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1.0 INTRODUCTION

Overview

Post-Occupancy Evaluation (POE) encompasses the collections of information about the facilities’ technical performance; functionality, operational processes, and examines buildings as they are actually used by the various stakeholders. This information can be then compared to the original design intentions to determine the extent to which these goals were met, based on the users’ evaluation of how effectively the building works. POE can therefore help the Ministry of Education (MoE) to collect and use timely, relevant, and well-disseminated evaluation information to impact the design 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 and consultant documentation (construction drawings not available)
- Full project walk-through evaluation
- Benchmark data compiled
- Interviews with staff during walk-through
- Interviews with key stakeholders involved in the project’s design phases i.e. EBoT member and Principal
- 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:*

```
STAGE 1  STAGE 2  STAGE 3  STAGE 4
Distribute Surveys  Site Analysis / Interviews  Prepare and Issue Draft Report  Final Report Issued
```

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 be able to draw more accurate conclusions overall.
3.0 RECOMMENDATIONS

Conclusions and Recommendations for TWK o Mauao

The evaluation team deemed the learning environments of TWK o Mauao to be effective. The facilities reflect sound design principles based on the BoT visions and the MLE guidelines. The new facilities were light, spacious, safe and secure. All of the buildings were well maintained, with what appeared to be sound facility management. However, the evaluation team revealed a number of shortcomings that, if addressed, could improve certain areas of the school. Furthermore, this POE process aims to highlight the lessons that could be learned from these shortcomings, in order to benefit future school developments.

Below are our recommendations to improve the design and in-use performance of the new TWK o Mauao facilities;

1. The central collaboration space in the Learning Studio One building has been designed to teach three classes at once. Staff who taught in this space expressed that they found it very difficult to deliver their pedagogy due to “poor acoustics”, and as the space is central to, and visible from six other adjoining studio spaces (which are orientated towards the space), it creates additional distraction. The evaluation team recommends that an acoustic engineer undertake diagnostic testing under normal working conditions to provide a better understanding of this issue.

2. It is recommended that all external doors which swing 180 degrees are removed and replaced with robust single hinged commercial doors with appropriate closing mechanisms, thresholds and hardware.

3. The external sliding doors in the gym which provide access to the sports areas and learning centres frequently misalign and cause maintenance issues for the kura. The hardware is no longer effective at securing the doors, and the bottom guides are not fully-functional. Further investigation is recommended in order to establish a long-term solution.

4. The gym floor is constructed from particle-board (or similar), yet there is little or no eave protection over the doors which causes the particle board to “swell” if the doors are left open when it rains. The wet floors are a slip-hazard and the particle board has had to be replaced in the areas surrounding the doors. It is recommended that either a canopy is installed to provide protection, and/or appropriate non-slip flooring is installed in these locations.

5. The evaluation team noted that the learning environments, in general, had limited withdrawal spaces for one-on-one, theory, or group learning (not including the new kura procured Kumikumi facility). Further withdrawal spaces would have benefitted the kura, and provided a better variety of teaching spaces within the learning environment. It is recommended that opportunities to incorporate further withdrawal spaces are explored with the kura.

6. The Cultural Learning Studio building has hidden gutters which frequently block and overflow, causing damage. It is recommended that these are removed and external gutters and down pipes are installed.
7. The occupants stated that the open studio spaces were, at times, disruptive. Survey comments stated that internal operable walls (type unknown) had planned to be installed between some of the studio spaces to provide separation if required. The evaluation team were unable to confirm this from the available documentation. The kura stated that they installed a wall in one of the learning environments to help with functionality and acoustics. It is recommended that further investigation is carried out to better understand this situation before recommendations can be made.

8. In this instance, the Principal and the BoT were established prior to works commencing. They engaged well with the design team at the outset to ensure that their educational vision aligned with the new facilities. This is particularly important when establishing a new kura.

9. The kura’s sports field and indoor court are under regulation size. This issue was noted as a “frustration” to the kura as they have to hold their competitive sports events at other local facilities. The kura stated that the sports fields were not level, and that “rubble is sometimes found under the fields’ surface which can be a hazard to the students”. It is recommended that further investigation is carried out to better understand this situation before recommendations are made.

10. The kura experienced considerable issues with the ICT services post hand-over. It was stated that the wireless network, telephone network and security network were either “problematic” or “not working” at the time of hand-over. The kura has invested in improving the functionality of the ICT services. The evaluation team recommends that further investigation is carried out to understand in more detail the issues that the kura have experienced before recommendations can be made.

11. Development of a systematic handover and aftercare programme is recommended to help schools ease into their new facilities so they have a better understanding of its operational and day-to-day needs. A sound benchmark to help with the development of this strategy is the “Soft Landings Framework - CABE UK”. This framework provides a step-by-step process, which could be customised and made relevant to new schools built in New Zealand. (https://www.bsria.co.uk/services/design/soft-landings)
TWK o Mauao was built on a Greenfield site, located on Westmorland Rise, in the suburb of Bethlehem, Tauranga. As a Maori-immersion kura, it is comprised of children from local iwi and the community of Tauranga Moana. The new kura complex comprises of six single storey buildings which include the multi-purpose gym, administration, cultural learning studio, learning studio one, learning studio two and caretaker’s shed.

The Kura Establishment Board consulted with the design team extensively to develop and form the guiding philosophy and concept of the learning environment and the kura as a whole.

The kura is located in the Bethlehem community within a residential suburban context. The kura operated in temporary off-site buildings during the project. The kura was designed and constructed in one stage and opened in 2012. Stage Two has now been completed which comprises an additional learning centre and library (Stage Two has not been reviewed in this report.)

**Benchmark Data**

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**Project Team**

| Master Planning:       | Ignite Architects Limited |
| Architect:             | Ignite Architects Limited |
| Structural Engineer:   | Kirk Roberts Consulting Engineers Limited |
| Project Manager:       | Arrow International |
| Contractor:            | Marra Construction |
4.0 PROJECT OVERVIEW

Project Timeline

- **February 2011**
  - Construction Starts

- **February 2012**
  - Kura Opens

- **August 2010**
  - Design Starts (estimate)

- **February 2012**
  - Construction Completed

* No project programme available

Master Plan

[Diagram of the project site]
4.0 PROJECT OVERVIEW

**Learning Studio One Floor Plan**

**Learning Studio One Diagram**

Year 7 and 8 Learning Environment

EXTERNAL CIRCULATION
5.0 ANALYSIS AND FINDINGS

Introduction to Findings

Staff participation for this report was 68% with 15 out of 22 staff completing the survey. Surveys were issued on March 27, 2015. The staff interviews and on-site evaluation were carried out on May 8, 2015. The site visit was performed on an overcast day with light rain. The kura was under normal operating conditions. All areas of the new development (excluding the new Kukikumi centre) were evaluated during one site visit over a five hour period.

Demographic Profile

Of the 15 personnel surveyed, 67% were teaching staff and 33% were either team leaders or in management roles. Of those surveyed, 87% worked full-time and 13% worked part-time. 36% stated that they spent 8 hours or more in the facilities each working day, while 14% of the respondents stated that they 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. 55% spent up to 5 hours each week in the office; learning environment, withdrawal spaces, library, technology spaces and sports facilities. 29% spent more than 21 hours each week in the learning environment. No staff spent more than 35 hours each week in the learning environment.

Q.1 Which of the following best describes your current position within the school?

![Graph showing distribution of staff positions]

- Administration Staff
- Teaching Staff
- Team Leader or Management Staff
- Support Staff
- Community Support Personnel
- Other (please specify)
5.1 Identity / Context

TWK o Mauao was built on a Greenfield site, located on Westmorland Rise, in the suburb of Bethlehem, Tauranga. The concept of the kura is based on the mountain Mauao, its surrounding landscape and the representation of the three local iwi.

The entrance to the administration building is well defined and inviting to the community. A clear and well laid out car park, offering safe pick-up and drop-off areas, was stated by the kura as being “a positive attribute”. The site has a moderate slope, with the administration building positioned at a higher level and the car-parking at the lower level. An accessible ramp and well defined steps provide good access from the car park to the kura. The administration and reception entrance is clearly defined, accessible and expresses the kura’s unique identity.

TWK o Mauao has a wide catchment area with students attending from a variety of locations. In order to facilitate this the kura provides a bus system. The car park is well designed for buses and provides a safe environment for the students.

There is a well defined hard-landscaping strategy which supports the kura as a whole. The soft-landscaping design is well developed and is seen by the staff as a positive attribute of the kura. The kura have developed impressive outdoor learning environments within the surrounding landscape.

The buildings are visible from the street and are, in general, of a residential scale, which is appropriate to its suburban, residential context. The larger buildings are positioned away from street.

The gym entrance is visible from the arrival car park, and glimpses of training can be seen upon arrival. The learning centres are positioned around the central Cultural Learning Studio (referred to as ‘Mauao’ by the kura). The cladding and the exterior colour scheme are both welcoming and sympathetic to their surrounds. The concept for kura’s colour scheme is translated from the colours seen on Mauao mountain during sunrise and sunset.
The appointed architect developed the new Master Plan for the kura during the design phases. The kura operated in temporary off-site facilities during the design and construction phases of the project. The kura’s previous Principal, and some of its current BoT members were established prior to the design stages commencing. This allowed strategic input from the outset, enabling the kura to voice and align their clear educational vision with the built environment, which has been an advantage in this project.

The design of the Master Plan represents the mountain Mauao, the pathway around it, and the “coming together” of the three local iwi. The floor plan integrates three learning spaces under one roof to represent the three local iwi. The Cultural Learning Studio is centrally positioned on the site, and provides clear views to the east. The other new buildings are positioned in a semi-circle shape around this building to represent the walkway around Mauao. These conceptual ideas, which form the basis of the kura, have been well defined. During the interviews, staff stated that the way in which their vision was represented within the architecture was “particularly pleasing”.

The Master Plan has created legible circulation patterns, with all-weather cover provided to the learning centres (in most instances). These covered ways are multi-functional and well utilised for outdoor learning, assembly and performance gatherings. The kura is investing in outdoor shade structures which will provide additional shelter for the students. Fixed seating is provided outside of the learning centres.

The gym is positioned on the street-side of the facility allowing good community access. The new buildings are well orientated to take advantage of the sun, while providing a degree of wind protection to the central area and outdoor learning spaces.

A separate service entry (positioned away from the student areas), was created in the Master Plan for the removal of refuse, storage of maintenance equipment, and staff parking next to the learning centres. The evaluation team considered this strategy to be a positive attribute of the kura.
5.3 School Grounds

The evaluation team concluded that the relationship between the design of the kura grounds and its buildings were well resolved and positive. The kura’s well-designed landscaping scheme works in harmony with the site’s topography to create a sense of place. As the soft-landscaping matures it will only improve over time. Outdoor learning spaces have been designed in conjunction with the building placement. The hard-landscaping utilises a variety of colours and shapes to good effect.

The external canopies, which connect the buildings, provide outdoor shaded areas. The evaluation team believed these to be a positive attribute of the kura.

The learning centres have been constructed upon concrete slab floors. The ramps, pathways, entrance ways, social spaces and play areas are well defined overall.

Survey participants were asked for their perceptions of how accessible different areas of the kura grounds and buildings were. 75% stated that the entrance to the kura was ‘very accessible’ from the street. 100% stated that the hard-landscaping, ramps, stairs and handrails around the kura were either ‘generally accessible’ or ‘very accessible’ (see graph Q15 below).

67% of those surveyed stated that the internal and external finishes were either ‘generally safe’ or ‘very safe’ for its occupants. 33% stated that the finishes were only ‘quite safe’. The main responses to this question included “the misalignment of the internal glass sliding doors” in the gym and learning environments, and the “particle board flooring in the gym which gets wet when the doors are left open”. From our observations there was little or no eave protection over the gym doors which would cause the particle board to “swell”. This is a slip-hazard for the kura and the flooring has had to be replaced in the areas surrounding the doors. It is recommended that either a canopy is installed to provide protection, or appropriate non-slip flooring is installed in these locations.
Three learning centres were built as part of the new facilities, with the kura recently opening a fourth learning centre (Kumikumi). Each learning centre is unique in its form and position on site.

From the available documentation, the learning centres are named: Learning Studio One, Learning Studio Two and the Cultural Learning Studio (referred to as Mauao as discussed previously). The learning studios appear to be used by a variety of age groups with year’s 7 and 8 having their own dedicated learning environment.

Learning Studio One is the largest of the learning centers, comprising of approximately twelve teaching spaces including; the Year 7 and 8 learning environment, technology spaces, carving room and general purpose teaching spaces. The Year 7 and 8 learning environment contains three studios which are connected to each other. During the interviews it was stated that this was a positive attribute. The Year 7 and 8 learning environment contains two wet-areas which are accessible from the studios and one withdrawal space that is shared. The evaluation team noted that additional withdrawal spaces in the Year 7 and 8 learning environment would benefit the kura.

The Learning Studio One building contains six separate studio spaces which surround a central collaboration space. The central collaboration space has a very high ceiling and contains three teaching areas, and has been designed as a multi-functional space. The evaluation team considers that the volume, layout and shape of this space could limit its functionality, particularly when used for group or multi-class learning. The ceilings of the adjoining learning studios are more traditional in height.

The Learning Studio Two building is detached. It is comprised of two studio spaces connected by a shared withdrawal space and wet area. The layout is similar to the Year 7 and 8 learning environment, with the inclusion of Food Technology. The Food Technology building is well positioned in close proximity to the learning centres and the gym for hosting events.

The learning centres allow for a variety of learning scenarios to take place depending on the pedagogical needs of the kura.
5.0 ANALYSIS AND FINDINGS

5.4 Organisation (continued)

The Cultural Learning Centre is a significant building for the kura which is evident in the higher specification of materials and finishes. The high volume and exposed timber structure clearly represents the importance of this building to the kura. It is utilised for ceremonial and cultural activities, gatherings, learning and performances. Adjoined to the central atrium space, which greets guests upon arrival, is the main performance space, a storage room, toilet facilities, and an IT space with fixed computer stations.

23% of the surveyed occupants stated that they had ‘good access’ to a variety of quality internal and external learning spaces to facilitate their pedagogy. 54% stated that they had ‘neither good nor bad access’. 15% stated that they had ‘poor access’. The main responses stated that “the open studio area was noisy and disruptive” and that “the spaces were planned to have dividers between the rooms, but they had not been installed”. The evaluation team considered the learning environments to have limited withdrawal spaces and resource storage (see graph Q8 below).

The gym is well utilised and it is seen as a core facility of the kura. The changing rooms and toilet areas are functional. During the interviews it was stated that the basketball court was below regulation size which was cited as a frustration for the kura. It was also stated that as there was no dedicated weights room, the court space is used occasionally. However, the particle board flooring is not suitable for the weights and damage can occur. The ceiling panels, at times, become dislodged by balls etc and it is recommend that the lights and heating panels are protected to ensure that they have a long service life.

Q. 8 In your opinion, do you feel you have good access to a variety of quality internal and external learning spaces to facilitate your pedagogy?

Performance space inside Cultural Learning Centre
Exposed timber structure inside Cultural Learning Centre
Outdoor performance space
The gym court
5.0 ANALYSIS AND FINDINGS

5.5 Buildings

Main Learning Centres

The exterior walls of the learning centres are constructed with commercial grade pre-cast concrete panels, timber frame and clad with a mixture of stone veneer, a plaster system, flat-sheet cladding systems and aluminium weatherboards.

As these buildings are ‘faceted’ to form the semi-circle shape, there are an increased number of material junctions which are considered medium to high-risk. The roofs are generally described as having a mono-pitch form, albeit faceted, with good eave protection and external gutters in most instances. The evaluation team did notice, in some locations, what appeared to be internal and hidden gutters, which is not recommended (no construction documentation was available for verification).

All roofs (of the new facilities) are clad with profiled metal. All joinery (internal and external) is aluminum framed. External aluminium louvres provide good protection from solar heat gain to areas of the learning environments which are heavily glazed. The evaluation team deemed this element as a positive feature of the design.

During the interviews the kura stated that they were experiencing maintenance issues with the hidden gutters in the Cultural Learning Studio which frequently blocked and overflowed. They also stated that many of the internal sliding doors throughout the kura required considerable attention to ensure that they functioned properly.

Due to the high ceilings in certain areas of the learning centres the kura need to hire portable lifts in order to service and maintain lighting and mechanical services.

Other than the maintenance issues mentioned above, the kura buildings and grounds appeared to be in good condition and there were no obvious indications that the facilities would not offer a long service life.
5.0 ANALYSIS AND FINDINGS

5.5 Buildings (continued)

Toilets
Each learning centre is equipped with toilets, which are accessible and well distributed. Toilets for the Learning Studio Two building are accessed externally. Toilets for the Learning Studio One building are internally accessed from a common area between the learning environments. The toilets are designed as separate male and female. Of those surveyed, 71% stated that the toilets were either ‘conveniently located’ or ‘very convenient’ for students in all weather conditions. 14% stated that the toilets were ‘not conveniently located’. The main response stated that there were insufficient toilets due to the growth in student numbers (see graph Q12 below).

Staff Collaborative Spaces
During the interviews it was stated that there were limited spaces for teacher resources of which was an on-going issue for the kura. A resource and collaboration space for teachers, the senior leadership team and Principal is located in the administration building away from the learning centres. The evaluation team noted that the withdrawal spaces in the learning centres however were also being used as a teachers resource area. Given the limited amount of withdrawal spaces in the learning environment, this is not recommended.

Storage
Of those surveyed, 91% stated that there was ‘not sufficient’ storage within the learning centres for resources or teaching equipment. 9% stated there was only ‘sufficient’ storage. Respondents stated that the storage spaces are very limited in their size, and configuration. They also stated that there was not enough space for students to store their work. The evaluation team concluded that a more strategic storage strategy would need to be developed as there is insufficient storage provided for the size of the facility (see graph Q32 below).

Internal Doors
During the interviews it was stated that the interior and exterior sliding doors in the learning centres required track realignment from time to time. These doors will require continual management and maintenance by the kura. Future design teams should give consideration to the specification of the doors and their associated hardware. Staff stated that the doors which swing 180° are of the most concern as the wind can blow them open. The doors also create issues with the security system as they do not align properly and therefore cannot be locked from a central location.
5.6 Interiors

Learning Environment

14% of those surveyed were ‘satisfied’ with the overall quality of their learning environment. 14% were ‘neutral’ in their perceptions and 64% of those surveyed were only ‘quite satisfied’ or ‘not satisfied’ with the internal layout of their learning environment (see graph Q6 below). Survey comments included; “no fixed smart boards or over-head projectors”, “too many glass doors and windows makes it difficult to arrange the room so that all students can see me and I can see all of them”, the Learning Studio One environment “has too much glass as all of the students can see each other during the lessons which is disruptive”. One respondent stated that dividing walls were planned for in the design which could separate certain areas of the learning studios. The evaluation team recommends that this is investigated further, as operable walls that divide the larger studio spaces would benefit the kura. It was stated during the interviews that the kura installed a new wall in one of the specialist teaching spaces to improve their learning environment (see graph Q7 below).

64% of those surveyed believed that the internal finishes were ‘effective’ and met the needs of the staff and students. 27% stated they were only ‘quite effective’ and 9% stated that they were ‘not effective’. This is a positive response from the kura. The evaluation team concluded that the learning environments offered well distributed display space, and robust materials and finishes (see graph Q33).

It was evident to the evaluation team that not all staff considered the new facilities were supportive of their pedagogy delivery with only 7% stating that they were “very satisfied” with the learning environments. During the interviews staff commented that the kura was developing new ways for the spaces to be used for better pedagogy delivery. Physical changes to the internal layout may need to be explored. It is recommended that further support be given to new kuras for their pedagogy development prior to moving into new MLE facilities.
**5.6 Interiors (continued)**

**Ventilation**

Ventilation is supplied to the learning centres via a natural ventilation scheme. The overhead windows are opened with electrically operated window actuators, and appear to be switched off and on manually. Extraction fans are roof mounted to assist with air movement. 55% of those surveyed stated that they had good control of the ventilation in their spaces throughout the seasons. 45% stated that they had limited control over the ventilation. The main responses from those surveyed were that; “the internal blinds need to be down on warm days which doesn’t allow enough air movement”, and that “the electric window openers don’t open the windows wide enough to provide effective ventilation” (see graph Q19 below).

Of those surveyed 64% stated that the air quality was ‘sufficient (comfortable)’ in supporting the students’ learning, 36% stated the air-quality was only ‘quite sufficient’. This is a positive response from the kura (see graph Q17 below).

The majority of the studio spaces have windows on both sides to allow for effective cross-ventilation. On the day of the evaluation, some windows were open and the learning environment appeared to be well ventilated.

Only 9% of those surveyed stated that the air was ‘very stale’ or ‘quite stale’ at the end of the day during the winter months. With 91% stating it was either ‘quite fresh’ or ‘neither stale nor fresh’ (see graph Q18 below).

No mechanical documentation for this project was available to verify the evaluation teams observations.
Internal Temperature / Heating

The kura appears to be heated, in most instances, by heat-pumps and radiant ceiling panels. Wall-mounted heat pump units are installed in most spaces. The heat-pumps in the smaller spaces are controlled with a manual remote while a master switch is used in the larger spaces.

27% of those surveyed stated that the internal temperatures of the learning areas were ‘sufficient’ in order to support student learning. 73% stated that the temperature of the learning environments was either ‘quite sufficient’ or ‘not sufficient’. The main response from those surveyed stated that a number of spaces had ceilings which were “too high for the heat-pumps to have any effect”.

27% of those interviewed stated that they had ‘little control’ or ‘no control’ of the heating in their space. With 64% stating that they had ‘sufficient control’ (see graphs Q23 & Q20 over page).

Internal Temperature / Cooling

The majority of the spaces utilise heat-pumps for cooling. Some areas of the learning centres utilise ‘high-level clearstory windows’, which allow stratified warm air to escape. As the kura’s location is subjected to considerable sunshine hours, external fixed louvres and internal blinds are located in some areas. Overall, the new learning environments are well designed in order to control solar heat-gain which was reinforced by 64% of the surveyed respondents stating that the learning environment was ‘comfortable’ during summer.
In your opinion, generally is the internal temperature of the learning areas sufficient to support the students' learning?

In your opinion, generally is the internal temperature of your part of the building in winter too warm or too cold?

In your opinion, generally is the internal temperature of your part of the building in summer too warm or too cold?

What level of control do you have over the heating and cooling of your space?
5.0 ANALYSIS AND FINDINGS

5.6 Interiors (continued)

Acoustic Environment

The learning centres were evaluated on a typical day with the learning environments at approximately 70%-80% capacity.

The acoustic environment of the learning centres is controlled with a mixture of suspended ceiling tiles, pin-board panels on the internal walls (Autex or similar), and carpet tiles on the floor. The ceiling level in the studios varies. In general, the studio spaces are of an above-average height. The ceilings slope downwards to follow the roof-line. The central collaboration space in the Learning Studio One building has a very high ceiling with glass occupying most of the wall surfaces.

During the interviews staff stated that they found this space difficult to teach in due to the poor acoustics. The evaluation team observed the largest amount of acoustic disturbance occurred when two classes were working in the open studio space simultaneously.

When staff were asked to rate the acoustic environment of their classroom, 20% stated that it was ‘poor’ and was described as ‘irritating’. 50% stated that it was ‘acceptable’ and 30% stated that the acoustics were ‘good’ and described as ‘clear’. The main responses received included comments stating that the open studios were “too loud when other classes were close by or in the same space”. During the interviews there was a mixed response regarding acoustic performance in different spaces. Staff stated that some of the individual classrooms performed well acoustically, while the open studio spaces were more problematic (see graphs Q24 and Q25 over page).

When asked if staff or students were interrupted by any noises while teaching, 70% stated they were interrupted by noise from other learning spaces. 60% stated that they were interrupted by lawn-mowing (see graph Q26 over page). No significant noises originating from equipment, air-conditioning, computers or heating from inside the learning environment were stated as being a major distraction (see graph Q27 over page).
5.0 ANALYSIS AND FINDINGS

5.6 Interiors (continued)

Acoustic Environment (continued)

Q.24 Which words best describe the acoustic environment of your space? (Select as many as apply)

Q.25 In your opinion, how do you rate your classroom acoustic environment?

Q.26 Are your students disrupted or distracted by any of the following noises within your learning space? If yes, please specify the noise sources (select all that apply).

Q.27 Please specify any other sources of intrusive/distracting noises inside your space:
5.6 Interiors (continued)

Artificial Lighting

Recessed ceiling lights provide artificial lighting in the learning environment. They appeared to be well distributed and effective at the time of the evaluation. When asked if the lighting levels were sufficient, 100% of those surveyed stated that there was ‘sufficient’ or ‘quite sufficient’ light levels in order to perform their professional role (see graph Q29 below).

Natural Day-Lighting

The learning environments, in general, provide above-average eave overhangs. Day-lighting is effectively controlled by 2m wide external canopies adjoined to the learning environments. The Master Plan positioned the new learning centres in a ‘semi-circle’ shape, as discussed previously. Therefore, each building faces a different way in relation to north, and users experience a variety of light quality in the studios and withdrawal spaces. 45% of those surveyed stated that the buildings were either ‘not effective’ or only ‘quite effective’ at controlling the natural light throughout the day. 45% stated that the light quality was ‘effective’ and 9% said the buildings were ‘very effective’ at controlling the natural light. The main responses from those surveyed were based on the central collaboration space in the Learning Studio One building. Staff stated that there is “too much glass” and it is “impossible to operate audio-visual in this space”. It was also stated that some of the learning spaces are exposed to the western sun and they are, at times, “too bright” (see graph Q30 below).
**5.0 ANALYSIS AND FINDINGS**

### 5.6 Interiors (continued)

**ICT**

It was stated during the interviews that the kura experienced considerable issues with the ICT facilities post hand-over. They commented that the wireless network, telephone network and security network were either problematic or not working at the time of hand-over. The kura have invested in upgrading and improving the functionality of their ICT resources.

Fixed computers were distributed around the learning centres. Fixed projection equipment was limited with mobile TVs present in some locations. The kura has a clear educational vision, yet they stated that the current ICT is not assisting in the delivery of that vision.

40% of those surveyed stated that the ICT is ‘effectively’ positioned for teaching and learning. 20% stated it was only ‘quite effectively’ positioned, with 30% stating that they were ‘not effectively’ positioned (see graph Q31 below). The main response was that there is “not enough options for the layout of the computers and AV equipment for optimal teaching”. It is not known if the kura has SNUP technology.

The evaluation team recommends that further investigation is carried out to better understand the ICT issues of the kura before recommendations can be made.

Documentation regarding data, AV, security and electrical was unavailable for this project.

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**Q. 31** In your opinion, are the available power and data outlets, technology and audio visual devices positioned effectively for teaching and learning?
5.7 Energy and Services Strategies

This kura project has not adopted a sustainable rating scheme for its buildings or infrastructure (Greenstar or similar). During the interviews it was stated that, where possible, sustainable choices were implemented. The kura implemented a Grey-water system which collects rainwater for re-use in the buildings and for irrigating the grounds.

The evaluation team noted the kura’s commitment to recycling and their impressive horticulture area. The evaluation team quantified the kura’s energy usage over a 12-month period of which appeared to be higher than appropriate considering the age of the facilities. The evaluation team suspect that this could be attributed to heating the high-volume spaces, and that the heat-pumps are used for cooling and heating. This assumption however would need to be verified with further diagnostic investigation.

5.8 Feeling Safe

The new learning environment opens out onto a large central area, which exhibits good passive-surveillance. The new facilities’ pathways are wide, legible, and visible. During the interviews it was stated that the kura has a great relationship with the community and that no vandalism of note had occurred. 93% of those interviewed stated that they felt either ‘safe (neutral)’ or ‘very safe’ while on the kura grounds. During the interviews, staff stated that both staff and students had “great pride” in their kura (see graph Q9).

The internal environments are open and transparent which enables teachers to oversee most spaces. 38% stated that there have been no significant instances of bullying. Commentary from the surveys stated that there had been the occasional case of bullying in the gym and outside the classrooms. It was also stated that this was an “operational challenge for the kura”. Staff believed that the buildings and/or facilities were not part of the cause in these instances (see graph Q10).
The kura had been operating in its new facilities for approximately two and a half years at the time of this evaluation. The learning studios provide adaptable furniture which are modified by the users to suit their needs. Opportunities for the kura to divide the open studio spaces would be beneficial to the learning environments. As discussed earlier, the kura have installed a new wall between two teaching spaces to make each more effective. They have also installed mobile acoustic walls in the Year 7 and 8 studios.

A commercial method of construction has been applied to the new learning environment. The spaces are open and airy. The structure spans the width of the building, which effectively limits the amount of bracing or load bearing on its internal walls. This allows the internal spaces of the building to be adapted. However, the irregular forms and layout of the spaces do not lend themselves to be cost-effectively adapted, should the need occur. The general studio ceilings are generous in height which is viewed as a positive attribute of the learning environment. The new learning environments appear to be flexible in their use.

The Master Plan has allowed for student roll growth and the kura have already built a new facility (Kumikumi) which integrates well with the existing learning centres. The future growth of the kura and where potential future buildings may be positioned is not clear.

Limited construction documents were available to verify our observations, therefore professional assumptions have been made about the construction.
5.0 ANALYSIS AND FINDINGS

5.10 Successful Whole

The kura’s facilities are pleasant and well maintained. The outdoor spaces and the new learning environments are designed with robust materials and overall it appears successful. The kura is managing well with the growth of their student roll. During the interviews it was stated the students enjoyed the “gym space”, and the new "Kumikumi MLE" the most.

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

The most common responses were;
1. The “noise is a problem in the learning spaces. The class next to my class is often a noisy distraction”
2. The “gym court is not regulation size”
3. The “sports field is not regulation size and it is not level” which means that the kura has to use the community sports fields for games
4. There is “no space for the gym equipment to be stored”

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

The top five responses were;
1. The Central Learning Studio “Mauao - For multiple uses like Kapa Haka” was seen as a positive attribute
2. The “height of the rooms” which “give a spacious feeling”
3. The “walls which allow materials to be stapled onto them”
4. The “amount of windows which allow natural light into the room”
5. The “external canopies provide good protection” when walking between learning centres