

A TALE OF TWO CULTURES: BUILDING COMMUNITY BY RESEARCHING COMMUNITY

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Abstract

Upon beginning postgraduate research at the Faculty of Built Environment at UNSW, the authors were surprised to find themselves working in a library-like environment, where a culture of silence prevailed. Assuming initially that this was just how postgraduate research was, they soon learned that the building also housed a second postgraduate lab with a different work environment featuring more interaction. This discovery prompted the authors to create an informal research community group, the Cohort Knowledge Share Group (CKSG), and to develop a 'mini-thesis' to explore the lab differences and to share the thesis creation process. Auto-ethnographic perspectives shaped the mini-thesis study, which utilized mixed methodology incorporating a questionnaire, individual reflections and interviews, focus group sessions and observation.

The mini-thesis results illustrated that despite undertaking a common journey, the research student community's diverse and multicultural nature created complex needs for facilities, community engagement and personal support. In addition, while undertaking the mini-thesis study, the authors discovered that the innovative CKSG model had changed the sense of community in the main postgraduate lab, as well as the broader research student journey. As this case study will show, the CKSG has therefore been a transformative experience in more ways than one.

1. Introduction

“The sense of isolation on Level 6 is overpowering, as is the deafening silence.”

First year PhD student, Level 6 lab

“[In the Mezzanine lab], I made a family out of my friends.”¹

First year PhD student, Mezzanine lab

The Faculty of the Built Environment (FBE) at the University of NSW has an active postgraduate research candidate cohort of over 100 students. Most of the full-time students have workspaces in the faculty building known as the Red Centre, the majority of which are located in two research student labs, one on the Mezzanine Level (12 students) and the other on Level 6 (36 students). The cohort includes a diverse mix of students, including a majority of women, a range of age groups and a large number of international students from several continents. The key demographic information of the cohort is given in Table 1 below.

¹ Quotes taken from the interviews and focus groups conducted for this research – including this one – are paraphrased.

Table 1 Demographics of the student cohort in the two labs

	Level 6	Mezzanine
Gender	50% female	83% female
Nationality	39% Australian 39% Chinese 22% other nationalities	50% Australian 17% Chinese 33% other nationalities

Source: Postgraduate research coordinator, FBE. All percentages are rounded.

At the beginning of 2011, the authors noted that lab culture on the Mezzanine seemed to be marked by a particularly active level of student interaction, to the point where one student commented that “we actually need rules on this level to ensure that people can work.” By contrast, the lab culture on Level 6 seemed to be characterised by an atmosphere of individual study, with phone calls being taken outside the lab and social interaction limited to short bursts, reflecting the prevailing culture of silence. The most immediately apparent reasons for these differences in culture seemed to be the different lab size (37 desks on Level 6 vs. 11 on Mezzanine²) and the different workstation layout on the two floors (open plan vs. individual ‘pods’).

The PhD program in the FBE does not include required coursework, so there are few formal opportunities for new students to meet their colleagues. In early 2011, one of the new PhD students decided to address this lack of opportunity by suggesting the students form a community group to bring people together and help them to share the PhD journey. A number of other students supported the idea, and the Cohort Knowledge Share Group (CKSG) was born, soon growing to include over 40 members from both Level 6 and the Mezzanine. The group met fortnightly for cake, coffee, casual conversation and the opportunity to share insights into the PhD journey and how to successfully undertake postgraduate research.

It soon became clear that many group members felt there were research approaches and skills that they would like to learn more about, and saw the CKSG as an opportunity to fill these gaps in their knowledge. To achieve this, the group decided to undertake a shared ‘mini-thesis’ project to practice the process of developing a thesis, and invited faculty academics to present in seminars on research methodologies. The topic chosen explored why the culture in the two PhD labs was so dissimilar, with the mini-thesis titled “A Tale of Two Cultures: is it the people or the partitions?”

This paper provides a case study of this mini-thesis, exploring (i) how the group implemented the research project; (ii) what the results of the research showed us about how different lab culture arises and how it affects the PhD journey; and (iii) how the innovative ‘CKSG model’ allowed the group to achieve these outcomes.

Because the initial goal of the mini-thesis was to engage in an exercise to practice research skills and to share the postgraduate journey, this work did not begin with a comprehensive overview of the literature. However, during the course of the research the authors became aware of a growing body of research that considers the “perilous” postgraduate research journey, and highlights how it is often characterised by high stress levels, isolation and confusion, especially in the social sciences where less collaboration and lab experience is required (Hadjoannou, 2007). To help students overcome this isolation and increase their productivity, universities have been giving increasing attention to efforts to engage doctoral students in an intellectual community, often referred to as a research community. The benefits of belonging to a research community have been identified as a reduced sense of isolation, increased academic and informal skills, a perception that the PhD journey is more enjoyable, and a higher likelihood of completion (Kiley, 2005). However, most current research focuses on what the faculty can do to create a research community, considering issues such as supervision and topic-based

² These figures differ from the student numbers as they include a hot desk on Level 6, and a shared desk on the Mezzanine.

peer groups (Weidman and Stein, 2003; Conrad, 2003; Denholm and Terry, 2006). In addition, a supportive study climate is examined at the departmental or faculty scale, but there is still much that is not known about the PhD community and the interactions in the immediate environment from the point of view of students. Thus, a closer examination of culture inside the PhD community is helpful to explore the impediments that prevent productive peer interactions and to find possible ways to improve the situation. As such, the authors now see this research as a small but innovative contribution to this field.

As our project subsequently progressed to consider spatial aspects of our research experience, reference should also be made to another body of literature which deals with the influence of space on community interaction and behavior. This literature is found within the umbrella of space theory and ideas around private/public spatial divides. Of particular resonance with the project are those studies debating the relationship between environment and human behaviour (Appleyard, 1973, Sommer, 1969, and other human-interactionists from the 1960s). Within that field, specifically relating to office spaces, studies have explored the links between the nature of space (closed, traditional cell, open or multiple spaces) and levels of communication between employees. Recent results from Boutellier et al. (2008) are rather counterintuitive to earlier results from Hatch (1987), thus showing that there are ongoing nuances to the debate. Authors have also studied levels of satisfaction of employees moving from different office spaces, showing the intricate nature of relationships between job status and the nature of the space (Oldham and Fried, 1987; Brenna et al., 2002). While physical determinism in environmental behaviour research has been criticized (Cuthbert, 2007), industry and governments continue not only to apply spatial principles but also coordinate that with corporate culture and requirement specificities, as exemplified in the works developed by the British Council for Offices (2005). The research conducted here may be seen as offering a research student perspective on this ongoing debate about the relationship between work space and work culture.

2. Project Methodology

The methodology was built around a research question that is implicit in the title of this article: why are there such apparent differences in the community interactions between the level 6 lab and the mezzanine lab?

Exploratory in nature, the research methodology did not pre-suppose an answer, and was based on a self analysis of an existing community by members of the community. While individual researchers undoubtedly began the project with opinions about whether they liked their current working arrangements, the mix of participants from both Level 6 and Mezzanine ensured the pros and cons of both working environments were taken into account. In this manner the research was informed by auto-ethnographic approaches while relying primarily on qualitative social research methods.

Accordingly, the mini-thesis employed a mixed methodology approach, which included a quantitative survey, an observation exercise and three qualitative methods - written reflections, individual interviews and focus groups. Triangulation of the results reinforced the findings from the different methods used.

The CKSG was divided into three teams and each was made responsible for one of the research methods. The teams were formed based on personal preferences as well as previous experience and existing skills. Some students expressed interest in participating in more than one group, as a way of experiencing and acquiring new knowledge. Two months were set aside for the design and execution of the methods. While the survey and observation took place concurrently, the interviews and focus groups were planned and conducted after the survey had closed, as they drew broadly on the themes and findings from the survey.

2.1 Survey

The survey was created using the UNSW IT survey service, and was emailed to the list of

postgraduate students in the faculty (with the approval of the Director of Graduate Research Students).

Of the 105 students in the list (enrolled) at the time, a total of 24 students (23%) completed the survey. Of those, 8 were from the Mezzanine and 16 were from the Level 6 lab. In terms of the percentage of respondents from each lab, the percentage of respondents on Mezzanine (67%) was much greater than on Level 6 (44%). The demography of participants in the survey was very diverse, accurately reflecting the diverse nature of the faculty's postgraduate research student cohort (see Table 2 below).

Table 2 Demographics of survey participants

	Level 6	Mezzanine
Age	38% between 26 and 30	38% between 26 and 30
Gender	75% female	75% female
Nationality	44% Chinese 25% Australian 32% other nationalities	29% Australian 29% Chinese 43% other nationalities
Stage of Program	38% third year 31% second year	88% second year

Source: Survey. All percentages are rounded.

The survey design used open questions for demographic information, followed by multiple choice questions regarding students' perceptions of their spaces and interaction with community in their lab. Students were informed that their participation was voluntary and the survey was anonymous.

2.2 Observation

The observation team was responsible for a detailed description of the physical environment of the Level 6 lab and Mezzanine lab. In addition, this group also conducted an on-site observation and description of social interactions in both spaces.

The Mezzanine lab includes an open workstation layout with low level partitions which allow for eye contact between students across the whole floor. It includes a kitchenette that allows students to make tea/coffee and heat up lunches without having to leave the lab. The Level 6 lab is based around individual 'pod-style' modules, with high partitions which make it impossible for eye contact between students. The modules branch off from a central corridor, and there is also a central meeting area with a large lounge where the students can print and photocopy (Figure 1). There is no kitchenette, so students must use a lunch room on Level 4. Some students have kettles at their desks. Table 3 below shows a comparison of the facilities and physical environment in more detail.

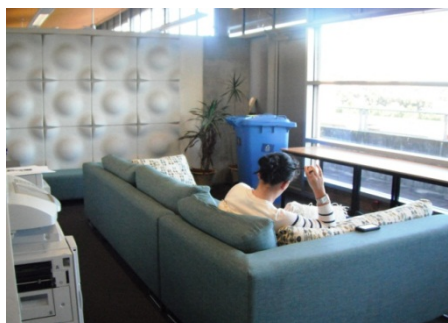


Figure 1 Common area on Level 6

Source: Observation.

Table 3 Comparison of the physical environment of the two research labs

		Level 6	Mezzanine
1.	Number of desks	37	11
2.	Individual work space design	L-shaped: 2100 (mm)x1700 (mm) 3.6 sq.m	Straight desk: 1800 (mm)x750 (mm) 1.35 sq.m
3.	Inter-desk partition height	1500 mm	1340 (flexible)/ 1180 mm
4.	Intermediate partition height	2100 mm	N/A
5.	Common area/corridors		
	Public	1260/925 mm	1500/ 1650 mm
	Semi-public	1000 mm	1860 mm (including chair space)

Source: Observation

After the detailed physical documentation and development of architectural plans for both labs, the spaces were zoned into private, semi-private and public areas (See Figures 2 and 3 below). Using these zoned plans, photographs and note-taking, the observation involved three visits per day (morning, afternoon and late afternoon) to each lab on four different days of the week, focusing on the interactions happening in the public and semi-private areas in the two spaces.

In terms of access to the spaces and community, the team would enter the labs with authorized swipe cards and where possible, inform students at the lab about the research and the specific method being applied. Students were also informed that the CKSG had been advised that ethics approval was not required, given that the project involved research by students of themselves. It was interesting to note that the observation team was rarely approached on Level 6, given the very private character of the space, while the students on Mezzanine immediately noticed the observation team and requested information about the research.

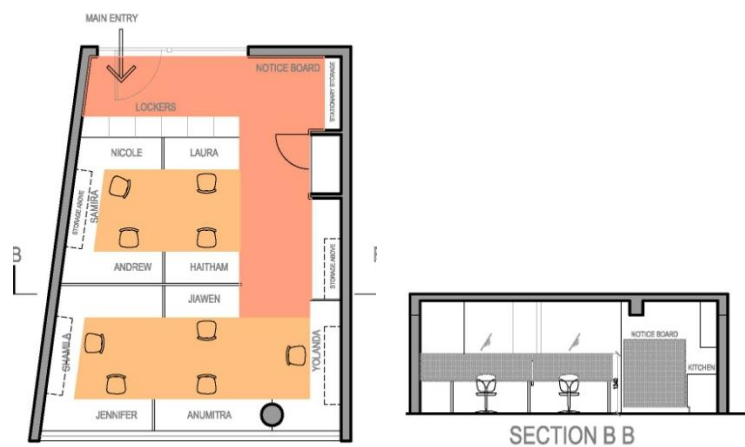


Figure 2 Floor plan and section of Mezzanine lab (not to scale)

Source: Observation.



Figure 3 Floor plan and section of Level 6 lab (not to scale)

Source: Observation.

2.3 Written reflections/Interviews/Focus groups

Three qualitative methods were used to explore in detail the perceptions of students about their work environment and community. For the written reflections, members of the CKSG group were asked to describe a single day in their lab, and then submitted this document via email to one member of the research group, who circulated them to the rest of the group without identification, thus retaining anonymity. For the interviews, two specific students were identified and asked to participate, on the basis that they had significant experience (at least 12 months) working in one or both of the postgraduate labs. These interviews lasted for approximately one hour each. For the focus groups, a note was left on every student's desk on both Level 6 and the Mezzanine, informing them about the research and inviting their participation. Ten students from the Level 6 lab and seven students from the Mezzanine lab participated consecutively in separate focus groups, which lasted for approximately an hour and a half each. In both cases, a broad structure was used to guide the open-ended discussion. The initial structure drew on the results from the survey, which made evident important themes for further exploration. The themes discussed included: (i) a broad perception of students' working environment; (ii) how they felt the space influenced social interaction; (iii) how social interaction influenced their research experience and outcome; (iv) and security concerns (this had recently been an issue in one of the labs). In both the interviews and the focus groups, notes were taken and a recording was made. Due to time constraints, the recordings were not transcribed in full, but were used to correct and supplement the notes taken by CKSG observers.

2.4 Triangulation

Finally, the groups brought together the results from each method in a one day meeting. The results were displayed on the wall for an initial overview by all group members, and a 15 minute presentation was delivered by each group with more detail about the processes used and the results. Faculty members were invited to attend the presentation to provide expert feedback and to learn about the research outcomes. A final brainstorming session between the students then took place to summarize the main points and conclusions from each method. A group presentation was prepared, and the results were then presented by group members at the Faculty's end of year conference for postgraduate students in December 2011.

3. PROJECT FINDINGS

The results from this research can be grouped under three key themes: (i) confirmation of the difference in research culture between the two labs; (ii) possible reasons why this difference exists; and (iii) implications of this difference. Research findings on these three themes are explained in more detail below. Table 4 below summarises how these themes emerged from the different research approaches employed.

Table 4 Overview of which themes arose from different research methods

Themes		Survey	Observation	Reflections/Interviews/ Focus Groups
Phenomenon	L6 has a culture of silence	√	√	√
	Mezzanine has a culture of interaction	√	√	√
Reasons for	Partition/office planning affects social interaction	√	√	√
	Stage of program affects social interaction	√		√
	Student background affects social interaction (including cultural misunderstandings & flexible work location)	√		√
	Security framework challenges group cohesiveness			√
Impact of	Social interactions make PhD journey more enriching		√	√
	Quietness is also important		√	√

3.1 Phenomenon: difference in research cultures

The survey data, the interviews and the observation exercise all confirmed that there is a difference in the level of social interaction between students in the two research labs. While a generally silent atmosphere exists on Level 6, the Mezzanine is a more interactive research student lab. As can be seen from Figure 4 below, the survey shows that respondents from the Mezzanine lab talk to each other more frequently, while most respondents from Level 6 interact only occasionally in the office.

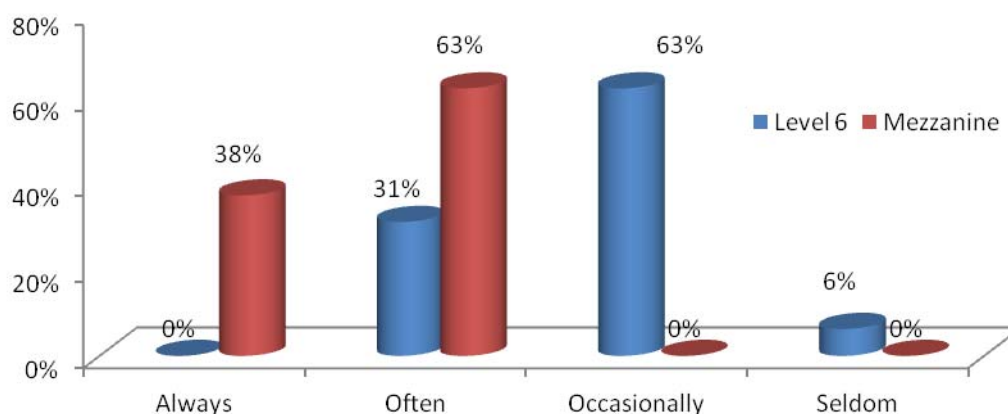


Figure 4 Perceived Frequency of interaction with other students in each lab

Source: Survey. All percentages are rounded.

Interviews with students from both labs further verified that the Mezzanine is more socially active. Two students from Level 6 said that:

“In my first year I only had three conversations with people.” (Source: Focus group – student from Level 6)

“L6 was not a very welcoming environment...I was told off for too much noise...I felt bad for disturbing others” (Source: interview – student from Level 6)

This suggests that students on Level 6 feel more isolated, with limited interactions with other students. Furthermore, they are obviously disappointed with the apparent silence in their office (a negative evaluation). As a stark comparison, in the Mezzanine lab there were more frequent conversations and participants expressed a general satisfaction at the office environment (a more positive evaluation):

“I found there to be a smooth development of relationships in the Mezzanine lab” (Source: Interview – student from Mezzanine)

“The harshness within the life and research could be released a simple way: chat whenever you want to chat, which could be somehow achieved in Mezzanine.” (Source: Reflection – student from Mezzanine)

As a supplement to the findings above, observations undertaken during the same research period also confirmed that conversations on Level 6 are limited; they are more likely to happen in the lab’s common area and focus more on technical problems. By contrast, in the Mezzanine lab, interactions occur everywhere and are more frequent, covering varied topics. This suggests that conversations on Level 6 are likely to happen only when it is necessary – for instance, to deal with a particular problem - while in the Mezzanine lab, they are taking place in a more unstructured and relaxed manner.

Having thus confirmed the existence of difference in research cultures in these labs, many participants also provided opinions as to what they considered the contributing factors for this difference. The research has identified four key issues in this regard, which will be discussed next.

3.2 Reasons for the difference

Four key themes arise from the research which provides some explanations for the difference in the level of interactions between the two labs. These themes cover: (i) office planning; (ii) the stage of the student’s current program; (iii) the student’s background; and (iv) the security framework of the office environment.

3.2.1 Partition/office planning affects social interaction

When the survey asked students where they normally have interactions with other students, an obvious

difference emerged. Most of the conversations on Level 6 happen in private areas, while by comparison, in Mezzanine, the common areas in the office are the place where most interactions occur. This suggests that conversations in the Mezzanine are more open and public, meaning anyone is more welcome to participate, while on Level 6, conversations are more private, and thus discourage participation of other students. Places where social interactions happen can be seen in Figure 5 below.

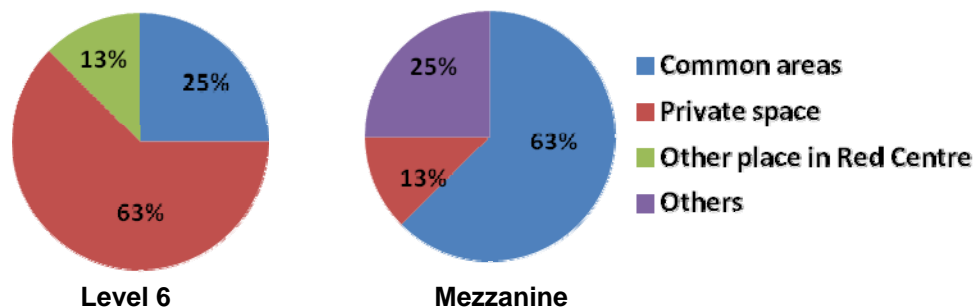


Figure 5 Place of interaction in labs

Source: Survey. All percentages are rounded.

Direct observations of the office partitions and interviews with students clearly suggested that office planning can either facilitate or discourage social interactions. In the Mezzanine lab, the private/public zones are not clearly demarcated, so interaction occurs everywhere and at all times. On Level 6 however, there is a more distinct boundary between public and private spaces, and interactions tend to be more individualised conversations. The following two quotes are indicative of how students are encouraged or discouraged to have conversations because of the office planning:

“Actually the majority of us enjoy the intimate distance between the desk[s], in which we could easily gossip, share the secret in shopping, discuss the general research method, or complain to each other.” (Source: Reflection – student from Mezzanine)

“If noise is being made you don’t know who, why – hence [there are more likely] impersonal, angry responses, rather than working problems out together.” (Source: Focus group – student from Level 6)

This latter quote can be interpreted as reflecting not only the lack of eye contact possible on Level 6, due to the high partitions, but also the larger size of the room and greater number of students working there.

3.2.2 Stage of program affects social interaction

The second contributing factor to social interactions relates to respondents’ current stage of their program. It is posited that those at the same stage are more likely to share their experiences/problems together and thus have more conversations. In this regard, students in the Mezzanine lab have an advantage, as the lab was opened a year before the project started, and therefore all of the lab members were relatively new students who started their program at the same time. By comparison, Level 6 lab has existed for several years and a constant turnover of new and old students has resulted in a mixture of students at various stages of their programs. This can be seen from Figure 6 below.

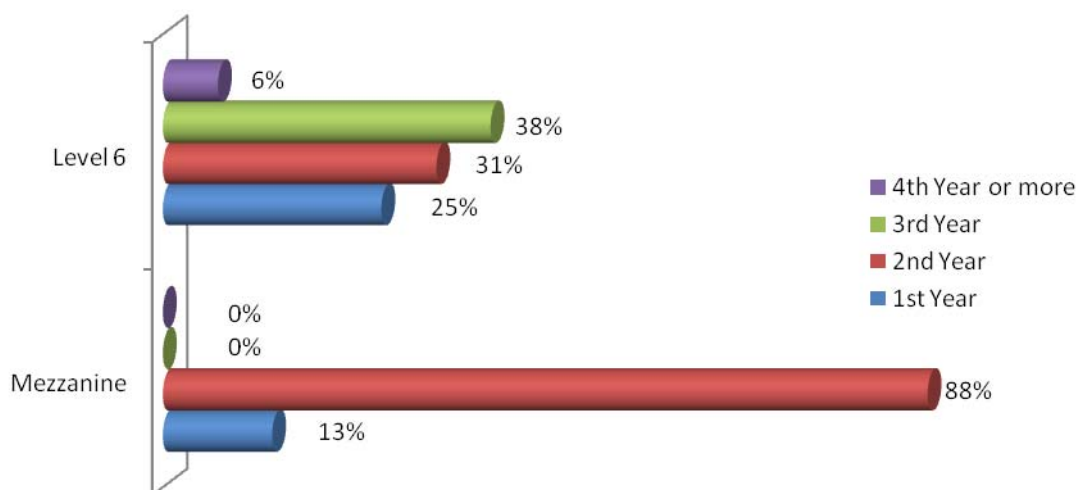


Figure 6 Students' program stage

Source: Survey. All percentages are rounded.

Students themselves have also pointed out that being at the same stage provides more opportunities to talk with each other, while students at different program stages tend to have different needs and thus have few common issues to discuss. Two student quotes make this distinction clear:

“Maybe because we are in the same academic stage ... we always discuss and communicate in [a] positive way.” (Source: Reflection – student from Mezzanine)

“I prefer a more interactive environment but at the moment I’m very busy so L6 is quite good, because it allows me to sit, work and focus.” (Source: Focus group – student from Level 6)

While the optimal relationship with peers in a research course would be to share experiences at different stages, in reality, some students need more space and silence than others in order to focus on their work. But while a number of students noted that the quiet atmosphere on Level 6 was productive for them, others noted that they could work easily with the increased noise in the Mezzanine lab, while a third group suggested that even the minimal noise and interaction on Level 6 was too disturbing for them, and for that reason they preferred to work at home. As such, the results suggested a more diverse range of working preferences amongst the cohort than had initially been anticipated.

3.2.3 Familiarity affects social interaction

The survey and interview results showed significant variations in students’ level of familiarity with other students in the two labs. Significantly, the results showed that 50% students from Level 6 can match less than 30% of the names and faces of their colleagues in the same room, despite most of them have been there for 2 years and more. This result suggests that they do not interact with each other sufficiently to be able to identify the names and faces of their own room companions. On the other hand, all students from the Mezzanine know and recognize the names and faces of all of their peers from the same room. They regularly interact with all of the other students in their lab.

The low familiarity shown in Level 6 compared with the high familiarity observed in the Mezzanine may be related to three points of difference between the two labs: nationality, room size and stage of the program. There is no obvious difference in the distribution of gender or age between the two labs.

On the first point, the difference in nationality reflects the research by Nesdale and Todd (1993) noted above, which found that the more international students present, the less Australian students wished to have contact, and vice versa for international students. In such cases, there is a sense of alienation among minority students and a tendency for different ethnic groups to maintain considerable social distance, especially when the level of minority enrolments increases. The results obtained by our survey and interview show that there is a higher percentage of Chinese students on Level 6 than on

Mezzanine (see Table 1), which can be considered as the dominant group in Level 6, when compared with Australian students and students from other countries. When compared with the Mezzanine, the percentage of Chinese students and Australian students is equal, and people from other countries are not a minority group. This may explain to some extent the increased willingness to interact with other groups in the Mezzanine compared to Level 6.

As noted above at section 3.2.2, the stage of the program can also affect the familiarity with other colleagues. Likewise, room size and student numbers may affect levels of familiarity, as noted in section 3.2.1 above.

3.2.4 Security framework challenges

Interview results showed that students find it important to have group cohesiveness, partly as a matter of safety, and to look after each other and feel safe and confident in their working space. In October 2011, Level 6 suffered from several visits from a thief who entered the room without authorization. Students in the lab did not notice, because they were not familiar with the people that usually work in that room. This incident prompted a new set of security protocols on Level 6 to ensure lab members were more careful about visitors, but also had the negative effect of making lab members extremely cautious about new people – such as part-time or new students - entering the room. As one student observed:

“The security protocols protected privacy, however this did not allow new students to be recognised and greeted. Instead they were left alone or deemed suspicious.” (Source: Focus group – student from Level 6)

This outcome actually exacerbated the problem, rather than solving it:

“The security protocols for the whole cohort interfered with the central idea that if a community knows all its members, then there is an instant recognition of strangers that in turn protects the community.” (Source: Focus group – student from Level 6)

3.3 Impact: social interactions make the PhD journey more enriching, but quietness is also important

The results clearly show that there is always the need for quiet time to focus and be productive, as the following quotes highlight:

“I do appreciate the quiet environment here (L6), which helps me focusing on my work.” (Source: Reflection – student from Level 6)

“The Mezzanine lab is a great community however it is not always possible to concentrate on your work and I am thinking of moving to the Level 6 lab where you can do more serious thinking” (Source: Focus group – student from Mezzanine lab)

However, interview and survey results showed that students also benefit in a variety of ways from social interactions during their research journey, as the following quotes suggest:

“I owe my quick progress on my project to my friends in the Mezzanine.” (Source: Focus group – student from Mezzanine lab)

“I get feedback from my peers in Mezzanine – even in a deadline situation they contribute to make life easier.” (Source: Focus group – student from Mezzanine lab)

“I will often go a whole day and not talk to anyone at the lab...my English is not so good and I would like to be able to practice speaking it.” (Source: Focus group session – student from Level 6)

These quotes highlight the way in which isolation can cause students to miss out on the benefits that come from collaboration, both in terms of their specific PhD work and their broader educational/cultural needs. When considered in conjunction with the need for quietness, it becomes clear that the needs of the student group are diverse, and can change significantly as they progress through the PhD journey.

4. CONCLUSION

Before concluding, it should be noted that the research outcomes from the mini-thesis may have some limitations, most notable of which is the likely self-selection by a disproportionate number of participants who were unhappy with their work situation and appreciated the opportunity to discuss it. Nonetheless, because the goal of the research was to understand and address the concerns of those students who were not having an optimal postgraduate research experience, and because no statistical conclusions have been drawn about the percentage of students who are unhappy in some way, the authors do not consider this limitation to be of significant concern.

Having analysed the results of the mini-thesis project, the CKSG came to two key conclusions:

- Neither the Level 6 nor the Mezzanine lab space is necessarily better – instead, the results show that ‘one size doesn’t suit all’ when it comes to postgraduate research students; and
- The diversity of students in the postgraduate research program, and their disparate needs, are not fully reflected in sufficiently varied and flexible workspaces, and students are not currently offered a broad enough variety of ways to feel part of the cohort group.

However, perhaps the most interesting conclusion the group drew from the research was that, simply by engaging in the research project, the group had begun to address the second of these issues, by creating a new venue for interested students to engage with their peers. As one CKSG student noted, “[t]he biggest contributing factor to the success of the CKSG came out of the decision to embark on a ‘mini-thesis’.” The mini-thesis had the effect of making the CKSG a meaningful and educational group to participate in, thereby encouraging group members to give up their valuable time to attend the meetings and carry out the research. By making the CKSG more than simply a social group, the mini-thesis project made the CKSG a useful resource for a wider range of students, while simultaneously giving participants a greater sense of confidence in their research skills.

At the same time, the CKSG and ‘mini-thesis’ experiment also had broader benefits for the research student cohort. The group found out somewhat by accident that the effects of undertaking the research were as interesting as answering the research question, as in small but important ways both the sense of community in the Level 6 lab and the research student journey in the faculty have changed as a result of the CKSG’s existence. To paraphrase one focus group participant’s response: “L6 is definitely friendlier since the CKSG started...if nothing else now you know people’s names and say ‘hi’...and that makes a big difference!” Social events are more frequent, and faculty members this year assisted in drawing up an official calendar to ensure that social events were planned regularly and had funding. Lively yet respectful discussions are more often heard in the Level 6 lab, and the CKSG group email list has become a resource for students wishing to ask for help from their peers, and for making group plans (such as impromptu social events or organising flowers for an unwell colleague). Thus, in the spirit of participatory action research, it seems that by researching community the CKSG may have in fact also changed the community – for the better.

5. ACKNOWLEDGEMENTS

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6. REFERENCES

- Appleyard, D. (1969). Why buildings are known. *Environment and Behavior*, 1, 131-156.
- Boutellier, R., Ullman, F., Schreiber, J. & Naef, R. (2008). Impact of office layout on communication in a science-driven business. *R&D Management*, 38, 372-391.
- Brennan, A., Chugh, J. S. & Kline, T. (2002). Traditional versus open office design. *Environment and Behavior*, 34, 279.
- British Council for Offices. (2005). *The impact of office design on business performance*. Cobe, London.
- Conrad, L. (2003). *Five ways of enhancing the postgraduate community: student perceptions of effective supervision and support*. Paper presented at the Learning for an Unknown Future: 26th Annual HERDSA Conference, Christchurch, New Zealand, 6-9 July.
- Cuthbert, A.R. (2007). Urban design: requiem for an era – review and critique of the last 50 years. *Urban Design International*, 12(4), 177-223.
- Denholm, C. and Terry, E. (2006). *Doctorates downunder: keys to successful doctoral study in Australia and New Zealand*. ACER Press, Camberwell.
- Hadjioannou, X., Shelton, N.R., Fu, D. and Dhianarattigannon, J. (2007). The road to a doctoral degree: Co-travelers through a perilous passage. *College Student Journal*, 41(1), 160-177.
- Hatch, M. J. (1987). Physical barriers, task characteristics, and interaction activity in research and development firms. *Administrative Science Quarterly*, 32(3), 387-399.
- Kiley, M. (2005). *Engaging students in doctoral communities*. Australian Universities Quality Forum: Engaging communities, Sydney, AUQA, 73-77.
- Nesdale, D. and Todd, P. (1993). Internationalising Australian universities: the intercultural contact issue. *Journal of Tertiary Education Administration*, 15(2), 189-202.
- Oldham, G. R. & Fried, Y. (1987). Employee reactions to workspace characteristics. *Journal of Applied Psychology*, 72, 75.
- Sommer, R. (1969). *Personal space: the behavioral basis of design*. Prentice-Hall, New Jersey.
- Weidman, J.C. and Stein, E.L. (2003). Socialization of Doctoral Students to Academic Norms. *Research in Higher Education*, 44(6), 641-656.