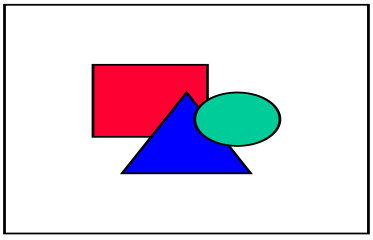
IT for Schools Hotting Up?

Information Technology in schools is at long last growing and a definite boost for schools that adopt a modern approach to skilling students, preparing them for the commercial world many will enter on leaving secondary education.

Many progressive independent schools have equipped their IT departments with extensive PC learning systems. Economies of scale are paramount and often IT Labs are necessarily filled with the maximum number of individual student workstations.

In some circumstances this can result in ideal learning situations, but unfortunately the rooms used become extremely hot. This is in part due to the number of students but also is exacerbated by the computer equipment heat emission and other factors, such as lighting and external heat gains, solar gain and heat conduction through the fabric of the building.

It is interesting to note that the average colour monitor gives off 150w and the average busy student 180w, multiply this by 20 students and you have a heat gain to the room of 6600 watts! - That's the equivalent of 2 x 3 bar electric heaters on full, just when you don't want it.

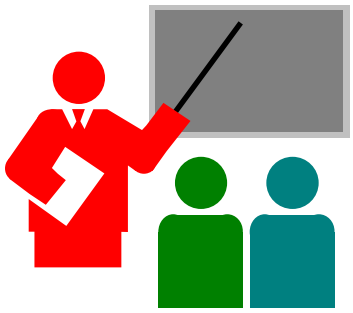


Uncomfortably high temperatures do not make alert students! - In the UK we also generally suffer from relatively high humidity and this coupled with an increasing air temperature makes very uncomfortable conditions, certainly not conducive to learning. Physiological studies indicate that as temperature and humidity increase, so lethargy sets in. Students would prefer to sleep than remain alert and attentive.

So, what can be done to improve conditions? - Good fresh air ventilation is important, but in summer this might just introduce dirty humid air, if windows are opened. Mechanical ventilation can sometimes help, but to remove heat build up, the volumes required are excessive and will cause noise, draughts and distraction.

What is the answer, the only real solution if rooms are overheated is air conditioning and it is not as expensive as you might think. At least, not if you measure the ultimate advantage to students and their performance.

Comfort has already helped a number of schools to deal with and resolve high temperatures and humidity in IT Labs.



How did they achieve this and what was the cost, more importantly, what was the end result?

Two schools had similar problems, having extensively equipped the IT Labs, re-furnished and decorated they discovered almost immediately that external and internal heat gains made conditions within the rooms unbearable.

Independent consulting engineers recommended that the only effective solution was to install small split system air conditioners and in both cases Comfort was selected to design, supply, install and commission the systems.

Looking at one major project in Bath, the school's IT suite comprised two separate training rooms with an adjoining office. As floor space was limited and neither room had a false ceiling the rooms were served by horizontal under ceiling units. The room units were connected back to externally positioned condensing units, located on adjoining flat roof immediately adjacent to one of the rooms.

The controls for the ceiling units were kept in a locked access compartment under supervision of the tutor but automatically controlled operation, temperature and air flow via pre-determined set points.

As temperature increased within the rooms either due to internal heat gains from equipment, lighting or students, or from external heat gains (solar or conduction radiation) the systems automatically deliver just the required amount of cooling to maintain comfortable temperatures and humidity in each room.

The system does not have to run all the time and not at all when the rooms are unoccupied.

Another benefit is that the system is designed to "fast boost" cool the room during periods where being unoccupied but then switched on as occupation commences to quickly bring the room down to a comfortable temperature and humidity.

Comfort can provide any air conditioning solution for residential, commercial, retail, industrial, public or institutional buildings from a £500 unit to projects of £500000.00 or more.

For further information or advice contact:

Comfort Air Conditioning Limited
Comfort Works
Newchapel Road
Lingfield
Surrey RH7 6LE

Telephone: 01342 830600
Facsimile: 01342 830605
Email: info@comfort.uk.com
Or visit www.comfort.uk.com

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