Evaluation of Learning Spaces

SCHOOL OF OCCUPATIONAL THERAPY AND SOCIAL WORK 2012
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Executive Summary

Prior to the commencement of Semester 1 2011 the teaching and learning spaces used by the School of Occupational Health and Social Work were perceived by staff and students as limited in functional design, size and number. They had not kept pace with evolving teaching and learning needs. There were constraints in the design and delivery of curriculum and the growing number of students in the School meant the spaces were not being used effectively.

A new chapter began in the School when the purpose built new teaching and learning facilities became operational early in 2011. The new facilities stand as testament to the University’s mission to be a world-class higher education provider. Used predominantly by occupational therapy and social work students, Building 108 (B108) is equipped with purpose designed laboratories, counselling and interview suite, modern lecture theatre, comfortable student common room and a comprehensive resource centre. All areas incorporate the most recent multi-media technology. We anticipate that the new teaching and learning spaces in B108 will provide students with a transformative learning experience and will enable them to engage in authentic learning and practice their skills in realistic settings. Importantly, the increased flexibility and capacity of the spaces will accommodate a greater number of students in both undergraduate and post graduate programs and facilitate a wider range of learning activities.

This report presents the results of research carried out to evaluate the new spaces in B108. Specifically we sought to assess the impact of the physical environment on the quality of the teaching and learning experiences in the School of Occupational Therapy and Social Work. First, an evaluation of the pre-2011 learning spaces was conducted to establish a benchmark, followed by a post-occupancy evaluation of the new learning spaces to assess the impact of the changes across a range of learning styles and learning activities. We were also interested in how the space and associated technologies were being utilised and whether or not the new spaces contributed to an increased sense of belonging and emotional well-being amongst students and staff.

Key findings of the research:

Hands on Learning and Teaching Experience

Students were satisfied that the new learning spaces in B108 allowed them to put theory into practice. This authentic learning and ‘hands on experience’ will enhance their confidence and support a smoother transition from the university to the workplace. Staff reported their increased capacity to use creative teaching approaches. This was associated with the flexibility in the spaces and seating arrangements and the access to appropriate equipment and technology.

Physical Spaces

Staff and students reported the physical spaces in B108 to be clean, pleasant, stimulating, well equipped, flexible and conducive to learning. The counselling rooms, breakout spaces, resource centre and laboratories accommodate different activities and enable the students to engage more fully in their learning. Classrooms can easily be reconfigured to suit different learning activities. However, the ‘no eating and drinking policy’ in B108 was considered inconvenient by the staff and students, many of whom spent long periods of time in the building. In addition air-conditioning in the corridors was not provided in the original design. Staff and students have complained about the level of discomfort this has caused, particularly over the summer months. Although attempts were made to address accessibility issues for disabled staff and students, those in wheelchairs would not be able to escape from the top floor in an emergency.
Learning Technologies

Both staff and students commented that the technology in B108 was impressive and had a positive impact on both teaching and learning. However, not all of the technology has been fully utilized due to some ‘teething problems’ and either lack of knowledge or reluctance on the part of the teaching staff to use the equipment. A small number of students reported a lack of satisfaction when the classes were disrupted due to technology ‘glitches’, while the staff felt pressured when the technology did not work in the way they expected. Some of these tensions eased as the year progressed and staff became more familiar with the equipment.

Sense of Belonging and Ownership

Staff and students reported having a greater sense of pride and belonging in the new spaces, with a number claiming it as ‘a place that they can call their own’. They felt valued and respected and believed the School had an increased professional image since operating from B108. Spaces such as the common room, resource centre, wide corridors and main foyer foster increased interaction amongst students of different year levels and disciplines and between students and staff.

Key recommendations:

Technical Support Staff

A full-time technical support staff member needs to be employed and stationed permanently in B108 to assist academic staff to set up the five laboratories on a daily basis; maintain storerooms (i.e. audit checking, re-ordering consumable resources, maintenance of resources); assist with technical, mechanical and resourcing difficulties so as to allow staff to conduct their classes smoothly and without disruption; and assist in the Learning Resource Centre at times of high demand.

Technology Training

Staff should receive training to use the technology effectively. A full-time technical support staff member should provide planned and ‘just in time’ training to new and experienced staff. Regular training is required as staff will need orientation to new technology as it becomes available.

Air-conditioning in the corridors

Air-conditioning should be installed in the corridors to comply with health and safety regulations.

Accessibility and safety for those in wheelchairs

There is no emergency exit for people in wheelchairs if the lift on the second floor of B108 is disabled. This should be addressed to comply with health and safety regulations and the Curtin Disability and Access Plan.
Chapter 1 Introduction

1.0 Background

The commencement of Semester 1 2011 heralded a significant change in the teaching and learning environment in the School of Occupational Therapy (OT) and Social Work (SW). Prior to 2011 the teaching and learning spaces were perceived by staff and students as limited in functional design, size and number and they had not kept pace with evolving teaching and learning needs. These limitations constrained both curriculum design and delivery and restricted the growth in student numbers.

In support of the University’s mission to be a world-class teaching and research provider, Curtin has invested over nine million dollars in new teaching and learning facilities predominately for OT and SW students. The facilities became operational in first Semester 2011 and include:

• Laboratories to support teaching in contemporary and emerging areas of practice, including paediatrics, physical rehabilitation, ergonomic and injury rehabilitation and splinting. The laboratories include teaching technologies not traditionally seen in higher education learning spaces. For example, staff and students have the ability to self-record various activities such as presentations, interviews, splint making and manual handling. The technology supports processes of review and reflection, formative and summative assessment and provides a platform for demonstration that can be stored and shared. One other example of the technology is the ability of lecturers to ‘push out’ to all screens in the room from either their own computer screen or select any student’s computer screen and share to other screens in the room.

• A 100-seat lecture theatre and five tutorial rooms accessible to all students including those with disabilities.

• A suite which includes two group rooms, viewing areas and eight counselling rooms, all supported by innovative digital recording technology for teaching and learning in mental health. The teaching staff can monitor, adapt and facilitate learning through accessing all computerised recording equipment remotely.

• A dedicated comprehensive discipline specific resource centre for students, staff and clinicians in both Occupational Therapy and Social Work.

• A modern well-appointed student common area which includes full wireless access and comfortable seating.

We trust that the new facility will provide students with a transformative learning experience and will create an excellent environment to educate future generations of occupational therapists and social workers. Specifically, the facility design, incorporating the latest technology, will enable students to practise patient/client/family care scenarios in realistic settings. The increased flexibility and capacity of the teaching space will accommodate a greater number of students in both undergraduate and postgraduate programs and facilitate a wider range of learning activities. Finally, contemporary health practice includes inter-professional learning and education. This facility, with its greater capacity for group experiences, will accommodate this approach.
1.1 Aims and Objectives

The evaluation aimed to assess the impact of the physical environment on the quality of teaching and learning experiences in the new purpose designed learning spaces of the Curtin School of Occupational Therapy and Social Work (B108).

Specifically the study sought to:

- Conduct an evaluation of the old learning spaces to establish a benchmark (baseline).
- Conduct a post-occupancy evaluation of B108 to assess the impact on teaching practices and on the learning of students across a range learning styles and activities.

1.2 Significance of the Research

Learning spaces in higher education is under-researched. More studies are needed to explain the connections between space and institutional effectiveness (Temple, 2008). There is a dearth of research that supports how well-designed learning spaces are able to enrich the learning experience, to raise the aspirations of teachers and learners and to make learning stimulating (Scottish Funding Council, 2006). Nevertheless, many staff in higher education would argue that learning spaces convey the teaching and learning philosophy of an institution. They can either enable or inhibit different styles of teaching and learning (Oblinger, 2005, p. 14). Post-occupancy surveys are recommended every time a major capital development is completed to study its positive and negative impacts on teaching and learning thereby improving the next investment (Scottish Funding Council, 2006).

Although no definitive causal link has been established between learning spaces and learning outcomes, it is widely accepted in the literature that relatively small improvements in the physical learning environment can provide large benefits to the quality of teaching and learning experiences (VU 2010). Well-designed learning spaces are thought to facilitate higher levels of student engagement which is an important factor influencing learning outcomes. While students must participate in educationally purposeful activities and are responsible for engaging in learning, this will also be dependent on institutions generating the conditions that stimulate student engagement (ASSE 2010). Given the significant university investment in B108 at Curtin, we felt it was important to assess the impact of the outcome on its intended users.

The results from this research will contribute to the limited literature on the impact space may have on effective learning. Publications in peer reviewed higher education journals have been drafted in conjunction with this report.

1.3 Structure of the Report

Chapter 2 of this report outlines the research methodology. It describes the theoretical framework, research design, data collection procedures and data analysis techniques.

Chapter 3 presents the results of this study. It describes the quantitative and qualitative outcomes for both staff and students who participated in the study.

Chapter 4 presents the conclusions and some recommendations for this study.
Chapter 2  Research Methodology

2.0  Overview

This chapter outlines the background of the evaluation, the pre-and post-test research design, the data collection process and the data analysis techniques.

2.1  Background

Evaluation of the extent to which learning spaces impact on learning is inherently difficult due to the complexity of the issues involved in facility design, development and use and the significant number of variables that influence learning outcomes. A review of the literature (Andrews and Du Toit 2010; Dane 2010; Mitchell 2010; Tan, Lee and Hall 2010) suggests that theoretical frameworks for evaluation of learning spaces are at an early developmental stage. An Australian Learning and Teaching Council (ALTC) supported project based at Swinburne University of Technology identified a large number of tools utilised by universities to evaluate their learning spaces including staff and student surveys, observation, focus groups, interviews and online blogging. Quantitative measures such as room utilisation and student attendance were also used as were stop motion video and photo elucidation (Swinburne 2010).

A definitive evaluation framework has yet to be developed; however, there is strong support for qualitative measures. The ‘mosaic’ approach advocated by Kalikoff and utilised by Victoria University as part of the ALTC supported project incorporates a mixture of tools over time to allow for a layering of information that addresses the complexities of the issues in an iterative manner (Kalikoff 2001, VU 2010).

Drawing upon this theoretical framework, we used a mixed method study design in our evaluation. The primary tool was online surveys of students and staff members designed to interrogate their perception of the learning spaces. This was supplemented by focus group interviews and a limited number of individual interviews. Questions in all data collection methods addressed five domains which were adapted from a literature search:

1. Support for a range of learning styles and learning activities
2. Physical space, access and comfort
3. Learning technologies
4. Utility and fit for purpose
5. Belonging and emotional well-being
2.2 Research Design and Data Collection Methods

The students and staff survey not only explored their learning or teaching experience in the old learning spaces but also included consideration of their attitudes and expectations for the new learning spaces (B108). In order to establish a basis for comparison, a pre-test was conducted before the end of semester two 2010 to evaluate the old learning spaces. An on-line questionnaire using Survey Monkey was distributed to first and second year Occupational Therapy and Social Work students and all academic teaching staff in the School. Third year students were not included as they would not have the opportunity to participate in the post-test due to limited opportunity to use the new spaces as most of the fourth year consists of fieldwork. A post-test using the same instrument was then carried out towards the end of semester one 2011 after commission of the new facilities to assess the impact of the changes on the teaching and learning experiences.

The questionnaire consisted of closed ended questions using a likert scale and a small number of open ended questions. ‘Agree’ and ‘Strongly Agree’ on the scale were collapsed into ‘Agreement’ for each sub-question in each domain. These are reported in the results below. Students were categorised into ‘OT group’ and ‘SW group’ for comparison between the pre-and post-test results.

Focus groups and interviews of staff members and students were conducted post occupancy to add to the depth of the data capture. The focus groups and interviews allowed exploration of the five domains in greater detail. Focus groups were conducted with (1) occupational therapy students, (2) social work students, (3) occupational therapy staff and (4) social work staff. Interviews were conducted with staff who had specific requirements or interests (eg. disability access, specialised teaching requirements) or who showed interest and were unable to participate in one of the focus groups.

It was anticipated that comparison of the results of the two surveys would demonstrate a degree of difference in the quality of the teaching and learning experiences between the old and new facilities.

2.3 Data Analysis Techniques

For the online survey, descriptive statistics such as proportions were determined for all the sub-questions in each domain. The qualitative data was transcribed and coded manually according to the pre-set themes with consideration of new, emerging themes.
Chapter 3 Results

3.0 Overview

This chapter reports the student and staff responses for the pre- and post-test. The student responses are presented first followed by the staff responses. For both groups quantitative results precede the qualitative findings.

3.1 Student Responses

A total of 103 students participated in the pre-test survey (40 OT students and 63 SW students), whereas for the post-test survey 123 participated (79 OT students and 44 SW students). Not all respondents in the pre-test and post-test answered all questions and sub-questions. Only those who responded to all of the questions and sub-questions were reported.

The OT focus group consisted of 11 students and the SW focus group comprised eight students. Data from the open-ended questions in the questionnaire and student focus groups are reported together in order to further explain the students’ experiences and opinions about the learning spaces (B108).

The results are presented according to the five domains used in the data collection - (1) Support for a Range of Learning Styles and Learning Activities; (2) Physical Space, Access and Comfort; (3) Learning Technologies; (4) Utility and Fit for Purpose; and (5) Belonging and Emotional Well-being - and an additional domain which arose as an area of importance in the data collection – (6) the Learning Resource Centre.

3.1.1 Support for a Range of Learning Styles and Learning Activities

Overall, for the OT students, there was an improvement in the perception on the learning spaces that support a range of learning styles and activities. As shown in Figure 3.1, the greatest improvement was noted for the ability to access to wide range of learning activities in the spaces (53% vs 92%). This was followed by the positive effect of learning spaces on the students’ learning (63% vs 92%).

However, there was just a small improvement for the SW students in these two aspects. Slightly over sixty per cent (62%) reported that they have access to a wide range of learning activities in the space in the post-test in contrast to 52% in the pre-test; whereas for the positive effect of the learning spaces, there was 62% and 60% reported in the post-test and pre-test respectively (see Figure 3.2). The design of B108 could explain the differences in the results between the OT and SW students. Most of the learning spaces such as the work performance lab, the body structures and function lab, and the occupational performance skills lab were designed for the learning needs of the OT students rather than the SW students.
Figure 3.1: Comparison of pre- and post-test of OT students on support for a range of learning styles and learning activities

Figure 3.2: Comparison of pre- and post-test of SW students on support for a range of learning styles and learning activities
The qualitative results demonstrate that the students thought that the old learning spaces did not support and engage them fully in their learning activities. There were limited spaces for them to participate in physical activities. Furthermore, the OT students perceived that the rooms were not very occupational therapy based. The SW students commented they were usually in rooms that were not associated with social work, were unsuitable for group activities and proved impossible for them to practice counselling skills.

The students spoke enthusiastically about how the new learning spaces in B108 supported a range of learning styles and learning activities. Many of the OT students reported that the learning spaces, such as the work performance lab, the early life occupational lab, and the occupational performance skills lab have allowed them to put theory into practice. OT students commented, ‘...a lot of OT is very theory so to have these spaces where we can kind of be practical is really important’, ‘...feel more comfortable with what we’re learning as well, ‘cause sometimes reading it and you’re just like I don’t know if I’m ever going to be able to do this’, ‘...there are a variety of rooms offered for different functional purposes that suit the needs of occupational therapy students...’. Likewise, the SW students also agreed that they have had more positive learning experiences in B108. Their learning experience has been further enhanced by the aesthetic and new technology. They commented that the interview suites were great and the group work rooms useful for discussion.

3.1.2 Physical Space, Access and Comfort

Figure 3.3 demonstrates that almost 90 per cent (88%) of the OT students found the new learning spaces in B108 comfortable as compared to 40% for the old learning spaces. A substantial number of the OT students (96%) agreed or strongly agreed that the new learning spaces enabled them to move freely to engage in various activities in the spaces. Additionally, the spaces were perceived as easily accessible. Only a small number of the OT students (12%) and the SW students (14%) reported that they lost time walking between classes which contrasted strikingly with the pre-test (63% and 63% respectively). Furthermore, 97% of the OT students and 95% of the SW students thought the spaces in B108 were well kept.
Figure 3.3: Comparison of pre- and post-test of OT students on physical space, access and comfort

1. The learning spaces are comfortable
2. The spaces are well kept
3. The seating arrangements in the tutorial rooms are flexible
4. The quality of the air is good
5. The temperature is comfortable
6. The lighting in the lecture theatres is appropriate
7. The lighting in the tutorial/laboratory rooms is appropriate
8. The spaces have good acoustics – I can hear what the lecturer is saying
9. I am able to see the lecturer and the visuals
10. There is adequate room to use appropriate equipment in the spaces
11. I am able to move around freely to engage in various activities in the spaces
12. I lose time walking between my classes
13. The learning spaces are accessible to people with disabilities

Figure 3.4: Pre-test mean scores (%) of SW students on physical space, access and comfort
Students claimed that the old learning spaces were uncomfortable with poor temperature control, bad lighting and air and the colour scheme of the rooms was depressing. A number of students reported that the poor temperature in the rooms had actually disrupted their learning and ability of concentrate in the classes. The rooms were furnished minimally and the furnishings were very old, out-dated and dirty.

By contrast, the new learning spaces in B108 were viewed as clean, well-equipped, spacious, modern and conducive to learning. The desk and seating arrangements were considered very suitable for class work and it was easy to reconfigure the classroom set up to suit the learning needs. Students spoke enthusiastically about the natural light from the windows in a number of the rooms. Furthermore, the accessibility of the spaces in B108 is a highly valued by the students. With all the classes in the same building, students save time between classes. As one of the students wrote, ‘All facilities and learning spaces in one area so students don’t have to hike around campus’.

Though the common room is comfortable, many commented that it was too small and quite study oriented. Students would prefer it to be ‘a place to hang out’. They reported they needed a space where eating would be allowed and the space equipped with a kettle, microwave and bins. Students also hoped that covered drinks and bottled water would be allowed in B108. In addition, a drink fountain in the entrance was suggested by the students.

Some of the negative comments were related to the poor lighting in the entrance and the classroom which tends to dim automatically; the short time limit on the swipe card to open the door; the heavy internal doors which were considered not user friendly for people with disabilities; the beeping noise when the door is not closed properly; the poor acoustics and the lack of seats in the early life occupational lab; and the temperature being too cold in the counselling suite and too warm in the lecture theatre. Students also commented on the lack of access to the building at night and the lack of bins in the classrooms.
3.1.3 Learning Technologies

Figure 3.5 shows that more than two thirds (70%) of the OT students agreed or strongly agreed that there were adequate power outlets in the new learning spaces as compared to only one fifth (20%) for the old learning spaces. There was nearly a thirty per cent increase (43% vs 71%) reported in the ability to use their own portable devices in the new learning spaces by the OT students. In addition, over ninety per cent (91%) of the OT students reported that they had access to the necessary equipment needed to practice their clinical skills in B108. However, Figure 3.6 indicates that there was a decline of about 4% in this aspect by the SW students (58% vs 54%). Nevertheless, the SW students had a more positive perception about the adequacy of power outlets in the new learning spaces (18% vs 62%).
Students asserted that technology did not work well in the old learning spaces. Besides, there were a lack of power points in the common rooms and lecture theatre for student to use their portable devices.

Conversely, students agreed that the technology in the new learning spaces was ‘amazing’ and this had led to better learning. However, the teaching staff required training to master the new technology. ‘I think a lot of teachers struggled for a long time and even now it just does weird stuff...it’s amazing technology but I think perhaps they need a bit more assistance because it does take them a long time to set things up’, ‘If they’re taught to use it, it would be better and it would be less disruptive in class if they know how to use it…’, ‘I’m finding many of the tutors are like saying I just wish they’d teach us how to use this stuff’.

Besides inadequate staff training, students also commented on the video streaming problem as it faltered and was too slow. Both OT students and SW students expressed their desire to video tape interventions. Furthermore, SW students hoped to have a two-hour weekly slot to practice their interview techniques as there needs to be a staff member present for them to access the room and technology. Additionally, a list of the available equipment or a tour to the store rooms to know the availability of the equipment was suggested by the students.

![Occupational performance skill laboratory](image)

### 3.1.4 Utility and Fit for Purpose

The positive perception across all sub-questions for the new learning spaces was quite consistent for the OT students. Over ninety per cent (92%) of the OT students reported the new learning spaces will prepare them well to practice OT/SW, but only 43% of the SW students have a positive perception on this aspect (see Figure 3.6 and Figure 3.7). In fact, there was a decline of about 14% in this aspect for the SW students. For the new learning spaces, great improvement was observed in the positive opinion of the OT students with regard to the new learning spaces being appropriate for all of the learning needs (38% vs 88%) and ease of switching between various kinds of learning activities in classes (43% vs 91%). However, there was no substantial improvement in these two aspects for the SW students. As mentioned earlier, this could be explained by the fact the new learning spaces were designed to suit more of the learning needs of the OT students.
According to the students, seating arrangements were difficult to reconfigure to promote group learning in the old learning spaces. As for the new learning spaces, students enjoyed the lawn area as they used it for leisure, student meetings and classes in fine weather. The common room was thought to be a good space for meetings and interacting with peers. One student mentioned, ‘It’s quite convenient for group meetings … don’t have to come all the way to 401 or to the library’. Additionally, the common room was seen to have encouraged interaction between students of the same year and across the year levels when the students congregated there to study, to do group activities and for social reasons. It also had a positive impact on mentoring the first year students.
3.1.5 Belonging and Emotional Well-being

As shown in Figure 3.9, the spaces in B108 were viewed as stimulating, pleasant and inspiring by the students. Nearly 80% (77%) of the OT students and more than half (54%) of the SW students reported that the new learning spaces were stimulating. Almost sixty per cent (58%) of the OT students and about one third (32%) of the SW students commented they are inspiring. A greater sense of belonging was reported with more than seventy per cent (73%) of the OT students and almost half (49%) of the SW students stating that they felt like they belonged in the new spaces. Moreover, a greater sense of pride was indicated as a higher percentage of students were proud of the new building; 86% of the OT students and 57% of the SW students would feel more proud to show their family and friends around B108 in contrast to less a quartile of both the OT students (23%) and SW students (23%) for the old learning spaces.
Students did not feel connected to the school with the use of centrally allocated rooms in the old learning spaces; however, many of the students raised the issue of belonging and sense of pride with the new learning spaces. This perception is demonstrated in the following comments: ‘I feel there is a bit of ownership over the building as ‘ours’ as OT students’, ‘They let Social Work have a
space’, ‘The collaborative feel that it creates, being in a place that we can all own but also proudly share with others’, ‘Since completion of building 108, there is a stronger sense of belonging’.

There was also better morale and more social interaction among the OT students; however, there was not much interaction between the OT and SW students mentioned. Social Work students stated that they would like to have pinup boards, posters and information about social work on the walls to personalise the space, to raise the SW profile in the building and also for further communication between students, students and staff, and students and the larger SW community.

3.1.6 Learning Resource Centre

Figure 3.11 indicates that the perception of the OT students remained quite consistent for the use of the learning centre (92% vs 92%) and the benefit from the learning resource centre (90% vs 91%). As for the SW students, Figure 3.12 shows a decline in the positive perception in the new learning spaces for the use of the learning centre (79% vs 51%) and the benefit from the learning resource centre (78% vs 46%). This perhaps could be explained by the fact that the resources at the learning centre are more OT-based.
By contrast the qualitative results for both OT and SW students demonstrated the learning resource centre in the new building was a great place to study. It is a quiet place to study with good resources and access to power points. Students commented, ‘The resource centre is excellent, the library and the seating area is highly functional for students’, ‘The resource library is well designed, with the large study rooms adjoining’. Some suggestions from the students are: to have longer operating hours, to have another photocopier and video player, to have books in reserve in the resource library, and to be able to reload money onto Curtin card for photocopy services.
3.2 Staff Responses

A total of 22 staff participated in the pre-test survey with 19 OT staff and 4 SW staff, whereas for the post-test survey, 33 staff participated with 23 OT staff and 10 SW staff. Not all staff answered all questions in the post-test. Only those who responded to all the questions were reported in this study. Users’ experience of space was also explored with open-ended questions in the survey, academic staff focus groups and individual interviews.

Focus group interviews for OT and SW academic staff were conducted separately. There were six OT staff and two SW academic staff in the focus group interviews. Two interviews were conducted with OT academic staff and four interviews with SW academic staff. There were also two written replies from the administrative staff.

3.2.1 Support for a Range of Learning Styles and Learning Activities

There was a notable change between the pre- and post-test findings in how the staff thought the learning spaces supported a range of learning styles and learning activities. Figure 3.13 shows around 90% of the staff agreed or strongly agreed that the new learning spaces in B108 enabled the students to fully engage in the learning activities as compared to 23% agreement for the old learning spaces. Amongst all of the sub-questions, the most significant improvement was on the ability to use a wide range of learning activities in the new space (5% vs 90%). Furthermore, over three quarters (83%) of the staff agreed or strongly agreed that the new learning spaces had a positive effect on their teaching in contrast to only 9% for the old learning spaces.

![Figure 3.13: A comparison of pre-and post-test of the staff on support for a range of learning styles and learning activities](image)

Notes:
1. The students are able to engage fully in the learning activities in the learning spaces
2. The learning spaces are suitable for small group/team teaching
3. The students are able to interact with their classmates when needed
4. I am able to access to a wide range of learning activities in the spaces
5. The learning spaces have a positive effect on my teaching
Staff commented that the old learning spaces did not support learning activities and they were not conducive to learning. The spaces were too small and it was difficult to move around in them to demonstrate different skills. Furthermore, there was no access to equipment for interactive practice skills teaching.

However, the qualitative findings regarding the spaces in B108 are generally positive. The new learning spaces were seen by staff as a ‘superb space’ to support authentic, hands on and kinaesthetic learning. This kind of authentic learning was considered to have a significant impact on the students’ ability to use their clinical reasoning skills. OT staff, in particular, believed that clinical reasoning was more than just a cognitive task, but that it involved a combination of cognitive and kinaesthetic learning. According to one OT staff member, the OT course is now far more practical, more hands on and more authentic which mirrors the teaching and learning philosophy of Curtin University. Students were also found to be more engaged in the learning activities for longer periods of time in the new learning spaces. One of the SW staff mentioned, ‘It’s seamless so you can literally move from one activity to another using resources and so I think actually students get the value of two hours… of actually really quality teaching time’. Another SW staff stated, ‘Having the sand trays and the puppets will help me to teach a wider range of counselling skills to my students. I am very happy with 108 and I look forward to my classes every week’.

3.2.2 Physical Space, Access and Comfort

Staff felt much more comfortable in the new learning spaces. Figure 3.14 shows a total of 86% of the staff considered the spaces in B108 comfortable as compared to just 18% for the old learning spaces. A high percentage of the staff (93%) perceived that the spaces were well kept in the new building. However, there was no great difference in the positive perception of the air quality between the new and the old building with 38% for the new building and 23% for the old learning spaces. Nevertheless, there was a striking positive change in the perception of the availability of adequate room to use appropriate equipment in the spaces (9% vs 83%) and the ability of the students to move freely to engage in various activities (9% vs 76%). In terms of accessibility to classes, only a small percentage of the staff (17%) perceived that they lost time between classes as compared to 36.4% for the old learning spaces.
The qualitative results demonstrated that staff thought the old learning spaces were very cramped and untidy. There were no suitable places to display the students’ work. Moreover, the hallways were drab, and tutorial rooms were boring and colourless.

Many staff agreed that the corridors in B108 were wide and spacious and the main foyer was pleasant. The spaces enabled the students and staff to interact with one another informally as well as in the structured classes. The staff also mentioned that they often interacted with other staff in B108 as they moved between classes. Some suggested using the entrance and corridors to display student and staff research and other student work.

Many of the staff mentioned that the seating arrangements have facilitated group discussion. The seating arrangement was easy to reconfigure to suit the particular classroom activities. Positive comments were particularly made about the counselling rooms, the break out spaces and the splint room. ‘I’d just use that as break out space to set up some small groups which is a terrific...’
way to let people reflect on things and then bring them back for a plenary session’, ‘So those little break out rooms really good … I could get three pairs to go in the break out rooms and I could still go and keep an eye on them while the big group wanted to work on their reflection about the semester so far and ask questions … so I could actually have four and five different things happening at the same time’, ‘We can break up the teaching process ... like teaching splinting we can get all the students around one spot and particularly good with having the wheel chairs ... can get the students to do that easily without a lot of waste of time’, ‘They suit my class activities I can teach group work easily and I have break out rooms. The students can learn new skills in small groups so that they gain confidence’.

A few negative comments were related to: the ‘annoying lights’ that keep changing intensity at the work performance lab; lights that were too dark in the tea room and Rooms 108, 118 and 120; heavy doors that were not user friendly to people with disabilities; the uncomfortably hot temperature in Rooms 223, 222, the corridors and the lecture theatre; the hot and humid environment in the splint room due to the splint making technologies; the stuffy conditions in Room 118; the beeping door in Rooms 119 and 120; the difficulty in opening and shutting the concertina doors; poor acoustic systems in Room 119 and 120; and the lack of bins in classrooms.

Additionally, some staff were concerned when the rooms were not used for their intended purposes; for example, it was considered unsuitable when the splint room was used for teaching interpersonal communication skills. Staff stated, ‘If we are allocated an appropriate room for the type of workshop we running it is fantastic ... if we are allocated inappropriate rooms... it is terrible’. The ‘no eating and drinking policy’ was perceived as inconvenient to students. It was suggested that if there was a designated place for such a purpose it would make B108 more homely for the students. It was also suggested that students and staff be allowed to have coffee in covered containers. Other staff were concerned about the safety and mobility issues for people with disabilities if there were an emergency, eg. lack of an emergency exit on Level 2 for people in wheelchairs.

There were some issues with the storage spaces. More work is needed to reorganise the storeroom in the Occupational Performance and Skills Lab to make it more efficient. A separate door to the storeroom that is located between the Work Performance Lab and Body Structure & Function Room was suggested by the staff. It was considered inconvenient to access the storeroom when the teaching space was being used or when the concertina doors were open.
3.2.3 Learning Technologies

As presented in Figure 3.15, 78% of the staff either agreed or strongly agreed that they were able to use innovative technologies in B108 as compared to none (0%) in the old learning spaces. Over eighty per cent (82%) of the staff reported that they were able to access the necessary equipment needed to teach clinical skills to the students in B108 as compared to just 18% in the old learning spaces. The majority of the staff (78%) agreed that there were adequate power outlets in B108.

![Figure 3.15: Comparison of pre-and post-test of the staff on learning technologies](image)

Notes:
1. There are adequate power outlets in the learning spaces
2. I am able to use my own portable devices in the learning spaces
3. I am able to use innovative technologies in the learning spaces
4. I have access to the necessary equipment needed to teach clinical skills to the students

In the open-ended questions staff commented that there was a lack of access to use equipment and technology in the old learning spaces. Moreover, the technology worked sporadically. Conversely, many of the staff were satisfied with the technology in the new learning spaces and the technology was considered good, efficient and had huge potential for improving teaching. As mentioned by the staff, ‘...it’s supportive, it’s good that it seems to work ... it’s easy to get your PowerPoints up and running. They are all consistently the same across every room ...’, ‘It was very good ... being able to get the Blackboard unit onto the overhead ...on the screen’, ‘... having screens on each wall is great and saves students twisting around in their seats’. Furthermore, the power points through the floor have enhanced the teaching and learning process, students can do further research with their laptops. One staff member stated, ‘In 118, I just loved the way they had the power through the floor so the students could work directly on their laptops, that was a fabulous innovation’.
With the technology provided in B108 some staff were enthusiastic about introducing new units such as mediation and arbitration into the curriculum. It was also proposed that the School explores the use of eBeam Technology.

Most of the staff would like to use the cameras to record learning in order to provide instant feedback to students, and for demonstration and reflection purposes. Training and support with technical equipment is sought by the staff. It was suggested that an expert in the audio-video technology is available all the time to support the teaching and learning process and to get the best use of the equipment.

There were technology glitches in some rooms. In the Paediatrics room, the staff preferred the camera to be ceiling mounted to capture what the child is doing on the table and floor. In the counselling room communication is not possible between the person inside and the person located in the control room. In the observation rooms the speakers were not connected to the microphone. There was also poor visual quality of camera footage and images on the screens.

It is not a good teaching experience for the staff if the technology does not work properly. Staff asserted, ‘the new learning spaces require teaching with resources that are reliant on the technology working, which can be complicated to use and teaching thus become extremely stressful when under pressure to teach material. No fall-back options’, ‘I feel a bit anxious as I never know what may not work as you expect it to, on any particular day’.
3.2.4 Utility and Fit for Purpose

Figure 3.16 shows around eighty per cent of the respondents believed that the new learning spaces were appropriate for all the students’ learning needs (78%) and it was easy to switch between various kinds of learning activities in classes (82%). These results were consistent with the opinions of the staff that the students can move easily from one activity to another (see Section 3.2.2). It is encouraging that nearly ninety per cent (89%) of the staff believe that the new learning spaces will help prepare students well to practice occupational therapy or social work.

![Figure 3.16: Comparison of Pre-and Post-test of the staff on utility and fit for purpose](image)

**Notes:**
1. Using the learning spaces will prepare students well to practice Occupational Therapy/Social Work
2. The learning spaces are appropriate for all of the students’ learning needs
3. It is easy to switch between various kinds of learning activities in my classes

Lack of flexibility had been raised by the staff when asked to reflect upon the old learning spaces. It was difficult for the staff to change the furniture configuration for different types of learning activities. However, the staff have reported positively on the flexibility of the new learning spaces. ‘Flexibility of use, good space. The ability to use interview rooms for practice purposes and the ability to use media, including cameras and playing material from the internet’, ‘Comfortable and flexibility. Lots of equipment to stimulate discussion and thinking about authentic experiences and cases’, ‘I particularly like the flexibility of the spaces, and the ability to move between learning activities in the spaces easily’.

In addition, the staff have pointed out that the lawn area is strategically located. It was easy to move the students from the Work Performance Lab to the lawn area to have some hands on experience with the wheelbarrow, shovels and rakes used in the activities. Students enjoyed the sunshine and liked to study in that area.
3.2.5 Belonging and Emotional Well-being

Overall, there was a great improvement in the perception of staff regarding the belonging and emotional well-being associated with learning spaces. As indicated in Figure 3.17, all staff (100%) found the old learning spaces to be uninspiring and not at all stimulating. However, 85% of the staff reported that the spaces in B108 were stimulating, 52% stated that they were inspiring, and 93% considered they were pleasant learning spaces. There was a greater sense of belonging associated with the new learning spaces, with 78% reporting positively as compared to 9.1% in the old spaces. In addition, Figure 3.17 shows 85% of the staff would feel proud to show family and friends around the new learning spaces in contrast to only 5% for the old learning spaces.

![Figure 3.17: Comparison of pre-and post-test of the staff on belonging and emotional well-being](image)

**Notes:**
1. The learning spaces are stimulating
2. I really feel like I belong in the learning spaces
3. The spaces are pleasant places
4. I find the spaces inspiring
5. I would feel proud to show my family and friends around the learning spaces

Many of the staff agreed that the new learning spaces have improved the School’s professional image and both staff and students felt valued and respected. There was a real sense of pride and a sense of ownership for the staff. ‘It’s led to an improvement in collegial relationships in the School. I think it has led to an improvement in how we feel about what we’re doing and you know the University is valuing us’, ‘... I feel as a staff member more valued to have a good space like that and I feel like they get more out of me because I’m happy..’, ‘... the building just over there ...we used walk you know for miles around campus and it’s just fantastic it’s so accessible ... I just feel quite spoilt actually’, ‘It’s a, a really great way of saying to students we think you’re important ...what better way can you sort of honour your students ...’, ‘the quality of the environment tells students that they matter and we care about their education’.
Chapter 4 Conclusions and Recommendations

4.0 Conclusions

Hands On Learning and Teaching Experience

Students were satisfied that the new learning spaces in B108 allowed them to put theory into practice. This authentic learning and ‘hands on experience’ will enhance their confidence and support a smoother transition from the university to the workplace. Staff reported their increased capacity to use creative teaching approaches. This was associated with the flexibility in the spaces and seating arrangements and the access to appropriate equipment and technology.

Physical Spaces

Staff and students reported the physical spaces in B108 to be clean, pleasant, stimulating, well equipped, flexible and conducive to learning. The counselling rooms, breakout spaces, resource centre and laboratories accommodate different activities and enable the students to engage more fully in their learning. Classrooms can easily be reconfigured to suit different learning activities. However, the ‘no eating and drinking policy’ in B108 was considered inconvenient by the staff and students, many of whom spent long periods of time in the building. In addition air-conditioning in the corridors was not provided in the original design. Staff and students have complained about the level of discomfort this has caused, particularly over the summer months. Although attempts were made to address accessibility issues for disabled staff and students, those in wheelchairs would not be able to escape from the top floor in an emergency.

Learning Technologies

Both staff and students commented that the technology in B108 was impressive and had a positive impact on both teaching and learning. However, not all of the technology has been fully utilized due to some ‘teething problems’ and either lack of knowledge or reluctance on the part of the teaching staff to use the equipment. A small number of students reported a lack of satisfaction when the classes were disrupted due to technology ‘glitches’, while the staff felt pressured when the technology did not work in the way they expected. Some of these tensions eased as the year progressed and staff became more familiar with the equipment.

Sense of Belonging and Ownership

Staff and students reported having a greater sense of pride and belonging in the new spaces, with a number claiming it as ‘a place that they can call their own’. They felt valued and respected and believed the School had an increased professional image since operating from B108. Spaces such as the common room, resource centre, wide corridors and main foyer foster increased interaction amongst students of different year levels and disciplines and between students and staff.
4.1 Recommendations

Technical Support Staff

A full-time technical support staff member needs to be employed and stationed permanently in B108 to assist academic staff to set up the five laboratories on a daily basis; maintain storerooms (i.e. audit checking, re-ordering consumable resources, maintenance of resources); assist with technical, mechanical and resourcing difficulties so as to allow staff to conduct their classes smoothly and without disruption; and assist in the Learning Resource Centre at times of high demand.

Technology Training

Staff should receive training to use the technology effectively. A full-time technical support staff member should provide planned and ‘just in time’ training to new and experienced staff. Regular training is required as staff will need orientation to new technology as it becomes available.

Air-conditioning in the corridors

Air-conditioning should be installed in the corridors to comply with health and safety regulations.

Accessibility and safety for those in wheelchairs

There is no emergency exit for people in wheelchairs if the lift on the second floor of B108 is disabled. This should be addressed to comply with health and safety regulations and the Curtin Disability and Access Plan.
**What our staff say**

The quality of the environment tells students that they matter and we care about their education.

It’s a really great way of saying to students we think you’re important…what better way can you honour your students?

I feel as a staff member more valued to have a good space like that and I feel like they get more out of me because I’m happy.

It’s led to an improvement in collegial relationships in the School. I think it has led to an improvement in how we feel about what we’re doing and the University is valuing us.

**What our students say**

There’s a collaborative feel that it creates, being in a place that we can call our own but also proudly share with others.

I feel there is a bit of ownership over the building as ‘ours’ as OT students.

Since the completion of building 108, there is a stronger sense of belonging.

They let Social Work have a space!
References


