



Universal Acoustic Design for Schools: An Evidenced Based Approach

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Did you know that in an average UK primary classroom, up to 8 children may have temporary or permanent special hearing and communication needs (SHCN)? For these students – and many others, including young learners and those with English as an additional language – typical classroom noise is a significant barrier to learning.

Good acoustics shouldn't be an afterthought or a specialist provision; they are fundamental to creating truly inclusive environments.

[Dr Emma Greenland](#) has led this work since 2018, along with [Jack Harvie-Clark](#), [Adrian James](#), and [Professor Emerita Bridget Shield](#); this work addresses a critical issue: the acoustic environment of mainstream school classrooms needed to support the actual range of learning needs present in British classrooms today.

In their paper “Universal Acoustic Design for Schools: An Evidenced Based Approach”, published in Applied Acoustics on 25th September 2025, they propose a universal acoustic design framework for mainstream schools. Their key findings include:

- ◆ The Scale of the Need: 8% of pupils in England and Wales have SHCN, and a further 3% have social, emotional, and mental health needs which are negatively affected by poor acoustics. This means every classroom needs to be designed with Aural Diversity in mind.
- ◆ An Evidence-Based Standard: Based on extensive analysis, we propose “reasonably adjusted” criteria for mainstream classrooms of 0.5s reverberation time and 35 dBA ambient noise level, for all age groups in all ventilation conditions. This solution is achievable in practice accounting for latest classroom design trends and other design constraints.
- ◆ Proven Benefits: Adopting these standards helps control the buildup of occupancy noise during lessons, which is known to detrimentally affect learning and academic performance. Teacher interviews conducted by Audiologist Karen Wright confirm that improved acoustics lead to calmer environments, better focus, increased peer interaction, and reduced vocal strain.
- ◆ A Holistic Approach: The most effective solution combines good acoustic design with assistive technologies and classroom management strategies to support every student.

Creating learning environments where every child can thrive is a challenge that can be met with evidence-based design.

To view the abstract or to purchase the full paper click [here](#)