Fingringhoe C of E Primary School
Year 6 Classroom Project

At Fingringhoe School, we have been on a school improvement drive over the last three years. In particular, our focus has been on raising standards through improving teaching and learning but also motivating and engaging pupils to want to do better. One of the ways we are doing this is through our core value: Courage which is centred around having a growth or positive mindset: Giving things a go, building resilience and our motto: "I can't do that…YET!"

So, when Professor Heppell and Essex County Council approached us with an exciting project to improve learning spaces, we were intrigued. We had spent time developing pupils' attitudes to learning but we hadn't given much thought to the physical learning environment. Fingringhoe School was built in 1863 and is perhaps the smallest premises in Essex accommodating 4 classes.

Professor Heppell was a schoolteacher for more than a decade, and a professor since 1989. He works with schools and governments around the world to improve learning spaces. The project focuses on the improvement of learning environments so that they are innovative and stimulating, with the aim of inspiring children to achieve more. Professor Heppell has also been working with elite coaches in Olympic teams. Marginal gains, the professor says, are as vital in schools as they are in sport. If learning was the Olympics, this is what it would look like.

Key Factors that we have changed include:

- air quality (oxygen/CO2 levels)
- temperature
- light and brightness (colour of walls and ceiling can affect this)
- sound/acoustics
- Heppell benches
- writing walls

In our Year 6 classroom, carbon dioxide levels were high, lighting was poor, the false ceiling was brown and ladybird infested. Even the best lessons had pupils yawning! We were nervous about pulling down the brown, false, hessian ceiling in our Year 6 classroom to see what lay above, so, after checking things weren't too serious with a selfie stick and phone camera, we pulled down a small section. Fortunately, we weren't the ones standing underneath when it was pulled down… Years' worth of dust and insect skeletons rained down. The false ceiling and roof trusses were dismantled, along with anything else that appeared unnecessary. Disused, trailing cabling and trunking were removed. Next, the classroom was painted a bright white, from top to bottom, to reflect light around the space. Followed by lighting and acoustics.

‘Sound absorbing technology’ (acoustic panels) were fitted which have replaced many display boards. If noise levels are too high or rooms are too reverberant, pupils find it difficult to hear and understand their teachers, while teachers find it difficult to speak and often suffer from voice disorders as a result of continually raising their voice. If reverberation times are reduced within a classroom, there is evidence to suggest that pupils’ behaviour and attentiveness increases. This is because pupils’ brains are able to concentrate on the teacher and the learning rather than having to work hard to filter out reverberations.

Self-adjusting LED lighting was installed. Pupils and teachers are able to set ‘moods’ according to lesson type. On initial observations, teachers and pupils agree that brighter and whiter lighting appears to encourage chat or discussion whilst dimmer and yellower hues enable better focus on written or problem-solving tasks.

The room has also been fitted with a folding writable wall, and the Heppell tiered benches. There is even a special wall of plants – each one owned by individual pupils — to increase oxygen levels. The change from tables to tiered benches has enabled teachers to think more creatively in how they allow pupils to make appropriate choices about how they complete learning tasks.

Professor Heppell asked us to try out a prototype of a Learnometer device he had developed with an education business. The white box sits in the classroom and measures key environmental factors proven to affect learning, including temperature, humidity, CO2, air pollution, light, sound levels and rhythms. The idea is that once teachers, schools and pupils see real data on their classrooms it will motivate them to make changes that will improve learning.

“The pupils themselves could see that the pupils in the dark corner were the ones who weren’t concentrating coming up to lunch… They could see that the ones in the lighter bit by the window were still sharp by the end of the day… They thought this was purely down to them”, Professor Heppell.

Year 6 teachers have used data gathered by the Learnometer to show pupils how CO2 levels in the room rise and fall over the course of a day. They have printed off graphs and can see that the graphs change according to times of day and how many pupils are in the room: overnight, playtimes, etc. This has fascinated our pupils. Pupils are

now preparing to start monitoring environmental factors in other classrooms that have not yet had a makeover. They will be able to compare data readings for the different spaces, helping them learn vital lessons in science and maths. Children in the class also say that using the Learnometer has greatly raised their awareness of how they are affected by their learning spaces.

Pupils are starting to understand how environmental factors can affect their learning: they are more aware of when they are focused and when they are not and the factors that may contribute to this. They are able to explain this clearly. Over this academic year, teachers will track progress, not only in subjects, but also in learning attitudes.

To find out more:

www.heppell.net
http://www.acousticbulletin.com/EN/Ecophone_Essex_6ppA4_v8_LO_Singles.pdf
www.fingringhoeprimaryschool.co.uk

Clever Classrooms Salford University

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