Conceptual Article

THE NEW NORMAL AND ITS EFFECTS ON THE TEACHING AND LEARNING ENVIRONMENT

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Abstract

The year 2025 has marked a significant shift in global weather patterns, introducing what is widely referred to as the "New Normal." This phenomenon, characterized by extreme and unpredictable climatic variations, has profoundly impacted multiple sectors, including education. Sudden temperature fluctuations, prolonged heatwaves, intense rainfalls, and recurring natural disasters, such as floods and storms, have disrupted the traditional teaching and learning environment. The present study explores how these weather-induced changes have redefined educational practices and institutional frameworks. The article highlights that frequent school closures due to hazardous weather have accelerated the adoption of remote and hybrid learning models, making technology integration a necessity rather than a choice. However, these solutions are not without challenges. Unequal access to digital resources, unstable internet connectivity during adverse weather, and inadequate teacher training have widened the learning gap, particularly in rural and marginalized communities. Moreover, erratic weather conditions have adversely affected student attendance, concentration, and overall mental well-being, creating a pressing need for adaptive strategies in pedagogy. Institutions have responded by implementing flexible academic calendars, establishing climate-resilient infrastructures, and incorporating disaster preparedness programs into curricula. Additionally, educators are employing innovative digital tools and asynchronous learning methods to ensure continuity during extreme weather events. Despite these efforts, the dependency on technology raises concerns about screen fatigue, reduced social interaction, and limited hands-on learning experiences. The article concludes that the New Normal in Weather Conditions demands a paradigm shift in educational policies and practices. Emphasis must be placed on sustainability, digital equity, and mental health support to build resilient teaching

and learning ecosystems. The findings underscore that addressing climate-induced disruptions is not merely an environmental concern but a fundamental educational imperative for the future.

Keywords: New Normal, Hazardous, Accelerated

Introduction

The year 2025 has ushered in a reality that educators and policymakers have come to refer to as the "New Normal." This term encapsulates a rapidly changing socio-environmental landscape where unprecedented weather patterns have become a defining feature of daily life. Unlike the pre-pandemic conceptualization of the New Normal, which primarily centred on digital transitions and health protocols, the current paradigm extends to encompass the unpredictable and often severe climatic shifts that directly influence societal functions, including education. Global warming, erratic monsoons, heatwaves, cyclones, and floods have intensified across regions, posing formidable challenges to the continuity and quality of teaching and learning processes. The classroom, once considered a stable space, now faces disruptions not only from technological transitions but also from environmental uncertainties.

The educational environment is inherently sensitive to external conditions, and weather anomalies significantly alter its dynamics. In 2025, several regions in India such as Himachal Pradesh, Uttarakhand, and Maharashtra, have already witnessed extended school closures, reduced instructional hours and the relocation of physical classes due to extreme heat or flooding. In tropical countries, for instance, soaring temperatures have made conventional classroom settings uncomfortable, impairing both teaching effectiveness and student concentration. Similarly, rural schools in flood-prone areas have been converted into temporary shelters during emergencies, halting academic activities for weeks. These disruptions underscore a profound truth: the physical and psychological well-being of students and teachers is deeply intertwined with environmental stability. The recent wildfires in forests in countries such as California, Spain and Portugal have affected the livelihood of the people beyond measure. The unpredictable weather due to global warming has left the upper layer of the Earth crest vulnerable causing landslides in various parts of the country.

Understanding the impact of these changing weather patterns on education is not merely an academic exercise but a pressing necessity. Education is a fundamental human right and a cornerstone for sustainable development, yet it remains vulnerable to climatic volatility. As weather extremes become more frequent and severe, the risk of widening educational inequalities looms large. Students from marginalized backgrounds often face greater challenges in accessing remote learning technologies or relocating to safer learning environments during climate-induced school closures. This scenario raises critical questions about equity, resilience, and policy preparedness.

Furthermore, studying the intersection between weather conditions and education in 2025 is vital for informing adaptive strategies. Effective teaching and learning cannot occur in isolation from environmental realities; hence, educators, administrators, and policymakers must collaborate to design systems resilient to weather disruptions. This entails infrastructural adaptations such as climate-resilient school buildings, pedagogical flexibility through hybrid models, and policy frameworks that prioritize continuity of learning during emergencies. By examining current patterns and responses, scholars and practitioners can develop proactive measures to mitigate future challenges.

In essence, the "New Normal" in 2025 is characterized by a symbiotic relationship between climate and education a relationship that demands urgent attention. The impact of weather on the teaching-learning environment is no longer a distant concern but an immediate issue influencing educational access, quality, and equity. Therefore, exploring this nexus is indispensable for shaping a sustainable, inclusive, and adaptive educational future in the face of environmental uncertainty.

Understanding the New Normal

The year 2025 has witnessed unprecedented changes in weather patterns, shaping what is now termed the "New Normal." This concept reflects the altered climatic and environmental conditions that significantly influence social and economic structures, including education. The New Normal is characterized by frequent heatwaves, unpredictable rainfall, extended droughts, and intensified storms. These climatic disruptions affect the accessibility, safety, and continuity of education, making it imperative to examine their implications. Understanding this new

reality ensures preparedness for disruptions and helps educators, policymakers, and institutions develop adaptive strategies.

Definition and Characteristics of the New Weather Patterns

The new weather patterns refer to the altered climate conditions caused primarily by global warming, environmental degradation, and large-scale deforestation (Intergovernmental Panel on Climate Change [IPCC], 2023). Unlike previous decades, current climatic trends demonstrate increased variability, extreme temperature fluctuations, and a higher frequency of natural disasters. Globally, IPCC reports highlight that average surface temperatures have risen by approximately 1.1°C above pre-industrial levels, intensifying heatwaves and storms (IPCC, 2023).

For instance, regions that traditionally experienced moderate climates now encounter severe heat waves, while coastal areas face recurrent flooding and cyclonic activity (World Meteorological Organization [WMO], 2024). These shifts significantly affect education systems worldwide. In the United States, hurricanes and floods have forced repeated school closures, disrupting academic calendars (U.S. Department of Education, 2024). Similarly, in India, the Ministry of Education (2024) reported that unpredictable monsoon patterns and prolonged heatwaves have led to temporary shutdowns of schools in states like Rajasthan, Maharashtra and Kerala impacting instructional time and student attendance.

These characteristics create severe logistical challenges for educational institutions. Infrastructure damage due to flooding, transportation interruptions caused by storms, and heat-related illnesses among students and teachers are becoming more frequent (UNESCO, 2024). Furthermore, such weather extremes interfere with academic schedules, outdoor learning activities, and standardized examinations, often necessitating postponements or cancellations (UNICEF, 2024).

As a response, both national and international agencies are emphasizing the importance of building climate-resilient educational systems. UNESCO's *Education for Sustainable Development* framework advocates integrating climate adaptation strategies into school planning and curriculum development (UNESCO, 2024). In India, the National Education

Policy (NEP) 2020 underscores the need for digital and flexible learning options to ensure continuity during environmental disruptions (Government of India, 2020).

Global and Regional Trends in 2025

Globally, the Intergovernmental Panel on Climate Change (IPCC) reports indicate that 2025 marks a critical point where climate instability directly influences human development sectors. Education is no exception. In tropical regions like South Asia and Africa, extended heatwaves and water shortages force frequent school closures, while northern regions experience disruptions due to sudden snowstorms and prolonged cold spells. Coastal nations such as Bangladesh and the Philippines face recurrent flooding, causing displacement of students and damage to educational facilities. In contrast, technologically advanced countries adapt through hybrid and online learning models, showcasing a widening digital divide between developed and developing nations.

Regionally, India and other South Asian countries encounter increased monsoon variability, resulting in delayed academic calendars and reduced instructional time. Meanwhile, developed nations in Europe and North America are integrating climate education into curricula, preparing students for sustainability challenges. These trends underscore the urgent need for context-specific strategies to maintain educational continuity.

The Impact of Weather Conditions on Teaching

Weather conditions significantly influence the teaching and learning environment in educational institutions. In recent years, unpredictable climatic patterns such as extreme heatwaves, floods, heavy rainfall, and cyclones have created disruptions in academic activities across the globe. Understanding the impact of these weather-related challenges is essential for planning effective teaching strategies and maintaining educational continuity.

Classroom Infrastructure Challenges

Severe weather conditions often expose the vulnerabilities of school and college infrastructure. For example, prolonged heatwaves can make poorly ventilated classrooms uncomfortable, reducing student concentration and teacher efficiency. Similarly, heavy rains may cause water seepage, leakage of roofs, and flooding of school grounds, which

compromises the safety of students. For instance, during the summer of 2024, several states in India experienced record-breaking temperatures above 45°C. Many government schools lacking proper fans or air conditioning had to shorten school hours to prevent heat-related illnesses among students. Similarly, in Florida, USA, hurricanes often damage classroom buildings, forcing schools to remain closed for weeks. Such infrastructural challenges not only affect the physical environment but also strain financial resources, as schools need to invest in weather-proofing classrooms, installing air coolers, or shifting to temporary learning spaces.

Teacher Preparedness and Adaptation Strategies

Teachers play a crucial role in mitigating the adverse effects of weather conditions on education. Preparedness involves planning alternative methods of instruction and ensuring the safety and well-being of students during extreme weather events. Adaptation strategies include flexible lesson planning, incorporating technology, and leveraging blended learning models. For instance, when Chennai faced severe floods in 2023, many teachers adapted by using WhatsApp groups and Google Classroom to continue lessons remotely. Teachers who had prior digital training could seamlessly shift to virtual platforms, whereas those lacking such skills faced delays in resuming classes. Effective adaptation strategies may include: developing emergency lesson plans, training in the use of online teaching tools, scheduling classes during cooler hours in extreme heat conditions and organizing mock drills for natural disasters like earthquakes and cyclones. Weather conditions can disrupt traditional face-to-face instruction, making alternative teaching models essential. Heavy rainfall or snowstorms can prevent students and teachers from reaching schools, while prolonged heat or floods may force institutions to close temporarily. In such scenarios, hybrid and online modes of instruction ensure academic continuity.

Face-to-Face Challenges

During heat waves, students in non-air-conditioned classrooms often face dehydration, fatigue, and reduced learning efficiency. Teachers also struggle to maintain engagement under such conditions. Hence, hybrid and online classes can help when schools cannot operate at full capacity due to infrastructure damage. Online learning platforms like Zoom, Microsoft Teams, and Google Meet enable teachers to conduct classes remotely during floods, cyclones, or extreme temperatures. For instance, in Japan, during typhoon season, schools often switch to

online learning to prevent travel-related risks. Similarly, in the U.S., "snow days" have been replaced by virtual classes to ensure that the students do not miss curriculum deadlines.

Student Attendance and Engagement

Climate changes in 2025 have introduced severe challenges to educational systems, significantly affecting student attendance and engagement. Extreme weather events such as heatwaves, floods, and cyclones disrupt the regular functioning of schools and colleges, forcing unplanned closures. In many regions, transportation networks collapse due to heavy rains or storms, making it difficult for students to reach schools. Even when institutions remain open, attendance rates decline because families prioritize safety or relocate temporarily. Engagement in learning also suffers under these conditions. Frequent interruptions break the continuity of teaching and learning processes, resulting in learning gaps. Students attending online or hybrid classes due to weather constraints often face distractions and lack the structured environment of physical classrooms. Consequently, maintaining motivation and participation becomes a significant challenge for educators, especially for younger learners who thrive in interactive and social settings.

Physical and Psychological Effects on Learners

The physical and psychological well-being of students is directly impacted by changing climate conditions. Prolonged heat waves increase the risk of dehydration, fatigue, and heat-related illnesses, making it hard for learners to concentrate during lessons. Similarly, poor air quality during wildfire seasons or dust storms leads to respiratory issues, forcing students to miss classes frequently. Beyond physical health, psychological effects are profound. Anxiety about natural disasters, displacement, or uncertainty about academic continuity creates stress among learners. Those who have experienced disasters firsthand may exhibit symptoms of trauma, including withdrawal, fear, and reduced cognitive performance. The constant adaptation to shifting modes of instruction—moving between in-person, hybrid, and online formats—adds another layer of psychological strain, diminishing the overall quality of the learning experience.

Access to Resources and Equity Issues

Climate-induced disruptions intensify existing inequities in education. Students from marginalized communities are disproportionately affected, as they lack access to the technological resources needed for remote learning. When schools close due to adverse weather, learners without internet connectivity or digital devices fall behind their peers, widening the achievement gap. Additionally, power outages during storms or floods further restrict access to online platforms, limiting learning opportunities for those who depend on virtual classes. For rural and economically disadvantaged students, even basic educational materials like textbooks and stationery become difficult to procure during prolonged weather emergencies.

Equity issues also extend to physical infrastructure. Wealthier institutions often have climate-resilient buildings with cooling systems, while public schools in vulnerable regions operate in unsafe structures prone to flooding or roof damage. These disparities lead to unequal learning environments, where some students continue their education uninterrupted. Addressing these challenges requires urgent policy interventions focusing on climate-resilient educational infrastructure, equitable digital access, and psychosocial support systems for students. Without such measures, the learning environment in 2025 risks becoming increasingly fragmented and unequal, undermining the goals of inclusive and sustainable education for all.

Conclusion

The “New Normal” in education, driven by unprecedented weather variability and global climate disruptions, demands adaptive strategies that prioritize resilience in both teaching and learning environments. Institutions must integrate flexible instructional models, such as hybrid and online modalities, to ensure continuity despite infrastructural or logistical challenges. Teachers need to adopt technology-driven approaches and incorporate climate-conscious planning to safeguard learning equity and engagement. Emphasis on digital readiness, psychological well-being, and resource accessibility is critical to address disparities and maintain academic integrity during climate-induced disruptions. Ultimately, fostering resilience requires collaborative efforts between policymakers, educators, and communities to

create adaptive frameworks that support sustainable and inclusive education in an evolving environmental context.

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