numerous grides caused by urban traffic noise (Zaidi, 1989). Teachers often have to speak loudly while teaching to compensate for classroom noise. This way of speaking is known to be a risk factor that can cause voice disorders in teachers (Aguilar & Tilano, 2019). Poor acoustic environments in schools can hinder student learning and achievement (Connolly, Dockrell, Shield, Conetta, Mydlarz, & Cox, 2019). Activities that require concentration are more challenging to perform in a noisy environment (Silva, Oliveira, & Silva, 2016). Some studies also suggest noise affecting speech intelligibility in classrooms is noise from outside schools, particularly road traffic (Wen et al., 2019). Because external pollution infiltrates classrooms, students attending schools near significant roadways may be exposed to traffic-related air pollution even indoors (Diapouli et al., 2017). Individuals' learning and memory abilities are advanced cognitive functions easily altered by Noise (Ruvalcaba-Delgadillo et al., 2015).

A study discovered that children in schools with high noise levels caused by road traffic had a significant mistake rate in cognitive behaviour tests (van Kempen, van Kamp, Lebret, Lammers, Emmen, & Stansfeld, 2010). Noise may have an immediate influence on cognitive ability or lead to impaired attention, annoyance, learned helplessness, agitation, or tuning out, which may have a long-term impact on performance and learning (Clark & Paunovic, 2018; Fainstein, 2001; Sassen, 2016). The globalised cities in a world like Netherland which is one of the global cities. Global cities are the backbone, headquarters and financial sector and hub for many pioneering activities on a significant level of different business sectors and multinational countries globally; level of course, teachers_in urban settings face problems in maintaining class discipline, interacting with students in teaching and learning process and collaboration with parents, colleagues and school principals and which leads to poor guidance and consultation de Jonge, Mathôt, van Dam, Rodenhuis, and Beijnen (2003); Gupta, Gupta, Jain, and Gupta (2018); Schuck, Aubusson, Buchanan, and Russell (2012) stated in their research that various natural and artificial sources are the reason for noise-related issues, and urbanisation and industrialisation are the leading indicators for its high frequency. Further from

the research study, it is also observed that teachers teaching in schools in urban settings are at increased risk of damaging their vocals because they have to stress on their vocal cords to balance the noise level in classrooms, which may lead to voice disorder (Aguilar & Tilano, 2019). High-noise environments in urban schools negatively affect students' learning and cognitive skills (Connolly et al., 2015). Due to the noisy environment, students feel distracted while performing daily classroom activities (Silva, Oliveira, & Silva, 2016). It has also been identified from different research studies that road traffic, in particular, affects the speech intelligibility of students (Wen et al., 2019). Students who attend school daily on roadways are also affected by traffic pollution because noise pollution also infiltrates inside the school (Diapouli, Chaloulakou, & Spyrellis, 2007). Unnecessary noise irritates the ears and affects the individual's learning and cognitive abilities (Ruvalcaba-Delgadillo et al., 2015).

Through a research study, students were tested by cognitive behaviour tests, and most students studying at roadside schools and exposed to high noise levels made significant mistakes (Buriro et al., 2023). Irritating noise from outside may have a negative influence on cognitive ability or lead to distraction, frustration, reduced interest, nervousness, or anxiousness, which, of course, have a prolonged effect on students' performance (Clark & Paunovic, 2018). Those who report being irritated by noise are not the only ones at risk for adverse health impacts from environmental noise (Hammer, Swinburn, & Neitzel, 2014). Research also shows that children who spend more time in noisy surroundings have poor academic performance and behavioural issues (Lercher, Evans, Meis, & Kofler, 2002). Students exposed to noisy circumstances are found to be weak in comprehension (Stansfeld et al., 2005). According to Laquian (2004), the non-motorised transportation (NMT) system is promoted in Pakistan and China to meet the needs of 10 to 20% of impoverished people and enhance public use because these vehicles are manufactured and eco-friendly. Moreover, the study also explains that these environmentally friendly transport systems will reduce the noise created in the area due to traffic because they are the primary source of Noise (Bressane, Mochizuki, Caram, & Roveda, 2016). Furthermore, several studies justify that excessive interaction with persistent noises affects learning abilities and health and psychological issues (Daniel, 1998).

Adverse significances observed that it affects students' learning ability which also affects language and speaking (Jamrah, Al-Omari, & Sharabi, 2006). Yılmaz and Ozer (1998) suggested that people living on noisy roadside should be relocated to a less noisy environment. Furthermore, pollution is categorised into different categories (Hunashal & Patil, 2012). Some affect the environment and ecosystem, but noise pollution affects students' learning abilities and wellbeing. Moreover, it is also stated in a study that unpleasant noise also disturbs emotional equilibrium, which leads to an increase in anxiety, pessimistic attitude, and hopelessness, which causes depression and other mental health issues (Murphy, King, & Rice, 2009). It recommended controlling noise through physical barriers, such as sound insulation devices, height-heightened walls, or embankments that resist unnecessary noise from reaching inside towns. Soundproofing devices and technologies should used while constructing residencies. To reduce noise pollution, it is essential to motivate people to use public transport and cycle as a means of transportation or walking to reduce the enormous traffic and traffic-related issues. Transportation in electric and hybrid vehicles technically also deteriorates the noise, increasing it due to roadside traffic (Slabbekoorn, 2019). The government should focus on and formulate a framework to mitigate noise-related issues in urban settings; governments implement rules and regulations and also monitor and track and have reward and punishment formulas for increasing or reducing Noise (Münzel, Sørensen, & Daiber, 2021).

3. Method and Procedure

This research aims to comprehensively comprehend teachers' perspectives concerning their instructional experiences and the challenges encountered in educational settings situated within noisy urban environments. The study adopts an exploratory research design, employing in-depth semi-structured interviews to collect valuable insights from a sample of N=teachers across three schools in Karachi, each located in noise-prone areas. The targeted sample comprises Orangi Town, Mominabad Karachi, and primary school educators. Participants were deliberately chosen from Government Boys Primary No.2 Mominabad, Government Boys and Girls Secondary School Muhammad Hussain Mominabad, and Government Boys Primary School No.2 Mujahidabad. Teachers were selected from schools in Mominabad, Orangi town, which is

surrounded by a noisy market and faces the roadside. N=4 primary school teachers were selected from Government Boys Primary School No.2, Mominabad. This school is situated in the primary market. N=3 teachers from Muhamad Hussain Government Boys secondary school participated, n=3 primary school teachers from Shams School Sector and n=4 female teachers from Mujahidabad, located in the noisy area. Employing a purposive sampling technique, participants, specifically teachers, were selected from schools characterised by noisy surroundings and a significant influx of students from the middle class.

4. Thematic Analysis

Thematic analysis is a qualitative method in which researchers systematically organise and analyse complex data sets. It is a search for themes that can capture the narratives available in the account of the data set. It involves the identification of themes through careful reading and re-reading transcribed data (King, 2004; Rice & Ezzy, 1999). Thematic analysis is a constant comparative method involving systematically reading and re-reading the transcript (Cavendish, 2011). To maintain the necessary rigour in the analysis process, a study can adopt the 6-phase process proposed by Braun and Clarke (2006). To ensure the validity of the data, the steps for thematic analysis have been followed:

4.1. Familiarisation with the Data
Transcribe the interview recordings verbatim.
Read and re-read the transcripts to immerse yourself in the data, gaining familiarity with the content.

4.2. Generating Initial Codes
Begin by coding exciting features of the data relevant to the research questions.
Assign codes to specific sections of the text that capture key concepts or ideas. Organise the codes into potential themes by grouping similar or related codes.
Explore connections between codes to identify overarching themes from the data.

4.3. Reviewing Themes
Review and refine the identified themes, ensuring they accurately reflect the content of the data. Consider whether the themes capture important patterns or variations within the data.

4.4. Writing the Analysis
Write a narrative description of the thematic analysis, outlining the key themes and presenting supporting evidence from the data.
Provide examples or quotes from the interview transcripts to illustrate each theme.

4.5. Writing up the Results
Incorporate the thematic analysis findings into the research paper, clearly articulating how they address the research objectives.
Present the results coherently and logically, using appropriate citations to support the interpretations.

4.6. Reflection and Iteration
Reflect on the process of thematic analysis, considering any limitations or challenges encountered. Iterate on the analysis as needed, revisiting the data and refining the interpretation of themes to enhance the robustness of the findings.

5. Results

Investigating difficulties in urban school settings with high background noise levels has shown substantial barriers educators encounter when facilitating student learning. The excessive noise in these busy places negatively impacts the classroom environment, making it difficult to concentrate and communicate effectively.

Figure 1: Thematic Analysis
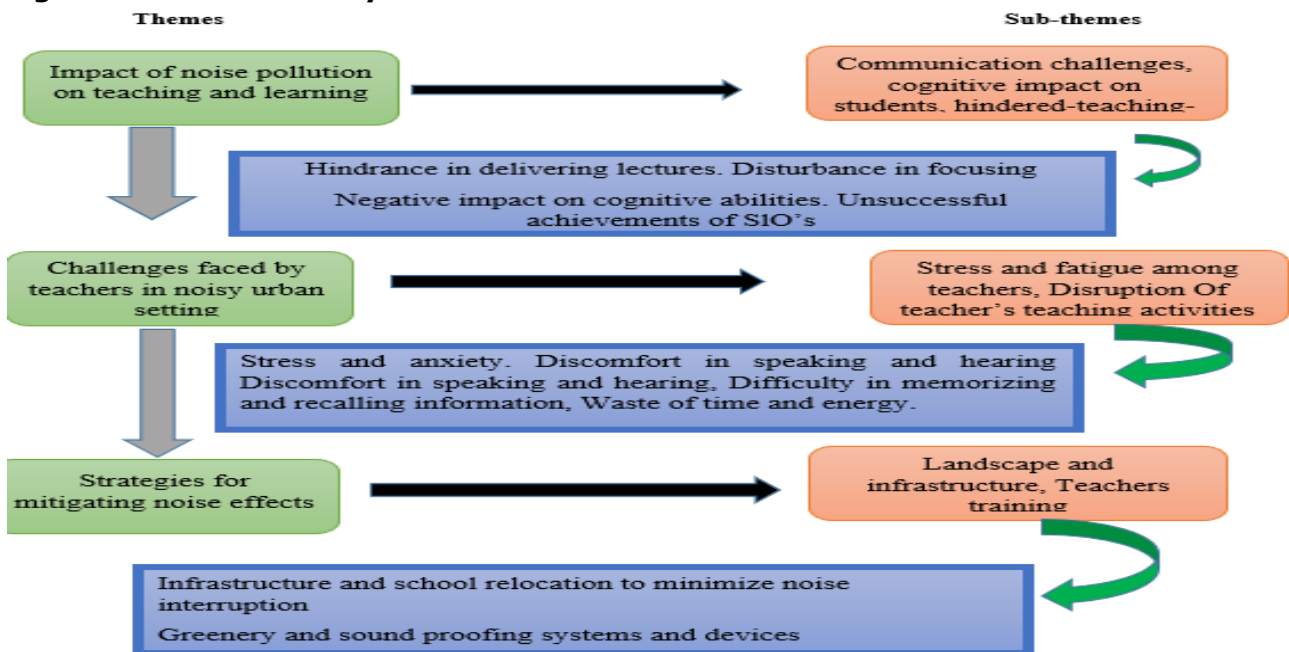
5.1. Analysis Excerpt from Interviews
5.1.1. Impact of noise pollution on teaching and learning
5.1.1.1.Communication challenges
Difficulties in effective communication between teachers and students due to noise distraction.

R2:I teach in a school situated in a noisy area. I feel my lesson plan gets affected due to no apparent connection between me and students due to noise, which leads to poor lecture delivery and causes students to get distracted.

5.2. Cognitive impact on students
Decreased concentration, disrupted learning and adverse effects on memory due to noise pollution.

R2: Students spending time in noisy areas have their cognitive skills disturbed; such students are unable to remember for the long term and are unable to pick up quickly.

5.2.1. Hindered Teaching-learning Process
Disrupted classroom activities and student-teacher interactions affect the learning process.

R3: In a classroom, the teacher tries to create a learning environment, but if an unexpected Noise comes suddenly, it breaks the rhythm, and the teacher and student both get distracted; it also affects the learning activities.

5.3. Challenges faced by teachers in noisy urban settings
5.3.1. Stress and Fatigue among teachers
It increases stress and fatigue due to putting stress on the vocal cords to speak loudly in noisy environments.

R4: Being a teacher, I feel that if a classroom environment is noisy and the teacher has to achieve learning targets, if there is too much noise, the teacher has to speak loudly, which leads to irritation, which also affects the class environment. The teacher gets short-tempered on valid questions from students.

5.3.2. Disruption of teacher's teaching activity
Teachers face difficulties in delivering lectures and conducting classes and cannot maintain the pace of teaching due to noise disruption.

R3: Let me give you an example of a library where we are asked to remain silent and make no noise. Why? We must focus on whatever we are studying, learning, or any school going through any learning process. We need to focus so that we cannot memorise whatever we are studying if any distraction occurs due to noise.

5.4. Strategies for Mitigating Noise Effect
5.4.1. Infrastructure Solutions
It was soundproofing technology integration.

R4: Infrastructure should be like the main door, and walls should be constructed so that no voice from outside comes inside the school. Planting also reduces noise as we can't change the school location, so the school should be designed properly.

The insights gained from the interview transcription highlight a compelling perspective on the significance of school infrastructure in mitigating the challenges posed by noise in urban educational settings. The interviewee emphasised that school infrastructure, akin to the main door, should be designed to act as a barrier preventing external noise from infiltrating the learning environment. This metaphorical approach underscores the importance of creating physical spaces conducive to focused teaching and learning. Additionally, the suggestion to incorporate effective soundproofing measures in the construction of school walls aligns with the need for a strategic approach to combat ambient noise. Furthermore, the interviewee's acknowledgement of the limitations of altering the school's location emphasises the practicality of implementing solutions within the existing context. The proposal to integrate greenery as a noise reduction reflects a holistic approach, recognising that environmental factors play a role in shaping the learning atmosphere. Overall, these insights contribute valuable considerations for designing urban school infrastructure that promotes optimal conditions for teaching and learning.

5.4.2. Teacher Training and Support Programs
Training programs and support are needed for teachers to effectively encounter challenges created by noisy surroundings.

R5: Awareness sessions to educate the public on controlling noise pollution. Strict rules and regulations for industries to follow voice control measures.Collaboration with NGO's to address pollution issues and its effects. Research so we can innovate new ways to control noise pollution.

The interviewee advocates for proactive measures, emphasising the critical role of awareness sessions in educating the public on the detrimental effects of noise pollution. This highlights a commitment to fostering a sense of responsibility within the community, encouraging individuals to contribute to noise control efforts actively. Furthermore, the recommendation to enforce stringent rules and regulations for industries aligns with a systemic approach, emphasising the need for accountability in noise emissions. Collaborating with non-governmental organisations (NGOs) signifies understanding the collective effort required to combat pollution issues comprehensively. The suggestion to engage in research for innovative solutions reflects a forward-thinking perspective, acknowledging the dynamic nature of urban challenges and the importance of continuous exploration for effective noise control methods. Together, these recommendations advocate for a holistic strategy that combines public awareness, regulatory measures, collaboration with stakeholders, and ongoing research initiatives to address and mitigate the impacts of noise pollution in urban environments.

Keeping students engaged and creating a positive learning atmosphere are two challenges that teachers face. The continual ambient noise could lead to elevated stress levels in the classroom, which could affect the health of the students and instructors. The implementation of soundproofing materials, creative layouts for classrooms, and professional development programs for educators that emphasise ways for teaching in noisy environments are all necessary responses to these problems. Improving the educational experience and boosting academic achievement in urban schools requires acknowledging and reducing the effect of noise on instruction and student performance.

6.   Discussion

Classrooms are supposed to be places that have a foolproof learning environment with no distracting noise, whether from the outside (ero, aeroplanes, traffic, playgrounds, lawn care or construction) or from the inside (HVAC systems, chairs scraping the floor, hallway activity or neighbouring classrooms). The effects of this noise pollution impact learning as well as physical and cognitive abilities, keeping this site research conducted to compare the identified issues in literature as well as find out in this study's purpose is to understand challenges teachers encounter teaching in urban schools and contribute to recommend possible and attainable suggestions. Through interviews, we identified several problems that teachers came across in schools in urban areas. The research study discovered several facts that can help design policies and education training specifically for teaching in noisy school settings and take all the stakeholders in a loop. The main focus was those teachers who went through these experiences of encountering uninvited noises while teaching in schools in urban contexts and are being related to these problems. They participated in this, and it was found that most of the issues shared by teachers during interviews were similar.

From the findings of this study, we rectify that teachers from noisy school settings that primarily assist students experiencing urban setting linked issues repeated mainly; the teachers in noisy learning environments are notably concerned about the risk of the learning ability of students being influenced by the noisy environmental surrounding of school setup. Therefore, teachers must be trained, prepared, and equipped to confront the challenges they face because it is as essential as investing in good teaching, learning aids, and support programs for children and teachers in urban areas. Teachers' training programs should be drafted, designed, and implemented so that the teachers posted in urban schools are trained to plan their teaching strategies according to the environment and can deal with and help the students learn quickly without struggling with disturbing noises. It is a fact that an urban education system exists, but there is no designed or drafted program despite the problems of urban teachers being so diverse that teachers' education is not thoroughly preparing teachers for all the challenges of urban teaching. Therefore, it is also essential that opportunities for continued professionalisation are designed and implemented for teaching in an urban context. Schools in noisy areas facilitate and arrange specialised training and workshops for teachers teaching in their schools. Noise pollution is an ultimate reality and global issue, and its complexity in noisy school scenarios has already been identified in previous studies. Researchers suggested that teachers who are prepared and trained with an emphasis on teaching according to the surrounding environment of school settings encounter this universal issue with an optimistic attitude and have good teaching experience as compared to those who are not prepared for this real-life experience of 'Noise" pollution but have smart teaching skills but get effected due to unidentified noisy environment.

The participants in this research study were limited and were part of our targeted population, but there is a dire need to rectify this issue in a vast region. Primarily, only three schools in noisy surroundings were interviewed, so no teacher was from outside the city or area (Mominabad). There is a need for further research studies to understand more deeply and find possible solutions to face such challenges. This study is minimal for more authentication and future educational planning. It is suggested that comparative studies on this issue are needed on the regional, provincial, and national levels to understand it and its effects on the teaching and learning process and for a better-generalised idea. To understand the issues, this research study, on a lesser scale, gave us possible insight into the problems and different experiences teachers have in their teaching careers in urban school environments. First, getting a clear vision of why any problem did or did not occur in a specific context is an utmost criterion. However, studying the identified research problem on a large magnitude and following the qualitative research method also helps to get more reflections on the real-life experiences of urban school teachers and how they encounter these challenges. To keep this in view, this research study is less sufficient. It is suggested that to get a more adequate and detailed deep understanding, sampling should be done on a large scale, and all the stakeholders need to be involved in this study, not only teachers, parents, students and the community involved in multiple data collection resources via interviews to understand their problems not others. This research study has delivered a clear impression of the main issues teachers are experiencing, rather than having a professional education but not being able to cope with noisy school surroundings and the hurdles in teaching and learning activities. Urbanisation is increasing, and

by the time it creates more noise pollution, there is a need for educational planning specifically for the urban school education system; the teaching methodologies, techniques, class management and learning activities and processes should be more conceptualised along with the focus on infrastructure to lessen the issues created due to noise. In Karachi, most of the schools are set up in an urban context, and as a consequence, this study rectified challenges faced by teachers in urban primary schools, specifically public schools in Orangi town Mominabad.

This research study stresses the importance of a far-reaching perception of teaching in urban schools. Metropolitan schools have different and multiple varieties of populations coming from various environments, and teachers encounter many noise-related problems, which are sometimes more specific to students and also affect students' cognitive ability. It is recommended that this issue also be considered while designing the content of educational and infrastructure policies and induction programs for urban teachers in noisy areas. Further research on strategic planning and teaching methodologies and more focus on noise-related challenges affecting the learning process, emphasising teacher skills to perform well for better education in a noisy school setup. Moreover, the focus should be on proper noise-resistant insulation in schools for a more conducive environment where teachers perform effectively and students learn efficiently and smartly.

7.   Conclusion

This research sheds light on the formidable challenges teachers face in urban schools, specifically within the bustling context of the Mominabad Area in Karachi. The study has unveiled a pressing concern regarding the impact of continuous disruptive noise on children's academic performance, encompassing areas such as reading ability and memory. The findings underscore the critical need for immediate attention and strategic interventions to address the multifaceted implications of noise pollution on the educational process. To ameliorate these challenges, it is imperative to adopt a holistic approach. This involves considering infrastructural improvements, incorporating soundproofing measures within academic spaces, leveraging technology to enhance communication in noisy environments, and providing teachers with comprehensive training and support mechanisms. The correlations between noise exposure and academic outcomes underscore the urgency of implementing proactive measures to create conducive learning environments. By doing so, educational stakeholders can contribute to students' overall wellbeing and academic success while empowering teachers to navigate the complexities posed by noise pollution.

In essence, this research advocates for a paradigm shift in educational practices, urging policymakers, school administrators, and relevant authorities to prioritise and implement effective strategies that mitigate the adverse effects of noise in academic settings. By embracing these recommendations, we pave the way for a more harmonious and conducive learning environment, ensuring that the educational journey remains a transformative and enriching experience for educators and students alike.

8.   Findings

A high note of anxiety and unsatisfactory hindrance during the teaching and learning process. According to a National Institute of Health study of classroom acoustics and school teachers' noise exposure, excessive noise also impacts teachers who are forced to raise their voices to be heard. Over time, this can lead to increased stress and fatigue. An additional repeatedly mentioned challenge is less focus on study and diversion of concentration; moreover, teachers also lose tempo and motivation, which leads to anxiety. Encountering distractions affects students' cognitive development while learning the highlighted issues, such as the breakage of student-teacher interaction, which also paused the learning activity for a while, bringing back to the study another challenge that led to a waste of time and energy. Thus, schools have different enrollment ratios. Schools with high enrollment and situated in noisy settings is an alarming situation, and one specific concern seemed that teachers teaching in schools and dealing with children from highly noisy surroundings experience adequately both high and low-performing students and due to excessive noise, the ability to hear lessons has a negative effect on a student's ability to learn which leads to risk of learning failure and cognitive skills. Studies examined by the World Health Organization (WHO) have found that children exposed to continuous disruptive noise can experience poorer reading ability, memory and academic performance, which may lead to failure in the academic process.

8.1. Recommendations

This study gives insight into further research on strategic planning on teaching methodologies and emphasises noise-related challenges affecting the teaching and learning process. Teachers recommended that training programs be formulated explicitly for teachers who teach in noisy school settings to perform well and for a better quality of education in a loud school setup. Moreover, focus on infrastructure and proper noise-resistant insulation like soundproofing systems and devices such as double-glazed windows and acoustic ceiling tiles to limit indoor exposure to outdoor noise sources, specifically in schools, for a more conducive environment. Furthermore, awareness sessions and workshops are recommended for the surrounding community through electronic and print media or social media campaigns like the placement of sign boards. Teachers emphasised that policymakers should not only focus on teaching aids and learning materials but also pay attention to the classroom and the surrounding environment because they are pivotal elements that lack the attention of all stakeholders. Government and policymakers should focus on the abovementioned recommendations to collect more data and initiate research programs for a better school environment where teachers can perform effectively and students learn more proficiently and energetically.

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