

Kingsmead



With his highly regarded new primary school in Kingsmead, a town in the north of England, Craig White and his office, White Design, achieved two objectives: the building is not only an ideal learning environment for schoolchildren, offering a great deal of daylight and fresh air, but also allows them to gain first hand knowledge of the advantages of a new, lightly built architecture which is oriented to ecological criteria.

Architect:	White Design Associates Ltd.
Photo:	Torben Eskerod
Project:	Primary School in Kingsmead
City:	Kingsmead
Country:	United Kingdom

Learning through lightness



The Kingsmead Primary School was made almost completely of wood. Its robust architecture leaves enough leeway for artistic creativity and the children's need to move about freely.

Concept- Re-Thinking Education

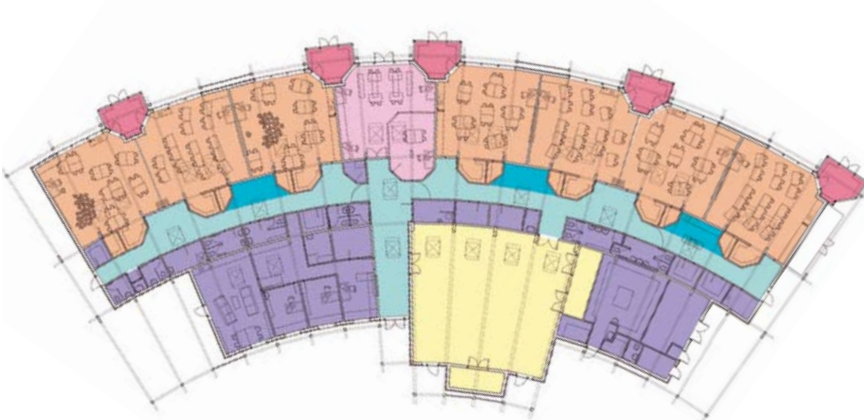
When Cheshire County Council placed their advertisements for new teachers to run their new £2.4 million sustainably designed school showcase they were taken aback by the level of interest in the posts – over four hundred applications – remarks the head teacher, Catriona Stewart. That interest, however, was only the beginning for Kingsmead primary school. Ever since opening in the autumn of 2004, Stewart and her colleagues have been showing architects and planners, educationalists and teachers, as well as politicians and journalists round Kingsmead primary school's friendly, warm spaces on a regular basis. The school in north west England has won a string of awards in the UK, and set new

standards for sustainable school design, to the extent that Sunand Prasad, the new president of the Royal Institute of British Architects (RIBA), stated at the time that the building then led the field in the UK. Titled Re-thinking Education, the approach draws into the mainstream many well-known sustainable ideas – including using local contractors, emphasis on natural materials, minimising waste through recycling and high value design. Site and function The building itself sits on a piece of open land amid a new residential development, curving in a concave semi-bow shape away from the entrance, protecting the large playing field on the far side of the school. The entire single-storey building is clad in Western Red Cedar and held up by a glulam timber frame column and beam

system from a Danish factory. Although the initial brief was to use timber available locally this proved impossible. The raised central entrance projects out towards arriving visitors; inside, the reception foyer opens onto a circulation corridor following the curve of the building. To the side of the foyer, a sports hall space joins the two wings of the buildings. The wings contain the staff, admin and other office rooms to the front of the building and classrooms on the far side, opening onto the playing field through five facade buffer winter garden spaces; in effect potential greenhouse learning rooms as well as fire exits. Flexibility has been designed into the classrooms, with partitioned walls enabling class sizes to be increased or reduced according to need.



The facade seen from the north is highly varied in spite of the serial method of construction. All the classrooms receive daylight through two rows of windows, one of which is at eye level and one just under the roof. Small winter gardens serve as emergency exits and extensions to the classrooms.



Ground plan



The spacious classrooms are on the north side of the school building and receive uniform light through the roof windows – ideal for art lessons, for example.

Interior and sustainability

Kingsmead school's appreciation of these natural features, is underlined by the use of timber. The sustainability dimension is also immediately evident in many other examples throughout the building, helping children to become more aware of how the different aspects of a sustainable building actually work. More interesting for the children is a vertical perspex pipe in the foyer reception area. Rainwater runs through this pipe before being re-used in the toilets around the building, vividly demonstrating to the children exactly how much run-off there is and how it is being re-used. Similarly, there is an electronic measuring device in the corridor showing how much water is being collected.

Stewart has also made the most of the specially designed corridor area, which includes a cooking and home economics area. The cooking area is used to introduce elements of the maths and science curriculum. The school also uses the area to cook the school meals from fresh raw materials. With an extensive expanse of open land, the school has been growing organic foods, which, when ripe and ready, are then eaten by the children – the ultimate in learning by doing. Apple trees and a small organic garden are used by the children in a hands-on approach.



Designing in natural lightning

The class and admin rooms are bathed in well-provisioned natural light, and the northfacing classrooms benefit from more constant light levels and lack of sun-glare. The building employs natural ventilation techniques to maintain optimum temperatures, with the air entering via controlled opening and closing of facade and roof windows by a building management system.

Even though these techniques are Cross section backed up by a biomass boiler to cope with seasonal variations, natural lighting and ventilation are important articles of faith to White Design.

Each of the classrooms is bathed in light from two sizeable roof windows, while much of the rest of the school – along the corridors to the library and hall – also benefits from access to daylight. Stewart talks of how even on dull, overcast days they do not have to switch on any artificial lighting. As Stewart observes, 'the natural daylight is more human to work under and reduces light fatigue and the 'institutional' feel to the school, as well as cutting our carbon emissions.'

Schools like Kingsmead

Since Kingsmead's completion, White Design has been refining this building model for a number of other schools in different parts of the country. Today, almost three years since the school opened, the architects have moved on to what they call Kingsmead 2, with a new primary school building in South Wales about to open. With the Building Schools for the Future (BSF) programme well and truly kicking into gear – the third and fourth of its fifteen waves are now at different stages of completion – schools like Kingsmead continue to set the agenda of what is expected in UK school building design culture.



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