CREATING APPEAL FOR STEM THROUGH INNOVATIVE INTERIOR DESIGN AND BETTER QUALITY CLASSROOMS.

Demand for STEM skills is strong across all economies and is set to grow in the coming years. Despite this, the issue of falling numbers in the uptake of higher level science and technology based education has been the subject of many debates, studies and reports for several decades and there remains and ongoing concern and increased recognition of the need to reverse this trend.

Economies need well trained scientists, technologist, engineers, mathematicians and teachers. To that end pedagogy is changing with emphasis being placed on collaborative group work, research, project and context based integration between the related subjects. This in turn creates a need for flexible learning spaces which not only facilitates the range of activities this entails but which also attracts students to subjects which might not otherwise seem appealing.

Studying science and mathematics unlocks a range of employment opportunities for young people. Success in promoting STEM education depends on high quality, well trained, motivated subject specialist teachers who are provided with the tools and environments with which to attract the students and to deliver effectively.

Students are more likely to engage in STEM subjects if they can see a tangible and relevant objective and any new learning space needs to ensure that research, study, design, experimentation, testing and realisation can be readily accommodated as well as having the widest possible student appeal.

STEM in schools suffers from image and perception issues which presents challenges for educationalists who are trying to broaden the appeal of science and technology based subjects to a wider cross section of the school population. Students of the “on line” age are not motivated or stimulated by dark, old fashioned, uninspiring school laboratory and workshop designs which have remained unchanged for decades. Educationalists, subject advisors, school interior designers and specialist furniture suppliers are having to work much harder and become much more innovative to change these perceptions, help schools compete with what are regarded by some as the more contemporary subjects and remove the gender bias associated with STEM based learning. Effective interior design combined with high quality contemporary furniture systems which facilitate and promote pupil centred learning can help change attitudes towards science so that students are more receptive to the truly exciting possibilities which the subject offers.

Traditional regimented wooden bench rows with dark worktops are not only uninspiring, they are restrictive of interactive group work, they create areas within the classroom which are not easily accessed by teachers due to narrow gangways, they result in “back row” syndrome and are considered by many to be the least safest way to organise students carrying out practical work. Replacing these very old designs with new, brighter coloured, lower specification versions of the same thing might

improve the image of STEM temporarily but do little to address the need for greater flexibility within the classroom.

It is too often the case that school laboratories and tech facilities look un coordinated and lacking in any design quality. Far from being inspirational and creating appeal amongst students, a miss match of loose tables old fashioned, fitted benches and fume cupboards sourced at different times lacking any synergy in shape, colour and form has completely the opposite effect. Such environments look untidy, un professional and out of touch with the way in which other subjects and indeed science and technology is evolving.

New more contemporary designs which utilise modern high specification materials in a less formal, more interesting and much more flexible way can provide the teachers with the sort of environment needed for modern pedagogy. Such designs need not be restrictive of more formal, whole class address/demonstration as and when needed, from any one of a number of equally well suited locations in the room rather than from a single fixed teaching position. Crucially the contemporary, flexible, application based innovative room layouts can change the image of STEM and help reverse the downward trend in student uptake.

There is value in involving the students in the design of new and or refurbished classrooms and in the selection of the furniture system which is a key element in the efficacy of the environment. This involvement gives the students ownership of their own learning space and promotes the engagement that this engenders.

For most schools, the creation of a new STEM facility or refurbishment of a laboratory is a 25 year investment which will have to serve several generations of students and a number of different teachers during that time. New age designs are highly space efficient, provide generous worktop space per student and excellent circulation space which encourages teachers to move around and engage rather than operating exclusively from the behind the same single fixed position bench all the time. This makes it possible to use the room in different ways and can help future proof the new facility. Never compromise build quality or choice of application specific materials for things like worktops. Although budgets are always tight, selection should be made on the basis of best life cycle value rather than lowest first cost which is always a false economy.

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