

# POST-OCCUPANCY EVALUATION REPORT



## STONEFIELDS SCHOOL

STONEFIELDS, AUCKLAND | FEBRUARY 2016

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# 1.0 INTRODUCTION

## Overview

This Post-Occupancy Evaluation (POE) aims to gather and examine key insights about the facilities' technical performance, functionality and operational processes. This information can be then compared against the project's original design intentions in order to determine how effectively these goals were met. POE can therefore help the Ministry of Education (MoE) to collect relevant, and well-disseminated evaluation information to impact the design and functionality of future facilities.

There are various levels of POE, ranging from a very high level review to a detailed diagnostic study. There is a widely accepted POE process model that sets three levels of POE that can be undertaken, i.e. indicative, investigate, and diagnostic:

### Indicative

Indicative post-occupancy evaluations provide information on significant successes and problems and can be as simple as a walk-through evaluation. Selected interviews can also be included as part of the walk-through, or separately. Generally, indicative post-occupancy evaluations involve simple surveys of occupants to establish their views on the physical project outcome, and in some cases, the project process.

### Investigative

Investigative post-occupancy evaluations are more detailed and require formal data collection techniques. These interviews need to be structured and unambiguous. More time and resources are required for this type of review than for an indicative review. Questionnaires (standard or customised) can be used to survey the occupants. Structured interviews and recording of responses can also be included for analysis, together with responses to questionnaires. Investigative post-occupancy evaluations can be used for detailed evaluation of both the physical project outcome and the project process.

### Diagnostic

A diagnostic POE is more detailed than both of the previous types. These reviews are comprehensive and generally initiated for large-scale project reviews, or when serious problems have developed, or when the review is part of a rigorous research project. A diagnostic POE requires expert advice and management. The scope of these types of post-occupancy evaluations can be designed to encompass all aspects of projects according to needs.

The following POE report is based on indicative and some investigative processes and techniques. Further diagnostic evaluations may be required to understand the findings in greater detail and context.

## POE Team

The assessment for this evaluation was carried out by a team composed of professional architects, education designers, project managers, and construction experts.

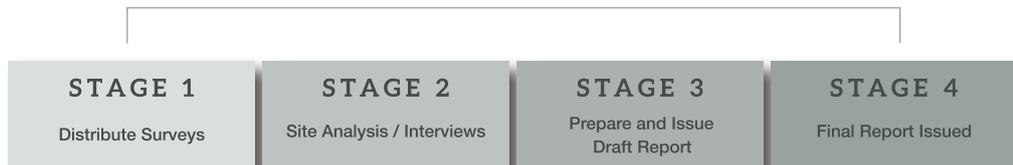
## 2.0 POE METHODOLOGY

The POE was comprised of indicative and investigative techniques carried out by the POE team. The process of the design/delivery of the project along with the overall facility was evaluated, with more indicative focus given on the learning environments. Multiple methods of data collection were used such as:

- Architectural documentation
- Full project walk-through evaluation
- Benchmark data compiled
- Staff and individuals surveyed
- Interviews with key stakeholders i.e principal and leadership team members involved in the design phases of the project
- Students, parents and families were not interviewed

*The POE process started with an introduction meeting held with the school to discuss the process and the requirements from the school during the POE.*

*There were four key stages in the evaluation:*



The project was evaluated under 10 categories to gain a holistic view of the project:

- Identity / Context
- Site Plan
- School Grounds
- Organisation
- Buildings
- Interiors
- Energy and Services Strategies
- Feeling Safe
- Long Life, Loose Fit
- Successful Whole

The evaluation team asked standardised questions about the facility during the on-site investigations along with specific surveys for the users. The data from these strategies form the basis of the evaluation. We have standardised the questions, metrics and on-site analysis with the view to form better comparable cross-project data, and to be able to draw more accurate conclusions overall.

## 3.0 RECOMMENDATIONS

The following is a summary of the findings presented in this report. The evaluation team considered the responses to the leadership survey, occupant survey and on-site interviews to be very positive and it was evident that the school is very pleased with their new facilities.

### **Leadership Survey Findings**

School representatives who were involved with; assisting consultants with briefing, design team meetings, or at a Project Control Group level, were asked to complete a Leadership Survey (see section 6.0) to provide their feedback and experience of; design, construction and post-occupancy performance. All commentary was very supportive of the design, in particular; the arrangement of spaces within the learning environment, the links between the hubs, the landscape design, the flexibility of the spaces, and the purposefulness of each space within the learning environment.

### **Conclusions and Recommendations for Stonefields School Facilities**

The recommendations below, gathered from the POE methodology process, aim to highlight valuable lessons and insight in order to benefit and improve not only this school but future school developments:

1. The school's EBoT and principal were actively involved in the design stage process which allowed strategic input from the outset. This proved very successful as it enabled the school to voice and align their clear educational vision with the built environment. It was stated during the interviews that there was a high level of continuity and professionalism within the board and the original learning vision is still strongly supported today (see Leadership Survey page 26).
2. It was stated that the external and internal sliding door tracks frequently misalign, requiring considerable time and expense to maintain components. It is recommended that more robust commercial tracks and/or hardware is installed, and that the sliding doors are reviewed in detail by a specialist to recommend a more robust long term solution.
3. Certain areas of the Stage One learning spaces are exposed to the sun from the west/northwest. With no active cooling system, this causes over-heating and glare in the warmer months. The evaluation team recommend shading devices (external preferred) are installed on the most affected facades of the learning spaces.
4. It was noted during the interview, that the school spends considerable time and resource maintaining the facilities' product warranties. Although the school has made every attempt, they believe that it is financially unrealistic to conform to the warranty terms of all products and materials. It is recommended that the MoE, in collaboration with the school, develop warranty guidelines outlining product specification and warranty management.

## 3.0 RECOMMENDATIONS

### *Conclusions and Recommendations for Stonefields School Facilities (Continued...)*

5. The schools pick-up and drop-off area does not provide a safe and functional environment for students during peak times. This area was designed during Stage One, and due to roll growth, it is no longer functioning as well as it should be. To increase safety the school has closed one of the entrances to stop cars from travelling through it. Due to the urban design of the surrounding streets there is limited space for drop-off and pick-up zones. It is recommended that the design of the main car park is reviewed and changes made to create a more effective and safe environment for the students.
6. Occupants of the Stage Two learning environment expressed that the acoustics were poor, and at times distracting, in the high-ceiling spaces between each hub (bulkhead spaces). However, in order to achieve a balance between the recommended MoE guidelines for acoustics and the Greenstar Indoor Environment Quality (IEQ-8) Daylight, in the school's view, compromises had to be made. The school stated that they were required to have the high-ceiling surfaces painted in order to meet the Greenstar LVR rating, limiting the amount of acoustic panels that could be installed. Further investigation is recommended to understand this in more detail.
7. The evaluation team concluded that the learning environment of Stonefields School was effective and the adopted improvements between Stage One and Stage Two were positive. The facilities reflect sound design principles based on the BoT visions and ILE guidelines. The new facilities were light, spacious, safe and secure.

## 4.0 PROJECT OVERVIEW

Stonefields is a new primary school designed and built in Stonefields, Auckland. It is located within a new modern residential subdivision which is generally flat as it is part of an old quarry. The school has been designed and constructed in two stages. Due to ongoing growth, Stage Three was being discussed at the time that this evaluation was carried out. Once the third stage has been completed, the school will have capacity for up to 600 students.

### Benchmark Data

**School profile number:** 565  
**Type:** Full Co-ed Primary  
**Location:** 81 Tihi Street, Stonefields, Auckland 1072  
**Site Area:** 3.2175 ha  
**Total GFA:** 3654m<sup>2</sup>  
**Staff Numbers:** 45 (including 8 part-time staff)  
**Student Numbers:** 484  
**Environmental Rating Credentials:** Greenstar 5 - Stage One / Greenstar 5 - Stage Two (Pending)  
**In-use Performance:** 36/kWh/m<sup>2</sup>/annum (Stage One and Two combined)  
**Decile:** 9

### Project Team (Stage One)

**Master Planning:** Jasmx Architects Ltd  
**Architect:** Jasmx Architects Ltd  
**Structural Engineer:** HLK Jacob  
**Services Engineer:** Lincoln Scott  
**Project Manager:** Greenstone Group  
**Contractor:** Fletcher Construction (GMP contract)  
**Facility Opened:** 2011  
**Gross Floor Area:** 2,184m<sup>2</sup> (includes 11 teaching spaces)  
**Capacity:** 260  
**Project Cost:** \$6,620,880.00

### Project Team (Stage Two)

**Architect:** Jasmx Architects Ltd  
**Structural Engineer:** MSC Consulting Group  
**Services Engineer:** eCubed Building Workshop  
**Project Manager:** Greenstone Group  
**Contractor:** Brosnan Construction (GMP contract)  
**Facility Opened:** 2014  
**Gross Floor Area:** 1,311m<sup>2</sup> (includes 13 teaching spaces)  
**Capacity:** 220-250 (School total 560)  
**Project Cost:** \$2,713,770.00 (2013)

# 4.0 PROJECT OVERVIEW

## Project Timeline

### Stage One

**June 2009\***  
 Design Commenced

**September 2009\***  
 Contractor Appointed  
 (Design and Build)

**February 2011**  
 New School Facilities  
 Completed

\* No project programme available

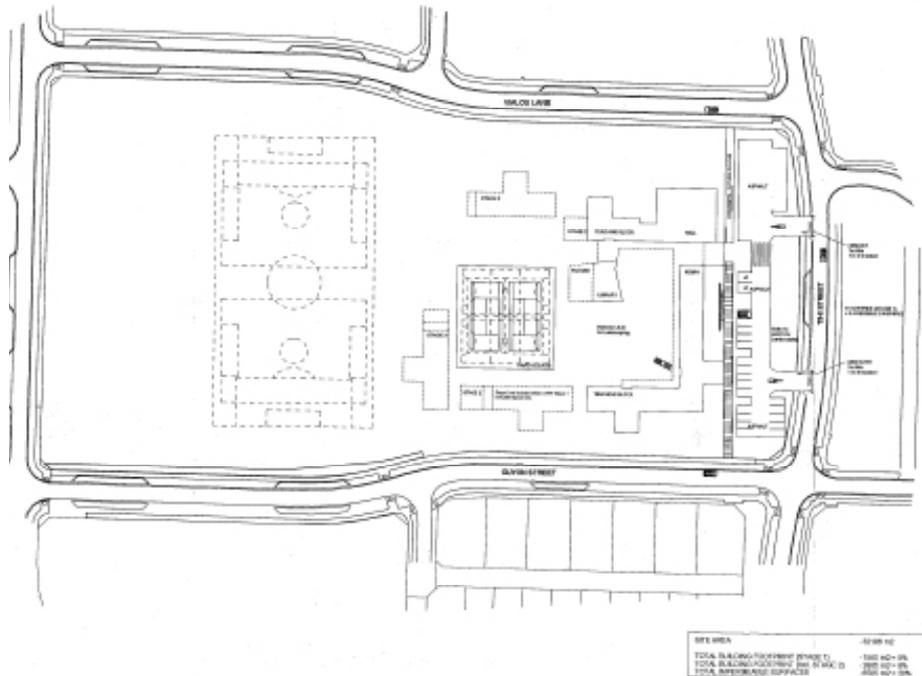
### Stage Two

**December 2012**  
 Contractor Appointed  
 (Design and Build)  
 Design commences

**April 2012**  
 Construction  
 Commenced

**February 2014**  
 New School Facilities  
 Completed

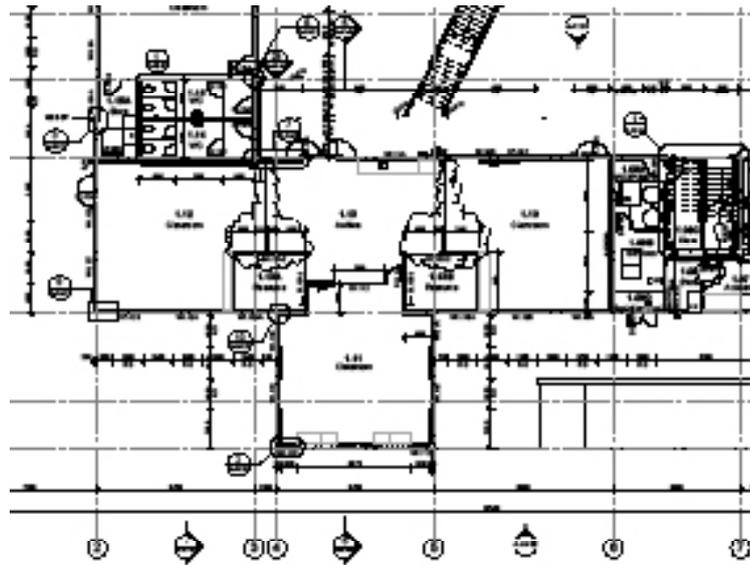
## Master Plan



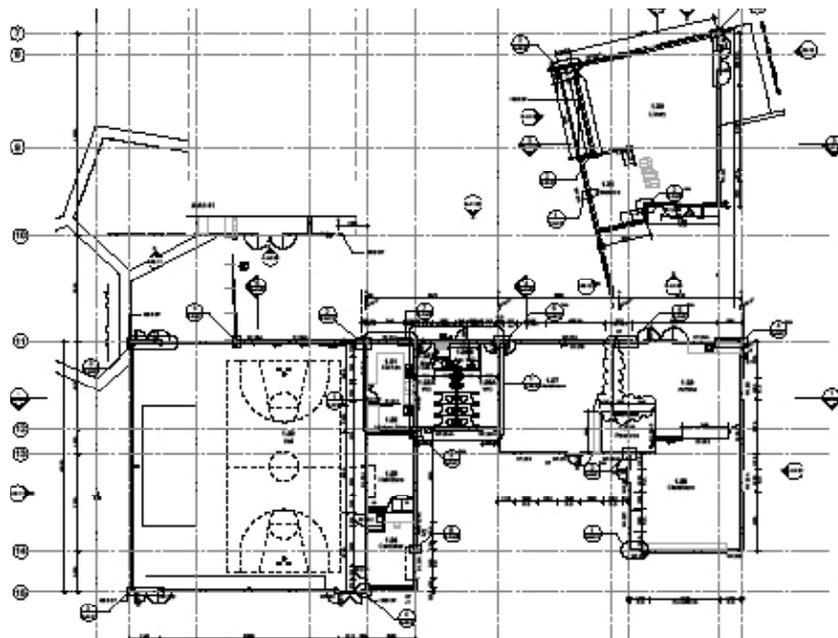
Stage One

# 4.0 PROJECT OVERVIEW

## Stage One Learning Environment Floor Plan



Stage One - Learning Environment (Typical)



Stage One - Multi-purpose Hall and Library

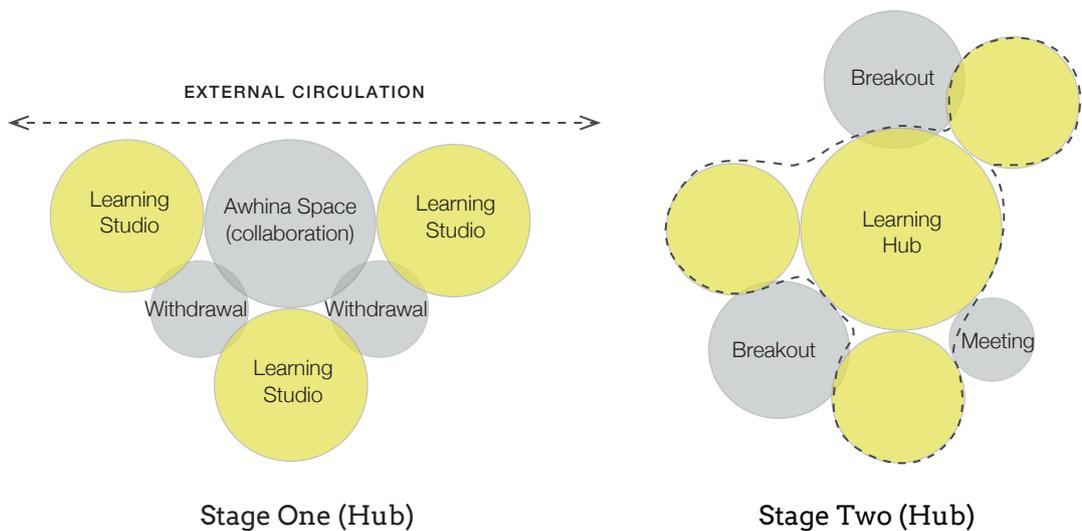
# 4.0 PROJECT OVERVIEW

## Stage Two Learning Environment Floor Plan



Stage Two - Learning Environment

## Learning Environment Diagrams



Stage One (Hub)

Stage Two (Hub)

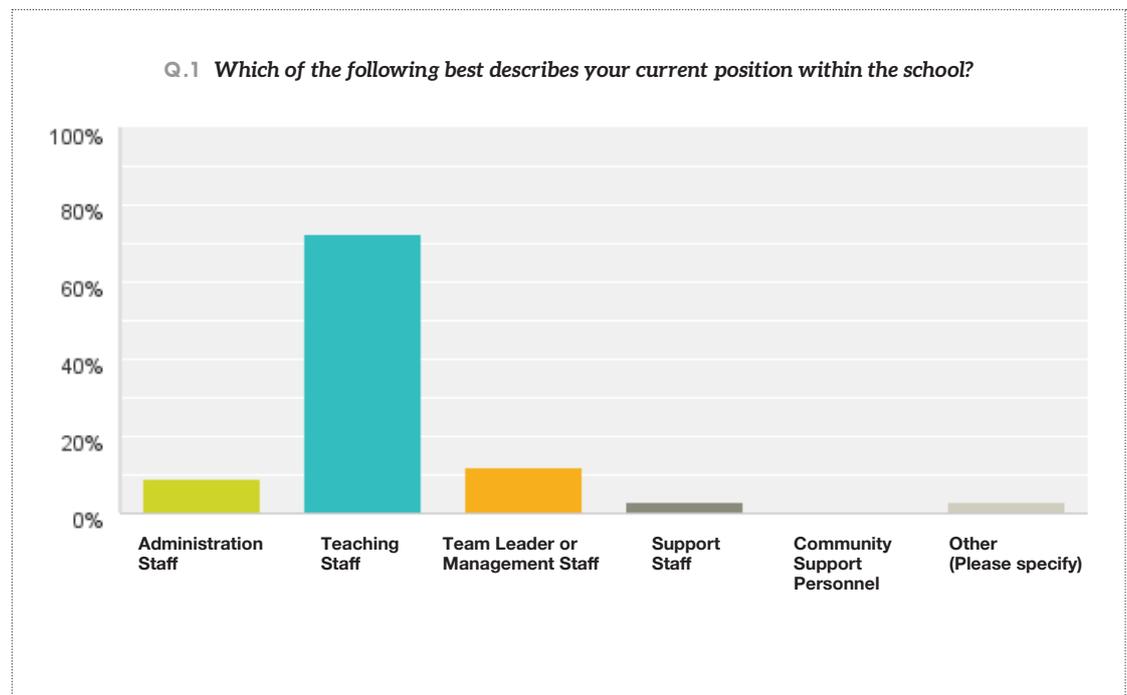
# 5.0 ANALYSIS AND FINDINGS

## Introduction to Findings

Staff participation for this report was 89% with 40 out of 45 staff completing the survey. Surveys were issued on October 10, 2015. The staff interviews and on-site evaluation were carried out on October 16, 2015. The site visit was performed on a clear, sunny day with light winds and the school was operating under normal conditions. The school's new facilities were evaluated during one site visit over a five hour period.

## Demographic Profile

Of the 40 personnel surveyed, 73% were teaching staff, 12% were either team leaders or in management roles, 9% administration staff and 3% support staff (see graph Q1 below). 84% of the respondents were full-time staff, with 16% part-time staff. 64% stated that they spent 8 hours or more in the facilities each working day, while 12% spent 6-7 hours in the facility each working day. Respondents stated that their time was spread across a wide range of spaces during the working week.



### 5.1 Identity / Context

The vision for the school, developed originally by the establishment board, was strongly supported by the senior leaders and staff. The four vision principles of building learning capacity, collaborating, making meaning and breakthrough, are clearly articulated by the leadership team and supported by parents, teachers and children.

The school stands on what was a reclaimed quarry site, situated on Tihi Street, Stonefields, Auckland. The Master Plan developed the school in two stages, and in this report they are referred to as 'Stage One' and 'Stage Two', with two different project teams used for each stage. The same architect designed both stages. In the school's view, this was a positive outcome as they were able to capture the learnings from Stage One and incorporate them into Stage Two.

Stage One consists of a new car park: arrival area, administration, multi-purpose hall, stand alone library building and a learning environment (11 teaching spaces). Stage Two consists of a new stand-alone special needs learning environment (Somerville), development of site-wide landscaping, and the new Stage Two learning environment (13 teaching spaces).

The entrance to the administration building is well defined and is inviting to the community. The car park is clear and well defined, however due to the narrow streets in the development there is limited opportunity for safe pick-up and drop-off areas. The school has blocked off one of the entrances to the car park to limit the traffic flow through the car park. A clear and well-defined hard and soft landscaping design supports the overall entrance.

The Stage One school buildings are visible to the street and are, in general, of an appropriate scale to its residential context. Upon arrival, glimpses of learning can be seen which is a positive attribute. The back of Stage Two is visible from a residential side street. The Stage One learning environment is two storey and is combined with the administration, teachers resources and building services rooms. The scale and mass of the Stage One buildings is supported by setting them back from the street, along with well-considered landscaping. The cladding and the exterior colour scheme are both welcoming and sympathetic to their surrounds.

The bike stands are positioned at the front of the school, in accordance with Greenstar requirements.



*A clear hard and soft landscaping design supports the overall entrance*



*The arrival car park area was constructed during stage one*



*Stage Two is visible from the street*



*Bike stands are not as well utilised as the scooter stands*

### 5.2 Site Plan

The appointed architect developed the new Master Plan for the school during the first design phase (Stage One). During the consultation stages of Stage Two the latest learning environment was positioned to allow for a Stage Three to be developed in the future.

The EBoT was established prior to Stage One commencing and a clearly defined learning vision was implemented from the outset. Some of the current BoT members were involved in both Stage One and Stage Two. It was stated during the interviews that there was a high level of continuity and professionalism in the board and the original learning vision is still strongly supported today. The design of Stage One and Two appear well aligned with the educational vision. The project was developed in accordance with the NZGBC Greenstar rating scheme and are 5-star rated (Stage Two certification pending).

The Master Plan was designed to foster a sense of place within the school. The Stage One learning centres are positioned to frame and create a clear outdoor social and learning area in the centre of the learning environment. The two storey entrance to the building was designed to mitigate the prevailing winds. It was stated during the interviews that, to an extent, it is successful.

The separate library building is purposefully positioned behind the Stage One learning environment, so that once Stage Two was developed it was central to both learning environments. The Stage Two learning environment is positioned adjacent to the field, hard-court and the playground.

The Master Plan created legible circulation patterns, with all-weather cover provided to the learning spaces (in most instances). These covered ways are multi-functional and are well utilised for outdoor learning, assembly and performance gatherings. The school has invested in a shade-sail structure over the Stage One play area, which is both well positioned and functional.

The multi-purpose hall is well positioned at the front of the school, next to the main entrance and car park, for ease of community access. The hard-court is positioned away from the arrival area, however, it is visible upon arrival and a clear covered pathway is provided from the arrival area to the hard-court area and field. The school playground area is situated in the field next to the hard-court and it is well located for all ages to enjoy.

The Master Plan has created a separate service entry for the removal of refuse and storage of maintenance equipment. The caretaker's room, which was built in Stage One, is well positioned within the school.



*Site Master Plan and landscaping plan*



*The Stage One learning environment*



*The stand alone library is positioned centrally within the school*



*The multi-purpose hall is positioned well within the school*

## 5.3 School Grounds

The spatial relationship between the school grounds and buildings is generally positive. The school presents a well-designed landscaping scheme which works with the topography of the site. The hard-landscaping in Stage One utilises a variety of colours and shapes to good effect. The Stage Two landscaping is consistent with Stage One and reinforces the conceptual ideas and themes which were developed in the Master Plan being: the mini wetland area, kitchen garden, music walk, shady garden, etc.

Outdoor spaces have been designed in conjunction with the buildings. Stage One is a two storey building with learning environments on each level. The level two learning environment has no direct access to outdoor learning areas. A centralised area has been provided in the entrance quad for all Stage One learning environments to utilise (called the Basalt Plaza). Stage Two is a single-level building and provides small outdoor learning areas or ‘courtyards’ connected to each hub.

The school has invested in a number of shade sails to support its sun-safe directives. These are well positioned, effective and are enjoyed by students for a variety of uses. The school has planned for additional shade sails to cover the playground areas located adjacent to the Stage Two learning environment. The social spaces and play areas were well defined on the whole.

Of those surveyed, 84% stated that the entrance to the school from the street was ‘very accessible’. 79% stated that the hard-landscaping and canopies around the school were also ‘very accessible’. 54% stated that the vertical circulation around the school were also ‘very accessible’. These are above average scores which reflect the well-resolved landscaping design (see graph Q5 below).

Of those surveyed, 78% stated that the internal and external finishes were either ‘generally safe’ or ‘very safe’ for all of its occupants (see graph Q6 below).



Stage One central outdoor learning area

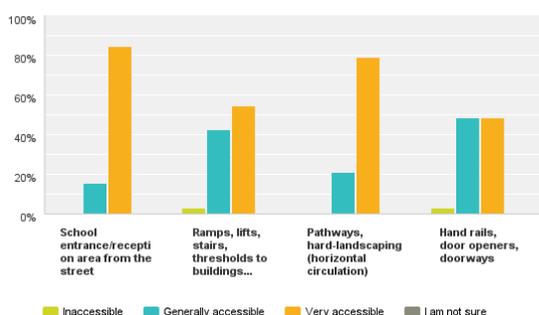


The hard-landscaping provides a good variety of colour and is well defined



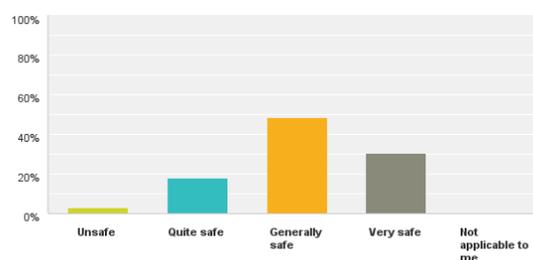
The Stage Two outdoor learning area

**Q.5 In your opinion, how accessible are the following areas of the school grounds/buildings?**



**Q.6 In your opinion, are the internal and external finishes safe for all the occupants?**

(i.e. slip resistant surfaces, thresholds, handrails, ramps etc?)



### 5.4 Organisation

The spatial organisation of the learning environment varies between Stage One and Stage Two. Stage One consists of a series of four learning hubs. Three of these hubs are situated within a two storey building at the front of the site, two hubs at ground level and one on the second storey. The fourth hub was situated next to the gym at ground level (this hub was refurbished into the Sommerville Special School during the Stage Two development). Each learning hub, in most instances, consisted of three learning spaces and a central multi-purpose space (Awhina). In this central space there was access to a wet area and two withdrawal rooms (called resources rooms). The three ground floor hubs have well-defined access the outdoor learning area. Although a greater connection to outdoor learning areas is desirable, the upstairs hub has a well-defined external feature stair that connects it to the ground level. The school has done considerable analysis on what is working well in the Stage One hubs and what could be improved. The evaluation team was impressed with the schools continual development of their learning environment.

The Stage One learning environments present unique and innovative concepts within the New Zealand educational context at the time of the development. The school undertook considerable consultation with the teachers, students and parents in 2012 to capture thoughts/learning to assist with defining a brief, and capturing the evolution of learning environments for the Stage Two project. A short summary of the lessons learnt and emerging themes are as follows: (facility items only)

- The central Awhina space could be wider (a space for the whole hub to meet is important)
- The wet area in each hub, could be positioned away from the centre to minimise the disruption to circulation and increase display space opportunities
- A quiet library space within the hub
- Introduce a greater variety of break-out spaces
- More 'nooks' and 'corners' (secret spaces)
- Access to outside spaces for learning



Stage One learning centre



Stage One storage unit



Stage One central Awhina space

5.4 Organisation (continued)

The Stage Two learning environment (located under one roof) is positioned along Vialou Lane on the south-east side of the site. Stage Two consists of open learning spaces, specialist teaching spaces, and a good variety of withdrawal/breakout spaces distributed throughout the learning environment. Three rectangular building forms make up the Stage Two learning environment, and encompass five learning hubs. During the evaluation, one of the central spaces was used to gather all of the students of that particular hub for a combined teaching lesson which was seen by the evaluation team as a positive use of the space.

The Stage Two building is split-level, with the level changes designed as flexible learning, performance or collaboration spaces. The ‘secret spaces’, which was a requirement of the school’s briefing document, are prominent within the design. These child-focused spaces were well utilised during our evaluation and were regarded as a positive attribute of the learning environment.

Of those surveyed, 43% stated that they had ‘excellent access’ to a variety of quality internal and external learning spaces to facilitate their pedagogy. 34% stated that they had ‘good access’ and 15% stated they had ‘quite good access’ (see graph Q7 below), which was deemed by the evaluation team as a positive result.

Library

The library’s central location is accessible for students and staff. During the interviews it was stated that the library was used to store the majority of the teaching resource (Lundia system). Due to roll growth and changes to the library usage, it is being utilised for variety of learning. It is well equipped up to house the physical resources of the school. The evaluation team suggest installing withdrawal spaces within the library to help increase its flexibility as a learning environment.



Stage Two learning environment

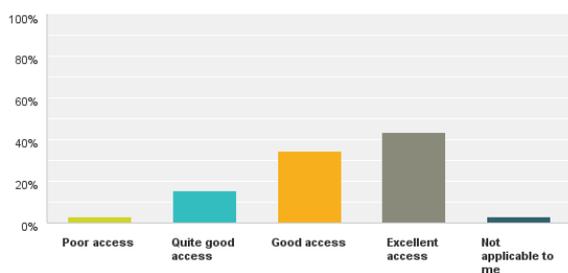


Stage Two learning environment interior



Stand alone library building (part of Stage One)

**Q.7 In your opinion, what level of access do you have to a variety of quality internal and external learning spaces to facilitate your pedagogy?**



Library building interior (part of Stage One)

5.5 Buildings

Main Learning Environments

The Stage One and Two learning centres have been built using concrete and timber frame construction. The external walls are, generally, tilt-slab concrete with a painted exterior finish, and the remaining exterior walls are clad with brick-veneer, painted masonry or metal cladding. This strategy provides robust surfaces at ground level. The roofs are constructed with lightweight metal cladding. The roofs are generally described as having a mono-pitch form, with good eave protection to the Stage Two building and external gutters throughout. Stage One does not have sufficient, or effective, eave protection and some of the detailing is considered medium-risk.

The buildings appeared to be in good condition, however in the school’s view, it was unrealistic to expect to conform to the warranty criteria of all products and materials. The school has prioritised these in their 10YPP.

Toilet Blocks

The toilets in both Stage One and Two are externally accessed. Of those surveyed, 69% stated that the toilets were either ‘conveniently located’ or ‘very conveniently located’ for students in all weather conditions. 28% stated that the toilets were ‘quite conveniently located’ and 3% stated they were ‘inconveniently located’ (see graph Q8 below). Survey respondents stated that when it is raining and prevailing wind is present, ‘the rain makes some toilets quite inaccessible’. In general, the toilets are well covered with canopies, and are located close to the learning environments.



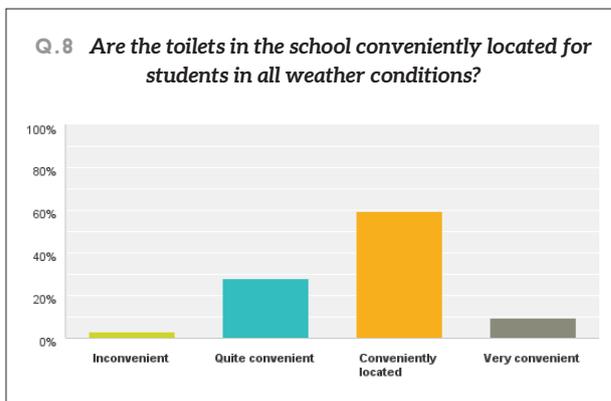
Stage One cladding (limited eave protection)



The cladding materials utilised in Stage Two reflects those used in Stage One



Stage Two toilets



5.5 Buildings (continued)

Storage

The majority of the physical teaching resources are housed in the library Lundia system. The Principal and Deputy Principal stated that the school’s leadership team had a clear strategy on resource management and are aware that additional storage facilities will be required to accommodate future roll growth.

Stage Two provided an increase in storage options for the occupants. Of those surveyed, 40% stated that they had ‘sufficient’ storage for their resources and teaching equipment. 37% stated they had ‘quite sufficient’ storage, and 22% stated they had ‘insufficient’ storage (see graph Q10 below). Of those surveyed, commentary included: ‘there is not enough storage space in general’, and that there was ‘nowhere to put resources, or student work’.

Internal and External Doors

During the interviews it was stated that the interior sliding doors were too heavy for the junior users and that the bottom guides continually required realignment and on-going management by the school. It was evident during the evaluation that the school had made attempts to improve the performance of the internal sliding doors by installing additional guides, however, this will be an ongoing maintenance and cost issue for the school. Consideration should be given to this by future design teams to ensure hardware is appropriately specified, correctly installed, and the size and weight of the doors is functional for the users.

It was noted during the evaluation that some of the external door handles appear to be corroding. These handles are specified as stainless steel. Further investigation is required to understand this issue in more detail before recommendations can be made.



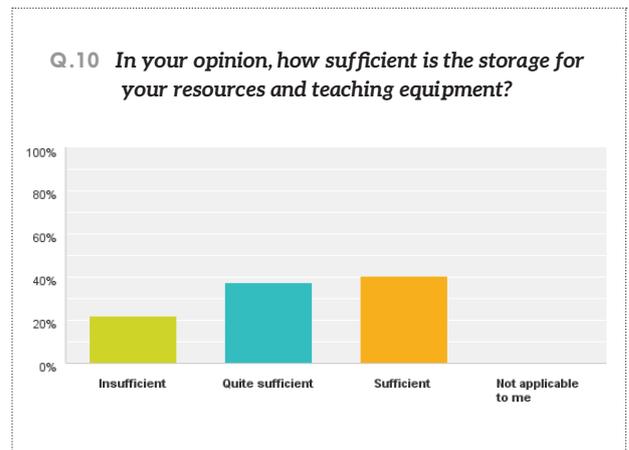
A Lundia system is positioned in the Library



Stage Two provides well-distributed and appropriate storage options



Some external door handles appear to be corroding



5.6 Interiors

Learning Environment

Of those surveyed, 100% stated that they were either 'satisfied' or 'very satisfied' with the overall quality of their learning environment (see graph Q11 below). 69% stated that they were either 'satisfied' or 'very satisfied' with the internal layout of their learning environment (see graph Q12 below). Respondents commented that 'the teachers do not have a dedicated space to complete their professional work within the learning environments' (see graph Q11 below).

84% were either 'quite satisfied' or 'very satisfied' with the overall quality of the library space. 76% were either 'quite satisfied' or 'very satisfied' with the sports facilities (see graph Q11 below).

Sports Facilities

During the on-site evaluation, it was evident that the multi-purpose hall is very well utilised by the school for a variety of functions. It was also noted that the kitchen facilities and equipment room will require more space to meet demand.

The hard-court is positioned in the centre of the learning environment. There are no fences around the space and this appears to provide the school with a more 'flexible' and visually 'accessible' hard-court space. The surrounding landscaping is well implemented and integrates the hard-court into the learning environment.

During the interviews it was stated that they experienced areas of stormwater ponding, with the grass areas adjacent to the hard-court and northern playground being the most problematic. The school had cordoned-off these areas from the students as it was in the process of installing soak pits.



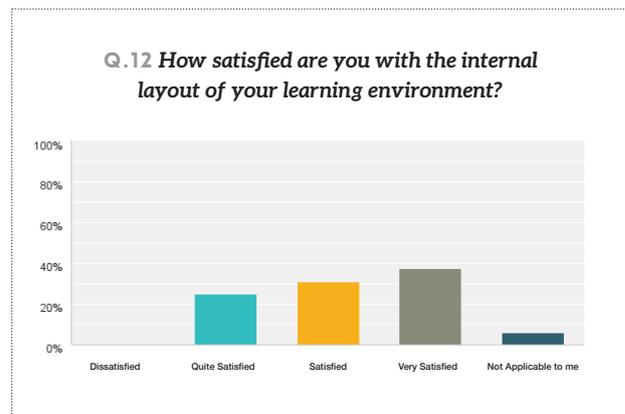
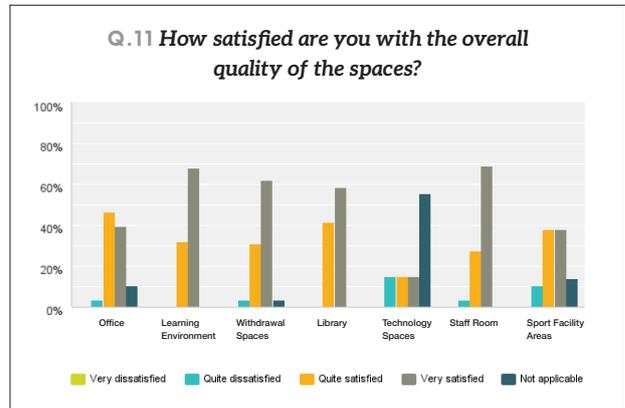
Stage Two learning environment



Multi-purpose hall



Hard-court area



5.6 Interiors (continued)

Ventilation

Both Stage One and Stage Two buildings employ a natural ventilation strategy, with Stage Two utilising electric ceiling fans to assist with air movement. These strategies are in-line with the Greenstar principles.

The Stage One learning centre has a narrower footprint than Stage Two. However, both buildings have effective cross-ventilation strategies. Stage Two is more effective than Stage One in providing strategies to mitigate solar heat-gain to the learning environment (i.e. appropriate eave overhangs, louvres, blinds, etc), therefore, increasing the effectiveness of natural ventilation to cool the space during the warmer months.

68% of those surveyed stated that the air quality in the learning environment was 'sufficient (comfortable)'. 26% stated that it was 'quite sufficient' and 3% stated that it was 'insufficient'. Staff stated that 'the learning environments can be stale in the winter' (see graph Q14).

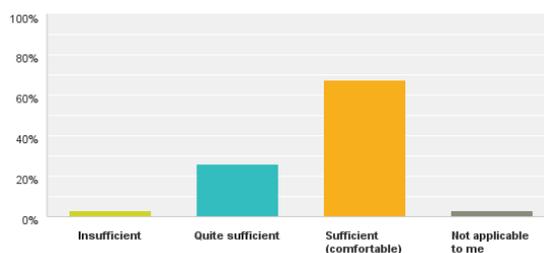
The windows are manually opened and closed, assisted by an electric window winder system. Of those surveyed, 86% stated that they had either 'good control' or 'excellent control' of the ventilation in their spaces throughout the seasons. 13% stated they had 'limited control' (see graph Q15 below).

77% of those surveyed stated that the air in the learning environment during winter was either 'quite fresh' or 'very fresh.' With 19% stating that the learning environment was 'quite stale' (see graph Q16).

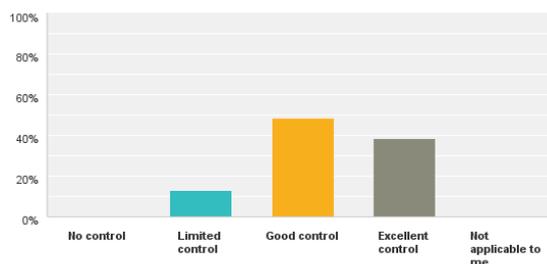


Ceiling fans utilised in Stage Two

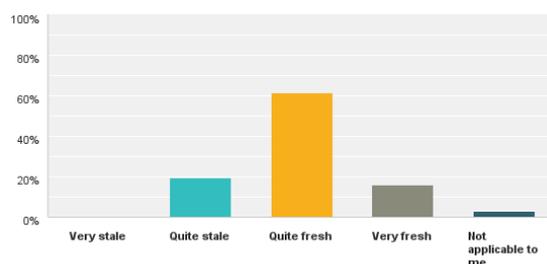
**Q.14 In your opinion, how sufficient is the air quality in your learning environment?**



**Q.15 What level of control do you have over the ventilation in your space?**



**Q.16 In your opinion, does the air inside the building smell fresh or stale from time to time? (i.e. at the end of the day or during winter time)**



5.6 Interiors (continued)

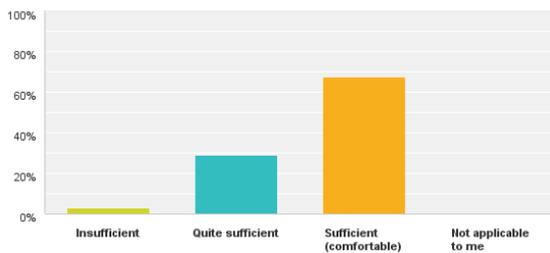
Internal Temperature / Heating

The internal heating, in both Stage One and Two, is provided by radiant ceiling panels. There are individual control switches in Stage One which are on timers. It appears that the Stage Two heating system is controlled from a centralised BMS. 75% stated that they had either ‘excellent control’ or ‘sufficient control’ of the heating and cooling of their space (see graph Q18 below). 43% of those surveyed stated that the internal temperature of the learning areas during winter was ‘comfortable’. 33% stated they were ‘quite cold’ (see graph Q20 below). Mechanical information was unavailable to the evaluation team, therefore professional observations have been used to determine the systems specification.

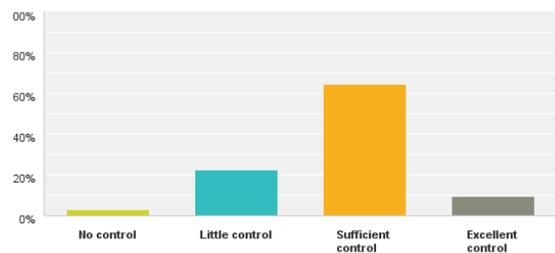
Internal Temperature / Cooling

65% of those surveyed stated that the internal temperature of the learning areas during summer was ‘comfortable’ (see graph Q19 below). Staff stated that ‘the Stage One building gets too hot in summer’. The Stage One building had limited protection from north and west solar heat-gain due to limited and/or no eaves present. The school had installed internal blinds, which will only offer limited effect in reducing the overheating in the warmer months. The school uses a natural ventilation strategy for cooling which is in alignment with Greenstar requirements.

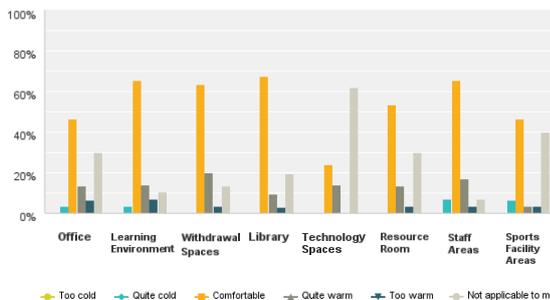
Q.17 In your opinion, in general, how sufficient is the internal temperature of the learning areas in supporting the students’ learning?



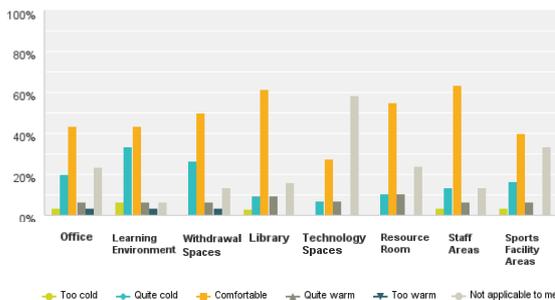
Q.18 What level of control do you have over the heating and cooling of your space?



Q.19 In your opinion, in general, how would you describe the internal temperature of your area of the building in summer?



Q.20 In your opinion, in general, how would you describe the internal temperature of your area of the building in winter?



### 5.6 Interiors (continued)

#### Acoustic Environment

The acoustics within both stages were controlled with a mixture of suspended ceiling tiles, pin-board panels on internal walls (Autex or similar), and carpet tiles. A set of transparent internal glass sliding doors in each Stage One hub are able to be closed to separate one of the teaching spaces when required. The Stage Two learning environment has a greater variety of space sizes, and more withdrawal spaces than Stage One which can be acoustically separated.

The Stage Two building presented two areas with higher ceilings. It was stated during the interviews that these areas experienced high-reverberation and, at times, disrupted the occupants. The evaluation team noted that these spaces had glass surfaces at each end of the space, along with plasterboard linings to the upper walls and ceiling, which would limit the amount of acoustic absorption. It is recommended that this space requires further investigation by an acoustic engineer to ensure that both the MoE acoustic guidelines and the Greenstar LVR values are met.

When staff were asked if they, or the students, were interrupted by any noises coming from outside of the building, 23% stated that lawn mowing noise was an issue. 27% stated that they were interrupted by noise coming from other learning spaces (see graph Q23 over page).

When staff were asked if they experienced any other sources of intrusive and/or distracting noises from within their space, 80% stated that they could not think of any, with only 3% stating 'lights' and 3% stating noise from 'equipment'. Of those surveyed, it was stated that the ceiling fans were disruptive at times (see graph Q22 over page).

In general, both Stage One and Two hubs were well distributed with an above average quantity of pin-board wall panels. The evaluation team considered this to be a positive attribute of the learning environment. Both stages were evaluated on a typical day, with the learning environments performing at approximately 80-90% capacity.



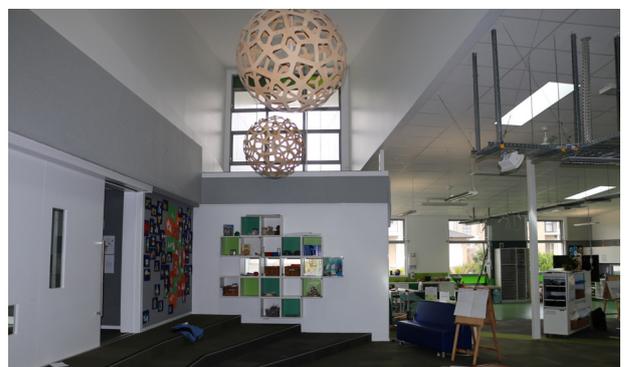
Typical Stage One breakout space



Stage Two learning environment



Typical Stage Two breakout space (with dividing wall)



High stud ceiling in Stage Two learning environment

5.6 Interiors (continued)

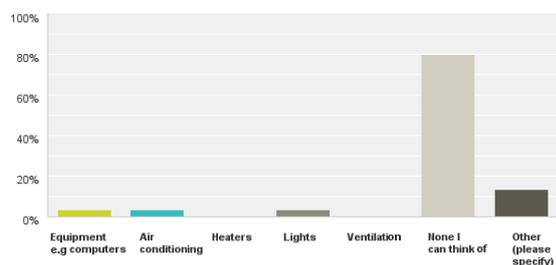
Acoustic Environment (continued)

Of those surveyed, 71% described the acoustic environment in their learning environments as ‘comfortable’ (see graph Q24 below). This is a high score in relation to other analysis collected during the POE process. The evaluation team considered the acoustics in both learning environments to be well implemented. Additional technical lessons could be learnt from this learning environment with further acoustic analysis.

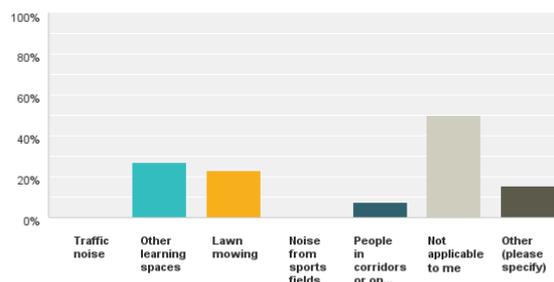


Both Stage One and Two have good amounts of acoustic pin-board

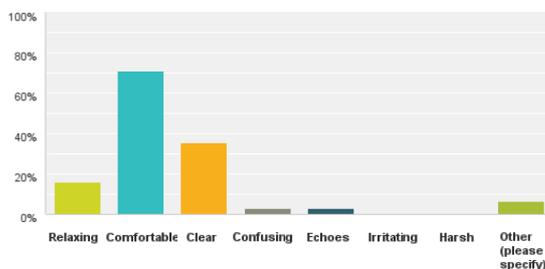
**Q.22** Are there any other sources of intrusive/distracting noises which come from within your space?  
(Select all that apply)



**Q.23** Are you or your students disrupted or distracted by any of the following noises during class time?  
(Select all that apply)



**Q.24** Which words best describe the acoustic environment of your space?  
(Select all that apply)



5.6 Interiors (continued)

Artificial Lighting

Recessed and suspended ceiling lights (Stage One and Two concurrently) provide artificial lighting in the learning environments, which appeared to be well distributed and effective at the time of our evaluation. Of those surveyed, 60% stated that the lighting levels in their area of the building were ‘quite sufficient’ (see graph Q27 below).

Natural Daylighting

The Stage One buildings, in general, have no or limited eave overhangs. As the Master Plan positioned the learning environments around a central social space, each learning hub faces a different way in relation to north, therefore, users experience different natural light levels. The evaluation team observed that some of the north and west facing studios of Stage One had insufficient solar protection. The school had installed internal blinds in some spaces to help prevent over-heating. It is recommended that options for external shading devices are explored to help manage the most affected areas.

Daylighting is well controlled in Stage Two with wide 2-3m eaves on the north-west facing facades. The hubs feature areas of well protected, full-height glazing which provide, what appears to be, good quality natural light.

39% of those surveyed stated that the buildings were either ‘effective’ or ‘very effective’ at controlling the natural light throughout the day. 52% stated that the buildings were only ‘quite effective’ at controlling the natural light, with 10% stating that they were ‘ineffective’. Survey commentary stated that some of the Stage One hubs had ‘no control over natural light’ and that the ‘internal blinds did not always work’ at stopping the learning environment from over-heating (see graph Q26 below).



Artificial lighting in both Stage One and Two appeared to be effective

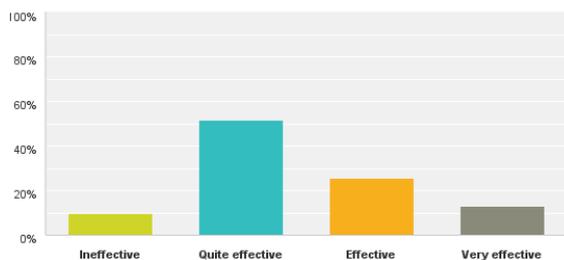


The school installed internal blinds on north-west facing windows (Stage One)

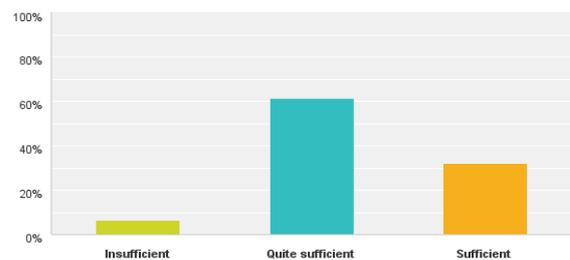


Stage Two glazing is well protected from solar heat-gain

**Q.26** In your opinion, how effective is your building at controlling the natural light throughout the day? (i.e. Via eaves/blinds/curtains/shades)



**Q.27** In your opinion, how sufficient is the artificial lighting in your area of the building to effectively perform your role?



5.6 Interiors (continued)

ICT

Stage One and Stage Two both provide sufficient power, data, and AV outlets, and are in-line with the MoE design compliance framework. 35% of those surveyed stated that the placement of power and data outlets, technology and AV devices were either 'very effectively' or 'effectively' positioned for teaching and learning. 64% stated they were either 'quite effective' or 'ineffectively' positioned. The school has SNUP technology and appears to be utilising its investment in devices and digital resources well. Stage Two has a more developed ICT strategy in the learning environment, and is well equipped with AV and TV technology. Stage Two has exposed cable trays that allow easier access so that the ICT can be adapted to match the requirements of the learning environment. The Stage One ICT is less flexible (see graph Q28 below).

During the interviews it was stated that the design of the AV system in the multi-purpose hall did not meet the schools requirements, therefore the school engaged a consultant during the design process to provide specialist expertise.

The school had adopted a strategy of fewer fixed computer stations in lieu of digital devices. It is important to note however that the fixed stations which are provided are very well utilised. The school has utilised Apple TV technology throughout the school. The school stated that they used cables instead of wi-fi to improve its functionality and performance. The evaluation team noted that the school displayed a lot of knowledge in this particular area, and with further consultation/discussion, considerable lessons could be learnt.

During the interviews however, staff stated that the ICT strategy for the school was not effectively translated to them during the design stages. Due to the specialised knowledge involved with the ICT systems it was difficult for staff to understand the technology that was installed and how to manage it on a day-to-day basis.



Exposed cable trays (Stage Two)

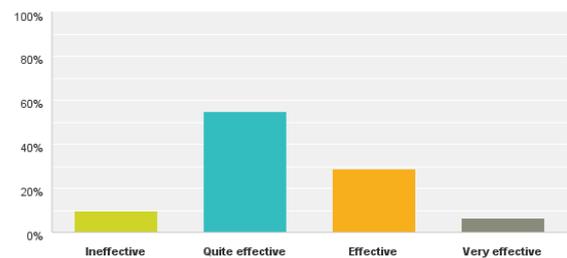


The school utilises a variety of ICT



Devices appear to be well utilised

**Q. 28 In your opinion, how effectively placed are the power and data outlets, technology and audio visual devices for teaching and learning?**



### 5.7 Energy and Services Strategies

Both Stage One and Two adopted the Greenstar rating scheme. Stage One gained a 5-star rating. Stage Two, at the time of this evaluation, was still awaiting on its official accreditation. During the interviews the leadership team of the school stated that the Greenstar rating scheme had a restrictive impact on some of their future strategic decision making. The school stated that more support is required regarding accreditation and its impact on the school's facility management. This was highlighted when the need for additional building developments arose due to roll growth (Stage Two).

The project has a number of environmental strategies, such as natural ventilation for cooling, a grey water system, solar hot water heating (Stage One only) and well-designed buildings (in most instances) which capture and control solar heat-gain. These strategies, along with the efficiencies in

how the occupants use each space, combine to create low energy consumption (overall). The evaluation team reviewed 12 months of the school's power usage and concluded that the school used 36/kWh/m<sup>2</sup>/annum. This is considered to be a very good score and further investigation is recommended to understand this in-use performance in order to provide additional insight.

*Due to the parameters of the POE process, the evaluation team has not reviewed the Greenstar rating scheme.*

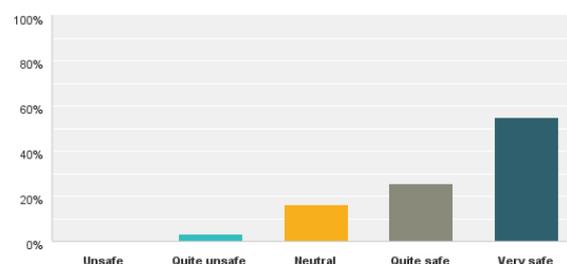
### 5.8 Feeling Safe

The school offers well designed circulation pathways which are open, wide and enable passive-surveillance. The school's boundaries consist of medium-density residential dwellings. The road boundaries are defined with low level bollards and planting. During the interviews it was stated that the school was intentionally designed to be an 'open facility' for the community. It was stated that the school has a great relationship with the community and no vandalism of note had occurred. 81% of those surveyed stated that they felt 'quite safe' or 'very safe' within the school grounds. 16% stated they felt 'neutral' and 3% felt 'unsafe' (see graph Q29).

It was stated during the interviews that the entrance car park (built during Stage One) situated off Tihi Street, was no longer sufficient in size to cope as a drop-off and pick-up zone. The large increase in student numbers, along with the narrow street design has resulted in limited pick-up and drop-off space. During peak times, the school closes one of the car park entrances to ensure that cars cannot enter to increase the safety of this area. A long-term solution is required however. The evaluation team recommend that further investigation is undertaken to understand the safety aspects of the pick-up and drop-off areas of the school.

The internal environments are open; transparent, and well organised for teachers to easily oversee most spaces.

**Q.29 How safe do you feel in the building, or school grounds?**



### 5.9 Long Life, Loose Fit

The school has been operating within Stage One for approximately five years, and Stage Two for one year at the time of this evaluation. The learning studios have adaptable furniture and are modified by its users to suit their needs.

Both Stage One and Two have remained unchanged in their internal configuration (i.e. walls, ceilings). The steady growth of the school has been supported by the learning environments. During this growth the spaces have been relatively easy re-configure or re-purpose. It was stated during the interviews that the school had developed a greater understanding of their ILE from the past five years utilising Stage One.

The administration building was stated as being 'at capacity', and the school was working through options to resolve this. The evaluation team considered this space to be undersized for the size of the school.

Both the Stage One and Two learning environments are contained within relatively simple building forms. The spaces are open and airy. The structural design provides clear spans the width of the building, which effectively limits the amount of bracing or load bearing on internal walls, and allows the internal spaces of the building to be adapted (should the need occur). The ceilings of both Stage One and Two are of an acceptable height, with a variety of higher ceilings in Stage Two (seen as a positive attribute). The Stage Two learning environments appear to be flexible in their use, and cost-effective to adapt.

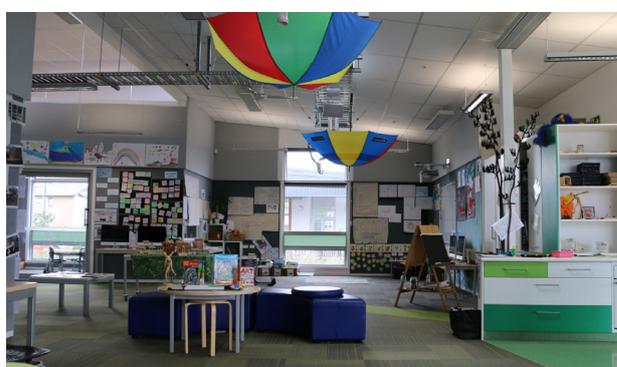
Stage Two utilised exposed cable trays for its electrical and data services. This allows the internal spaces to be re-purposed and re-configured with more ease than the Stage One learning environment. The adaptability of this approach to deemed as a positive attribute.

The Master Plan has allocated space for future stages of development. The school is currently in the early phases of planning a Stage Three learning environment, however, no documentation was available at the time of preparing this report.

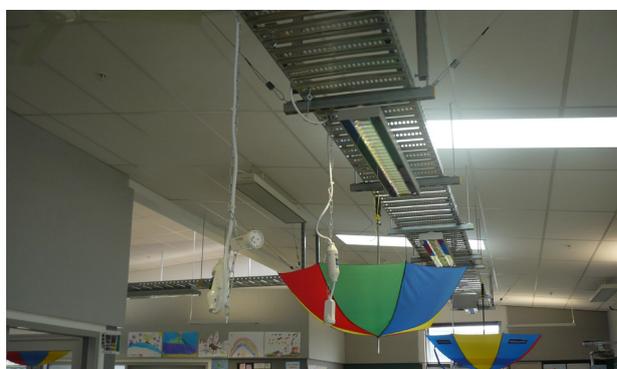
Limited construction documents for Stage One and Two were available to verify our team's observations therefore, in some instances, professional assumptions have been made.



Stage One learning environment (hub) is structurally unchanged



Stage Two learning environment (hub)



Exposed cable trays in the Stage Two learning environment



The structural approach of Stage One and Two ensures it can be easily adapted

### 5.10 Successful Whole

The school facilities were pleasant, well maintained and working well as a whole. The school is managing well with the growth in student numbers. The design of Stage Two is a good example of an adaptable ILE. During the interviews it was stated that 'the students enjoyed the secret spaces, the nooks, crannies, caves and hiding places' which are unique to this design. The Stage Two ILE incorporates more of these types of spaces.

The evaluation team asked those surveyed if they had any final comments.

The most common responses were:

1. The internal and external door 'fixtures and hardware need to be of better quality'
2. The learning environments 'should have more cave type spaces for children'
3. There needs to be 'staff toilets positioned closer to the Stage Two learning environment'



The Stage Two 'cave' spaces are well utilised by the students



External door hardware

The evaluation team asked those surveyed which parts of the school they were most pleased with and what was most useful to them or the students.

The top five responses were:

1. The 'variety of learning spaces' within the learning environment
2. The 'large art/wet areas which accommodate a variety of group activities'
3. The 'break-out spaces are well sound-proofed from other learning spaces'
4. The flexible 'teaching spaces that allow for multiple teachers within a hub'
5. The 'good amount of natural light in the learning spaces'



The Stage Two art/wet area



Stage Two provides a variety of teaching spaces within each hub

# 6.0 LEADERSHIP SURVEY

## Overview

The Leadership Survey was completed by the Leadership Group consisting of school representatives who were involved with; assisting consultants with briefing, design team meetings, or at a Project Control Group level. The leadership group provided feedback on their experience of; design, construction and post-occupancy performance.

### Quality

Of those surveyed, 60% stated they were either 'satisfied' or 'very satisfied' with the quality of the finished project and believed the project's design met their requirements. 30% stated that they were 'quite satisfied' (see graph Q1).

When asked to comment on possible improvements, survey commentary stated: 'doors don't seal or close properly,' 'sliding doors continually jump off the tracks,' 'rollers and hardware on sliding doors fail' (i.e. door handles and doorstops fall off), and 'the window latches fail or break at times.'

### Pedagogy Delivery

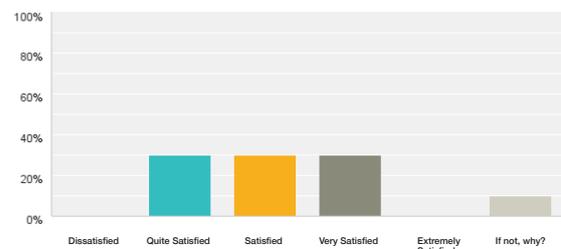
Of those surveyed, 70% stated that the project was either an 'extremely effective' or 'very effective' space in delivering the school's pedagogy. Survey commentary stated the learning environment provided 'good opportunities to differentiate learning across spaces' (see graph Q2).

70% of the leadership team stated that the project process was either 'extremely well' or 'very well' explained to them.

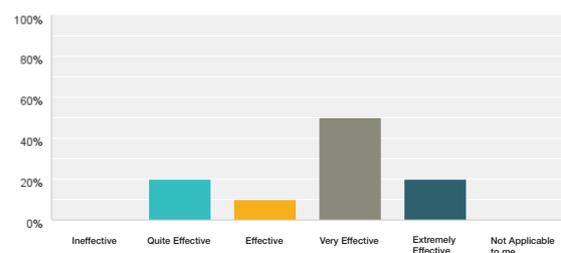
### Contractor Performance

55% of the leadership team stated that they were 'very satisfied' with the main contractors communication and problem solving, with 66% 'very satisfied' with their professionalism (see graph Q3).

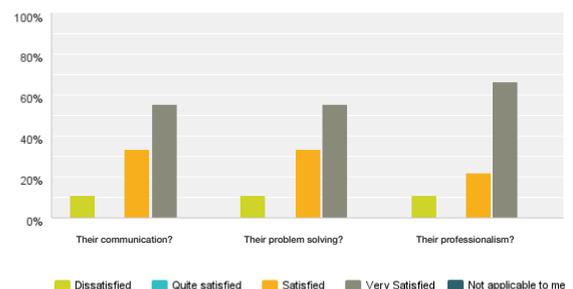
**Q.1 How satisfied are you with the quality of the finished project?**



**Q.2 In your opinion, is the project an effective space for delivering your pedagogy?**



**Q.3 How satisfied were you with the following areas of service provided by the main contractor during construction?**



6.0 Leadership Survey (Continued)

Consultant Performance

66% of the leadership team stated that they were ‘very satisfied’ with the project architects’ innovation, listening, communication, and 77% with their professionalism. It was stated that the architects were very responsive to the school requirements and context. They engaged well throughout the process, conducted workshops with parents and a student representative, and delivered, from the schools perspective, a successful result (see graph Q4).

44% of the leadership team stated that they were ‘very satisfied’ with the project managers’ professionalism, with 33% ‘very satisfied’ with their listening and communication (see graph Q5).

Post-Occupancy Defects

Of those surveyed, 44% stated that there were building defects which caused ‘some impact on the school’. Defects included the door joinery and hardware, heating timer switches and the AV system in the hall (see graph Q6).

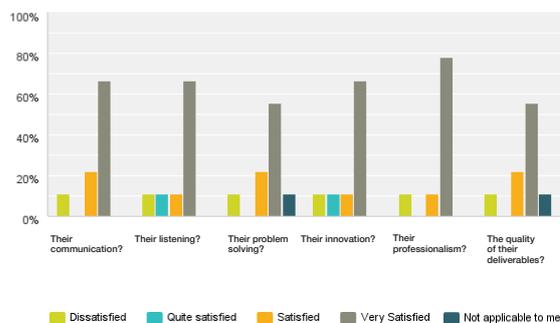
Successful Whole

The following summarises which aspects of the design the leadership team were most pleased with. All commentary was very supportive of the design;

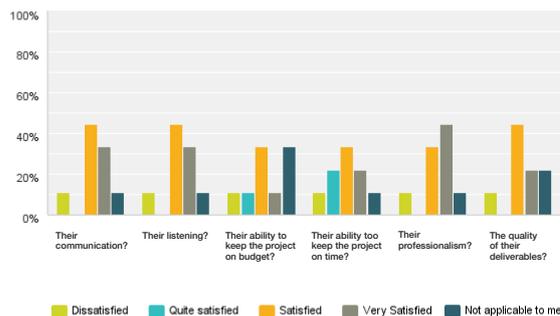
1. The arrangement of spaces within the learning environment
2. The links between the hubs
3. The landscape design
4. Flexible and easily adaptable spaces
5. Each space within the learning environment is different and purposeful

The evaluation team considered the responses to the leadership survey and interview very positive and it was evident that the school is very pleased with their new facilities. The evaluation team agree that further consultation with the school is recommended to discuss and examine the many other positive lessons (which fall outside of the parameters of this particular POE process) this ILE provides.

Q.4 How satisfied were you with the following areas of service provided by the architects?



Q.5 How satisfied were you with the following areas of service provided by the consultant project manager?



Q.6 What was the condition of the project with respect to defects at the time of hand-over and early use?

