

Advice for schools embarking on refurbishment or new building projects

It's still 'buyer beware' when classroom acoustics are concerned!

When you buy tools for a job or commission decorators to improve your home you will no doubt be particularly diligent about specifying your requirements and ensuring you get good value for money. Sadly the same cannot always be said of a school, particularly when considering the acoustics of refurbished or newly built classrooms and as a result visually appealing, but acoustically appalling spaces might be presented to staff and pupils.



Since my earlier articles on classroom acoustics, I have encountered several school building projects that have totally ignored the acoustic performance standards required in Building Regulations. This is not new and the advice present since 1975, which became mandatory from 2003, is often 'overlooked'. As such there remains a danger that schools can still adopt or create educational spaces that do not meet the requirements of the School Premises Regulations and Independent School Standards that require:

Each room or other space in a school building shall be designed and constructed in such a way that it has the acoustic conditions and the insulation against disturbance by noise appropriate to its intended use.

The outcome of a school accepting, and failing to address the acoustic deficiency in such development, may not be immediately obvious but will be disadvantage both their teaching and support staff and the children they educate.

So why do things go wrong with new build?

The key to achieving good acoustics is 'SOUND DESIGN' and it was hoped a requirement for Building Control approval from 2003 would guarantee this. Indeed it should, as it required the developer to submit a report to Building Control that demonstrated how their new school building would meet the performance criteria specified in Building Bulletin 93 (BB93). Surprisingly this process is sometimes not adopted and I am aware of three recent examples in Somerset where it has led to deficient new builds, and more examples may exist. Even the submission of a thorough acoustic report does not guarantee success of a building as the recommended acoustic treatments might be omitted at its construction, as found with a new four classroom block. More surprising is that this omission was not detected during final building inspection, not noted by the project manager or by the school staff and was only highlighted a year later when an acoustic audit investigated the cause of deficient acoustics in all the classrooms.

So what is the outcome of receiving deficient acoustics in new build?

The outcome of any mistake is usually more work and cost to all parties involved as they try to achieve settlement or avoid incurring blame and liability. Real situations have demonstrated that the apportionment of blame and liability can be very difficult, particularly when an architect has failed to consider acoustics, a project manager has failed to identify acoustic design needs and a building control officer has failed to confirm acoustic design intentions before construction and then failed to require tests or inspect adequately at completion. Sadly in many cases schools will give up trying to contest these compound failings and will then fund corrective treatment at significant extra cost to the school.



Why is this of interest to Headteachers and Governors?

As a Headteacher or Governor you share the responsibility to ensure school funds are used wisely and that the learning spaces of your establishment meet the standards required by education acts



and regulations, and this includes meeting the requirements of Building Bulletin 93. These requirements apply to all teaching areas including prefabricated buildings and a number of listed ancillary areas. A school maintenance plan should also be identifying existing teaching areas that have poor acoustics and recognising the need to plan for acoustic improvement to the refurbishment standards detailed in BB93.

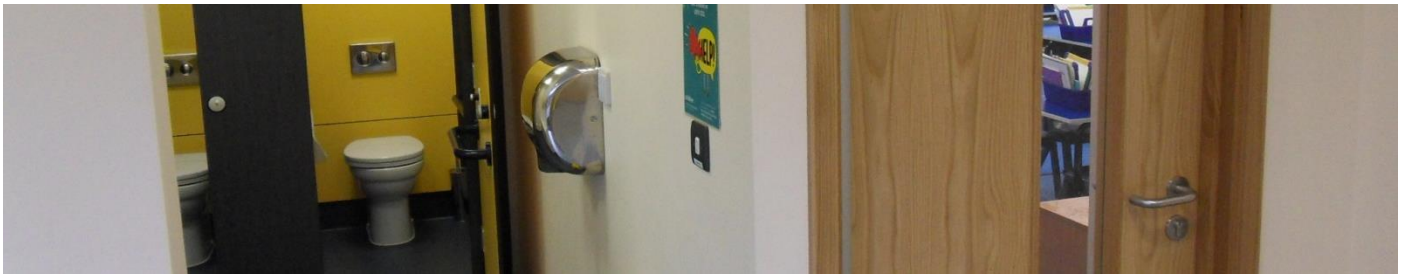
As a school you might hope the Building Control process and expectation of 'expert project management' would protect your development from acoustic failure, but in reality I would advise 'buyers beware'. As such, I would strongly recommend that schools actively encourage acoustic consideration to take place with any new build or refurbishment project if they are to avoid costly mistakes. This can be achieved simply by asking the right questions during the design and planning process.

What can a school do?

A Governor or Headteacher overseeing any developments or refurbishment of learning spaces should, at the very least, ask to see a copy of the report that demonstrates how the design proposals intend to meet the requirements of BB93. This one request will help to ensure that the importance of acoustic consideration is recognised by those commissioning a project. The resulting report should provide comprehensible summaries and offer solutions to achieving BB93 compliance.

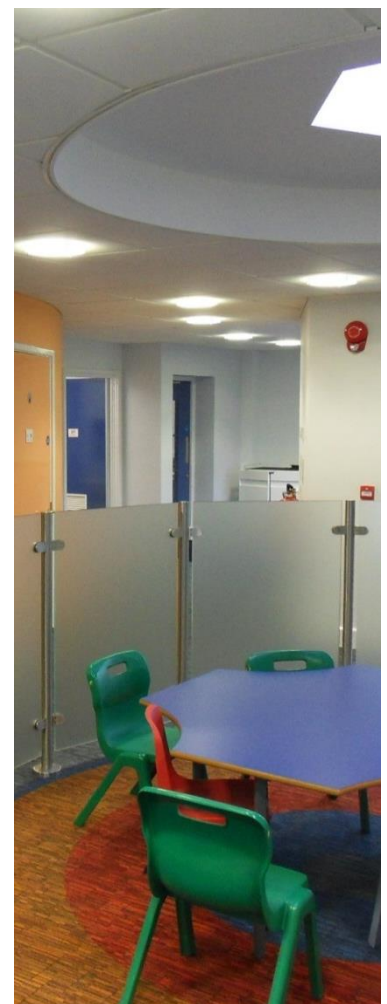
Failure to seek early clarification of acoustic consideration could otherwise lead to a repeat of any of the following project failings that have been found to include:

- Absorption treatment in classrooms specified, but not installed - [issue not discovered at building inspection, poor acoustics tolerated by staff];
- Absorption treatment of corridors and break-out areas not considered at design - [Building Control and pre-completion tests fail to identify deficient design, areas difficult to use];
- Noise from equipment (air conditioning, fan heating, extraction, air hand driers) not considered at design - [noise sufficient to interfere with teaching and restrict uses of space];
- Prefabricated buildings supplied to schools wrongly assumed to be exempt from BB93 consideration - [Excessive reverberation limits use as a learning space, building control checks not undertaken].



What can be achieved?

The action of Governors and Headteachers can greatly help to ensure a school provides learning spaces with good acoustics. At present the consequence of not adopting **SOUND DESIGN** is to risk protracted and often unsuccessful settlement of issues and to disadvantage pupils and staff with sub-standard teaching environments.



This article has been provided by the Somerset County Councils Acoustics Specialist Mike Highfield. Further advice and information on service provision can be found under Acoustic Services on the SSE website or at:

<http://www.somerset.gov.uk/environment-and-planning/consumer-testing/acoustic-services/>