

# Notes from conversation with Simon Smith, Learning Environment Leader, Sweyne Park School 13 August 2021



Classroom before lights and acoustic tiles

Classroom after lights and acoustic tiles

## Background

### About Sweyne Park

Sweyne Park School is a coeducational secondary school situated in Rayleigh, Essex, England, with specialised provision for hearing-impaired pupils. The school was formed in September 1997 following the amalgamation of Sweyne School and Park School.

<https://www.sweynepark.com/about-us/>

### About Simon Smith

Simon has worked at the school for nearly 30 years, beginning as a maintenance manager, he now leads a small team responsible for the ongoing development and maintenance of the school infrastructure.

## Interview

### *So how did you get interested in light and health?*

Many years ago, a member of staff was suffering from SAD syndrome. I was intrigued by the light they had on their desk. So I did a bit of investigation and learnt more about lights and how it affects mood.

So when we were refurbishing one of the classrooms, I started looking around. I found you could get these 'daylight' tubes at 6,000k. It wasn't drastically more expensive. So we changed the fluorescent tubes for daylight 600mm square panels - and added more lights than were there before.

## Results

it was quite a revelation going into that classroom for the first time and seeing the freshness and brightness - and the even spread of light in there

So now, whenever we do a room refurbishment, we use the same system of square panels at that 6,000k daylight temperature - and higher lux levels.

At that time, people were starting to use projectors and screens and they weren't powerful as they are now. So the teachers were lowering the blinds for projections - and then leaving them down because they preferred that bright, fresh, even light level.

The panels were not just lighting the working plane, they were opening up the top half of the room so it almost disappeared, making the room feel bigger fresher, airier. That was another revelation.

Then we found that when the light conditions changed outside - cloud, rain for example - the lights gave a much more even presentation to the room. It was easier for the kids to keep a higher level of concentration

You've only got an hour for the lesson. So the teacher needs to make the most of it.

The teachers will be the core of what you deliver, but if you're creating an environment in which they can work and they can use that craft and they can use that professionalism to the highest possible degree, then the quality that situation and the quality of teaching the learning is going to be that little bit better.

The higher brightness daylight panels make a really fresh room to work in that the teachers are really excited about... They take absolute ownership of the room and it works better.

### **Light levels**

We're getting between 600 and 800Lux at the working plane, in some places up to 1,000 - way more than the minimum standard.

### **Energy efficiency**

There was a time when there was an efficiency argument: we should not be throwing more lighting into the room to get the higher lux level. But flat-panel LED's are so much more efficient, and the benefits are so great, you've negated that argument really.

### **Reflective surfaces**

We use a bright 'magnolia' on almost all the walls - and the acoustic ceiling tiles have a good degree of reflection so the lights bounces around. That makes the space feel even brighter.

### **Controls**

We've experimented with proximity sensors in some rooms. They're okay. Bit of a pain in exam conditions when the kids are sitting still. Because they go off every 10 minutes. And then it makes a loud 'clump' sound when they come back in. Which is a problem, particularly for the kids with hearing issues.

In circulation areas, we consciously have the lights all the time because we want them to be open and airy. And the lights that are most likely to fail are the ones that switch on and off all the time.



Light levels with daylight

We want the teachers to be in charge of their environment so the teachers have fishtail keys for the switches by the door. They can increase or dim the light levels - but it's not automatic. Where possible, we divide the room in two- front to back - so that if the teacher is showing something on screen- or just a sunny day with light beaming in- they can have control over the space.

## **Special needs**

We've got a deaf unit with 24 children with different levels of hearing loss. And verbal communication is so crucial. They were complaining that some of the shadowing in terms of expression and particularly eye contact was not very good in rooms that haven't been treated to the better lighting. With the new lighting, it was much easier to see the full range of facial expressions, which improved communication.

Amongst other things, it meant the deaf kids could sit down anywhere in the room.

## **Acoustic control**

In terms of reverberation the standard is about 0.7 of a second - the time it takes for a sound to echo in a space. In an old fashioned gym, you can have up to 10 seconds.

But with the acoustic panels, we've been able to bring it down to about 0.4 of a second across a range of frequencies - the level recommended by the British Association of Teachers of the Deaf.

So it's the ideal. It's just 'real time information'. You go into a room and it just feels different the way the sound works. And the way you work as a teacher is totally different too. You're talking in your normal voice, not using your voice to dominate others - so you don't strain your voice and you can use the usual range of tones.

It's also about being able to hear all the children directionally, not wondering 'Where did that sound come from'? Especially in year seven and eight, you can hear the quieter voices too. And if you do group work, you can hear 15 individual conversations and tune into them, even with the windows open.

It's not an absolute game changer, but it makes a difference.

## **Staff room**

We hardly use staff rooms at all now and want to make best use of the space. So we've created curriculum bases as working spaces for the teachers. We've found that the quality and continuity goes up as everyone is aware of each other's work. The teachers do value that space.

And we use the same 6,000k, bright lighting levels there too: staff moaned when they've not got the same conditions as the kids!

## **Purchasing**

The technology and the market place have been evolving and the prices have been falling.

I did try to use the same supplier for a number of years because I knew what I was getting. But each time they got a different batch from China, which is embarrassingly, where they come from - so they would always look a bit different anyway.

So now I buy online and look for the best discount and the simplest 'plug and play' connections. Sometimes the quality isn't brilliant and occasionally they don't work. But the prices are so low now that you can just get another one. Some of them have been in for six or seven years now and you can see the difference in the light levels so we'll need to upgrade them at some point,

But we're a school with 1,500 kids. I don't know how many classrooms we've got but there are an awful lot that aren't done yet. It takes time to work your way through.

*Bottom line* - Price, simplicity and continuity is the name of the game.

## **Buying schemes**

Some companies offer various energy schemes, where they come in and replace all of your lights and you pay them back with your notional saving on electricity. But the costs are going down all the time and the money gets swallowed up elsewhere so I prefer to buy them myself and keep it simple

## **Leadership**

We're a 'bog standard' comprehensive. But we had a head teacher who was world-class. Absolutely smashing.

He bought quite a lot of focus to the school. And that's when we started our acoustic work because they had deaf children in the town and they weren't able to demonstrate that they have proper education provision for them. So children had to go out of town. So we work with Essex to provide that level of provision. And it's working with the lighting to create a better environment overall.

### **In summary...**

We don't profess to be the expert on anything. We've not done too badly as a school. But the moment you get complacent, things start to go wrong.

What we're doing is really difficult to quantify - we might not have the scientific evidence. But we know that the combination of the lighting and the acoustics work for us. No one of them is a game changer, but you put them all together, it makes a difference. We've got belief in it.

If we have something that we believe works, we try and share because education is education - it's not personal property.

But the kids will always be at the heart of it.

Thank you!