Creating healthy learning spaces

What needs to be done to make New Zealand schools effective, healthy learning environments? A recent symposium outlined the problems and identified some solutions.

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CHILDREN ARE VULNERABLE. Their immune systems are underdeveloped, and exposure to pollutants in the formative years can lead to life-long health issues.

Little research into school environment

Children typically spend the largest proportion of their time in the home environment. Research has shown that improving the insulation and heating in homes significantly improves the health of occupants.

The environment where children spend the second-largest proportion of their time is their school or preschool. However, schools have received little research attention and the preschool environment even less.

Complex, unique environments

These environments are complex and have unique traits. They have a high density of occupants for a relatively short period of the day, but this includes the coldest and wettest months of the year.

Classrooms are closed up for weeks on end are often underinsulated, single glazed, underventilated and almost never heated overnight. Orientation for solar access may be compromised by higher-priority drivers, such as the need to squeeze more classrooms onto a tight site.

Capital, maintenance and energy budgets are tight. Buildings can be used long after their best before date.

Classrooms are often located along busy roadways, exposed to traffic pollution and traffic-related noise, which may impact on children's health, wellbeing and performance.

Symposium looked at risks and solutions

A symposium, supported by APL Window Solutions, was held in September 2016 to identify the unique opportunities and risks with classrooms and early childhood learning environments, the first such event for New Zealand. It attracted 90 experts from diverse disciplines including:

- child psychologists
- Māori health experts
- literacy researchers
- acousticians
- architects
- quantity surveyors
- building materials and components suppliers
- school principals
- policy makers.

The attendees workshopped questions such as the ideal environment, the risks of business as usual and what research is required to address the identified issues. A directory of experts and resources to assist the creation of the ideal learning environment was developed.

Technical design issues

A report summarising the day's discussions will be released early in 2017. An initial analysis of the themes in the workshop sessions showed that teachers are unsurprisingly often too busy with matters central to teaching to also address issues with the classroom environment.

Environmental science issues such as achieving sufficient daylight without glare or noise reduction and adequate ventilation without losing heat were significant issues for many. More power points are also needed for increased computer use. Design guidelines may help address these technical design issues.

Building Code not always sufficient

There was a realisation that meeting the minimum standards of the Building Code may not always be sufficient to meet the needs of children. There can be arguments to exceed Code requirements in some circumstances.

Challenges with procurement practices were a common theme, and research on procurement may be required. Aligning the constraints of the existing building stock with the implications of the innovative learning environment is a challenge identified by many of the attendees.

Many people requested that this multidisciplinary event be an annual event so that effective and healthy learning environments can become the norm.