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Westbourne Grammar School Science Centre, Melbourne, Australia

Thursday 05 Feb 2009

# Breathing new life into education



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ENTRY: WAN AWARDS 2009 - EDUCATION

## Revolutionary passive hydrothermal air conditioning in recycled science building provides new comfort in Australian heatwave

Westbourne Grammar School's Science Centre demonstrates exciting possibilities for recycling and retrofitting outdated buildings, providing spaces which support a new educational pedagogy and significantly improving the environmentally sustainable design performance.

The architectural challenge was to transform the original concrete framed brick building, which contained dark, under-ventilated laboratories, classrooms and a conventional stuffy central corridor. NOWarchitecture's holistic design strategy has produced a suite of flexible, innovative learning spaces which have natural daylighting, cross ventilation, passive cooling, low energy lighting and heating, and high quality acoustic comfort.

The interior was totally remodelled to provide specialised, stimulating facilities. A large multi-purpose foyer space provides circulation to the laboratories, seminar and service spaces. The architecture supports the curriculum and encourages individual student participation with easy supervision across interconnected learning suites and laboratories. The laboratories incorporate innovative, purpose designed benches which pivot around a service bollard. The pivoting benches offer a flexible laboratory layout for easy reconfiguration during, or between, sessions.

Holistic design strategies have produced a sophisticated passive cooling and natural ventilation system. Thermal chimneys have been added to the north elevation which induce natural ventilation by drawing fresh air cooled by manifolds in an underground tank which has been added beneath a new

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southern extension. Photovoltaic panels are integrated into the thermal chimneys for increased venturi performance. Together these innovations present an important ESD education opportunity.

Students now learn in inspiring, flexible, comfortable and revitalised learning spaces. They experience a genuine Green Building and are part of a reduced carbon footprint.

### Key Facts

<b>Status</b>	<b>Complete</b>
<b>Value</b>	<b>0(m€)</b>

NOWarchitecture  
www.nowarchitecture.com

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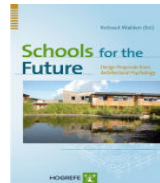
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