

**HIGH SCHOOL LEARNING SPACES:  
INVESTIGATING YEAR 6 STUDENTS'  
IMAGININGS AND REPRESENTATIONS.**

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# Abstract

Well designed learning spaces and flexible spatial practices may engage early adolescents as they transition from primary to high school during a period typically associated with disengagement from learning (MYSA, 2012). Student imaginings on the design and use of learning spaces can critically inform our understanding of how young people conceive physical and social learning spaces. This qualitative case study explored Year 6 students' experience and imaginings in response to the question, "How do Year 6 students imagine their future high school learning spaces?" Lefebvre's (1991) Spatial Triad and Bland's (2009) typology of imagination provided the theoretical framework for the research. The participants comprised 22 students from one Year 6 class at a Brisbane State Primary School. Data collected included students' annotated photographs, visual images of their future learning spaces and semi-structured interview responses. The data were thematically analysed and the specific types of imagination explored. Key findings indicated Year 6 students' strong preferences to learn in outdoor, informal spaces with clear connections with nature. Year 6 students also indicated the impact of environmental factors such as noise and fresh air, developing autonomy, learning with peers and emotional responses linked to learning spaces. The findings are of potential interest to educators and architects regarding student spatial insights in both upper Primary and Junior Secondary contexts, as well as to teachers reflecting on their pedagogical use of physical and social space. For research and practice, the findings will inform understanding of how spatial aspects engage learners.



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## List of Abbreviations

BER	Building the Education Revolution
EAL	English as an additional language
SES	Socio-economic status

## Statement of Original Authorship

The work contained in this thesis has not been previously submitted to meet requirements for an award at this or any other higher education institution. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made.

QUT Verified Signature

Signature:

Date: 26 October, 2016

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# Chapter 1: Introduction

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## 1.1 INTRODUCTION

Since 2015, Year 6 primary school students in Queensland transition to Year 7 as high school students. The transition from primary school to high school can be an exciting time of life, but it can also cause uncertainty for students as it often means changing from familiar learning spaces to new, unknown spaces. The change in learning location falls during the middle years of schooling, a period associated with issues of disengagement and academic under achievement (Carrington, 2006). While research shows that learning spaces have the potential to positively affect social, cognitive and affective domains of student experience (Walker, Brooks & Baepler, 2011), the potential impact of learning spaces on middle years students' transition to high school requires further exploration.

This qualitative case study responds to the research question: 'How do Year 6 students imagine their future high school learning spaces?' As the thesis title suggests, it explores the ways that Year 6 students imagine - and represent their imaginings - of their future high school learning spaces. The study's findings contribute to emerging research about stakeholder involvement in learning spaces design by revealing Year 6 students' preferred primary school spaces and their expectations about their future learning spaces before transitioning to high school.

This chapter introduces the study and its purpose. It begins with the personal reasons and research background to the current study (Section 1.2). Then, the contextual issues of middle years and transition are addressed (Section 1.3). The central phenomenon of learning spaces is introduced in more detail (Section 1.4) and the research approach, key findings and significance are discussed in Section 1.5. Definitions of the key terms in the study are explained (Section 1.6). Finally, an overview is provided with concluding remarks (Section 1.7).

## 1.2 BACKGROUND

Students have many valid contributions to make concerning their own education, particularly with regard to their learning spaces, however student insights are seldom included in design decisions (Cleveland & Fisher, 2014). This research was based on my perception and professional experience that students are creative, competent and knowledgeable. My view that young people have much to contribute toward learning space design was further inspired when I read the student responses to the proposition, *The school I'd like* (Burke & Grosvenor, 2003). Thousands of United Kingdom students shared their hopes, visions and criticisms concerning their schooling experiences. Their responses highlight the desire of students to be consulted. They also reveal the insider knowledge students provide when included in school-oriented dialogue. By this I mean the invested, insightful perspectives that students may have regarding their own experience of schooling but which adults can overlook or misunderstand if they do not ask. United Kingdom student perspectives were revisited in 2011 by Burke and Grosvenor (2015) and the same yearning to be heard was expressed:

*I think it's important to listen to children since we have a really big imagination ... and teachers may be able to learn something from us since they don't know everything* Vishane, year 4 pupil (2015, p.xxi).

Learning spaces were one of the areas discussed by the respondents as they assessed their experience of school and imagined alternatives. Responses ranged from simple, yet sobering comments such as, "I would like the toilets to have locks on" (2003, p.27) to mini manifestos which articulated the emotional impact of learning spaces:

*The basic aspects of the buildings we are taught in do not promote learning, but instead, enhance feelings of negativity. I hate waking up every weekday knowing that this day, one that is so valuable to me, will be spent in a giant magnolia prison. I want colours, I want beauty in my surroundings, but most of all I want to be filled with inspiration by a place that I can call my home from home. The colour of a room is very important; a calming sky blue for instance will make the room less of a cell. No person wants the fundamental*



*years of their life spent in ugliness and why should they?* Angela, 15 (2003, p.25).

Some of the responses were fanciful, but most expressed earnest, practical solutions to the perceived problems encountered through their school experience. As I read their viewpoints and appreciated their student perspectives, the kernel for this research project was formed.

Three conceptual considerations about the importance of seeking student perspectives underpin my research; those of power relations, student creativity and competence, and the value of accessing student imagination. The first premise is that spaces reflect who has power in schools. Most schools reflect a hierarchical structure that is embodied in the formal architecture and the segregated social organisation and interactions created by school spaces. For instance, private spaces for teachers or spaces designated for senior students only, reveal the culture of who and what is valued and the power structures that exist within a school (McGregor, 2004a; Fisher, 2004). The power structures of a school often leave the majority of student stakeholders without a voice. In this study I asked students to express their views in response to my perception that they are often excluded from the design and thinking process about learning spaces (Bland et al., 2013).

The second premise is that students are competent and creative (Egan, 1992; Eisner, 2005). Education decision makers, designers and researchers benefit from connecting with students' creative and critical input into the design of learning spaces (Clark, 2010) and learning from student perspectives (Bland, Hughes, & Willis, 2013). This understanding influenced the research design of this study, as I invited students to participate creatively through sharing their visual and verbal imaginings of high school learning spaces.

The third conceptual premise concerns the value of engaging students' imagination. Imagination requires higher order thinking and engages students in thinking creatively, critically and abstractly (Egan, 2008). I chose to explore student ideas about learning spaces through their imaginings as I anticipated this would allow students to express their hopes, concerns and perceptions of high school spaces before they had actually experienced learning in a secondary context. The value of student perspectives will be further explored in the literature review.

Student insights into learning spaces have been the focus of previous research, showing that participants gain a greater sense of engagement in their schooling through articulating views and participating in research (Rudduck & Flutter, 2004). Despite the evidence that young people have constructive contributions to make regarding their schooling, student opinions in planning and decision making about their learning spaces continue to be rarely heard (Fielding, 2001). This was evident in the Queensland study *Reimagining Learning Spaces* (Bland, Hughes & Willis, 2013). Students were invited to imagine, draw and describe their ideal library learning space as part of the data gathering. It was while I was working as a research assistant on this project that my desire to seek out students' views and imaginings about their learning spaces grew. During one interview, a teacher-librarian laughed when she was asked what colour preferences students had expressed, as she explained, "We didn't ask them". Student perspectives were not sought in any of the 7 case study schools during the whole process of designing, building and creating spaces that were ostensibly to inspire and facilitate student learning. Based on their research into *Building the Education Revolution* (BER) funded libraries, Bland et al. recommended that:

"all members of the school community, especially students, are given opportunities to participate in consultative, collaborative design processes" (2013, p.6).

As an educator and a mother of four school aged children, I felt frustrated at the lack of student consultation in the BER library building exercise. I was aware that including students in the planning and realisation of a design process can provide many learning opportunities for problem solving and higher order thinking. Moreover, as I have observed, students have creative and insightful ideas to contribute to the actual design and intentional use of learning spaces. The teacher-librarian's throwaway line inspired me to wonder what students wanted and expected in their learning spaces.

Including students in a real design and planning process was beyond the scope of this study. However identifying what Year 6 students imagined about their future learning spaces was one step towards understanding the space-related expectations and anticipations of young people in their transition to high school. The invitation for students to imagine their high school learning spaces provided an opportunity to build knowledge of young people's social, cognitive and physical experience of schooling,

based on their knowledge of primary school and their projected views of high school spaces.

### **1.3 SCHOOL CONTEXT - MIDDLE YEARS AND TRANSITION**

The transition from primary to secondary school is an important stage of development that occurs in the middle years of schooling (Bahr & Crosswell, 2011) as young people move from an often smaller, self-contained classroom to a generally larger, more heterogeneous high school where they move between classrooms and specialist curriculum areas. This physical shift coincides with increased expectations for young people to demonstrate more independent academic skills and performance (Groundwater-Smith, Mitchell & Mockler, 2007). Primary to Secondary school transition has been defined as “a period of change that can be both challenging and exciting, in which children and families adjust to new roles, identities and expectations, new interactions and new relationships” (Hanewald, 2013, p.62). This definition highlights the newness of the experience as well as the relational and intrapersonal impact such changes afford. New teachers, new friends, new opportunities, a greater range of classes and classrooms and new freedoms have to be negotiated by students as they transition to high school learning spaces. The period of transition can be problematic for middle years learners, raising emotional concerns related to socialisation, academic expectations and physically negotiating a larger campus (Hanewald, 2013), as it also coincides with early adolescence.

Adding to the challenge of transition, students are in early adolescence, a period of personal development when issues of identity and independence tend to be central to their experience (Tytler, 2004). Socio-cultural influences such as peers become more important as a reference point than family, and the young person experiences physiological, neurological and psychological changes that become evident in appearance and behaviour (Pendergast & Bahr, 2010). The multiple changes being experienced have implications for student social and cognitive development and their engagement with schooling through social spaces.

Transition to high school warrants further research attention because it occurs during the middle years of schooling, a period linked to a slump in school engagement and academic achievement (Carrington, 2006; Hanewald, 2013; Pendergast & Bahr, 2010). Disengagement from learning can be expressed in a variety of ways, “ranging

from poor attendance, suspension, under-achievement and passivity through to disruptive behaviour and harassment” (Carrington, 2006, p.91). The significance of these problems is reflected in policy and educational reform over the past twenty years around middle years schooling in Australia (Bahr & Crosswell, 2011). The problem of maintaining student engagement and academic rigour at this time has been addressed through pedagogy, curriculum and assessment design approaches for the middle years (Pendergast & Bahr, 2010). However, the influence of learning spaces as a way of engaging middle years learners is a fourth response available to educators and warrants greater research attention.

### **1.3.1 Policy context – Year 7 moving to high school in Queensland**

The timing of this research is significant because of the major educational reform in Queensland of relocating Year 7 from primary to high school, and the associated opportunity of thinking through the provision of learning spaces to accommodate a new year level within a high school context. The relocation of Year 7 to high school within a Junior Secondary context moved away from the creation of a separate third tier of schooling specifically designed for middle years students (Bahr & Crosswell, 2011). Middle years students in Queensland State Schools are now spread across the upper grades of primary and the lower grades of secondary schooling, Junior Secondary. The need to accommodate Year 7 within a high school context required the state-wide development of physical infrastructure as well as a focus on the students’ experience of transition in policy and practice (Qld Government, 2011).

In 2015, for the first time, most Queensland Year 7 students experienced their first high school year in Junior Secondary. Year 7 had previously been the final year of primary school. This reform was due to the Queensland Government’s ‘Flying Start’ policy (Queensland Government, 2011). As outlined in *A flying start for Queensland children: Year 7 in secondary from 2015* (Qld Government, 2012), the emphasis of Junior Secondary is to challenge and support students through their transition to high school. The policy identified academic rigour and student wellbeing as the dual focus for young adolescents. The six principles of Junior Secondary – distinct identity, quality teaching, student wellbeing, parent and community involvement, leadership and local decision making (Qld Government, 2011) reflect middle schooling priorities

(MYSA, 2012) and a commitment to ensure a successful transition into secondary schooling.

While the education reform of Year 7 being placed within a high school context aligns Queensland with most states and territories in Australia, and ensures equitable specialist teachers and resources for participation in the national curriculum, it can also be seen as a move to address the historic decline in student achievement usually associated with the middle phase of schooling (Hanewald, 2013; Lingard, et al., 2001). The *Flying Start* policy responds to the findings of middle years researchers who argue that attention to intellectual rigor, connections to the real world and the development of higher order thinking assist in keeping middle years students engaged in their learning (Bahr & Crosswell, 2011; Pendergast & Bahr, 2010). The policy aims to engage students through the guiding principles of Junior Secondary to “provide challenging educational offerings that engage young adolescents, while giving them a sense of belonging and support through the changes they face” (Qld Government, 2011).

Learning spaces were not identified as a focus of the *Flying Start* policy (Qld Government, 2011). This seems a significant oversight as research shows that learning spaces have potential to be important in the transitioning process, and can affect student engagement, socialisation, identity and opportunity during a period of enormous change (Blackmore, et al., 2011).

As a consequence of the new policy, Queensland high schools undertook major physical modifications to accommodate the extra Year 7 students (Qld Government, 2011). The need to create new or refurbished facilities for a younger cohort of students also provided opportunities for more innovative design of learning spaces that engage young adolescents and facilitate student centred pedagogies aligned with middle years practices (MYSA, 2012; Pendergast & Bahr, 2010). Staff from schools such as Narangba Valley State High School researched and visited middle years precincts in other Australian states to gather ideas for their purpose built Year 7 building (Narangba SHS, nd). Other schools such as Craigslea State High School rearranged existing buildings to create a Year 7 designated zone at the school (Craigslea SHS, nd).

Across the state of Queensland every high school planned and created learning spaces to welcome Year 7 students. This change provided an opportunity for designing

learning spaces that engage young adolescents and facilitate student centred pedagogies aligned with middle years practices (MYSA, 2012; Pendergast & Bahr, 2010). As yet there has not been any follow up research about the impact of this transition, and it is unclear what impact this opportunity to redesign school spaces to support middle years learners has had for students. This study is a contribution within this research gap and to the emerging field of research that explores the connections between spaces and student wellbeing and academic outcomes (Walker et al., 2011).

Australian education policy has identified the potential role that learning environments play in keeping middle years students motivated and engaged in their learning. The *Melbourne Declaration on Goals for Young People* (MCEETYA, 2008) includes a commitment to enhance middle years student development and part of that commitment concerns shaping middle schooling learning environments:

Student motivation and engagement in these years is critical and can be influenced by tailoring approaches to teaching, with learning activities and learning environments that specifically consider the needs of middle years students (MCEETYA, 2008, p.12).

By including learning environments, Australian educational policy seems to have recognised the importance of the connection between the socio-spatial setting and learning and the need to address middle years disengagement through both pedagogy and tailored learning spaces. Practices and guidelines for implementing policy have emerged.

The Australian-based Middle Years Schooling Association (MYSA) is responsible for advancing the quality of teaching in the middle years and advocating for young adolescents to educators, parents, universities and other groups concerning middle years best practice. In their 2012 position paper spatial features impacting the learning experience of young adolescents are recognised. The MYSA recommend *places* for middle years students that include democratic classrooms, a shared vision, small learning environments, positive and safe environments and a sense of community and care. Yet these are social and pedagogical implications of space, without recommendations for physical spaces.

In summary, research and policy recognise the existing problem with young people and learner engagement in the middle years of schooling. Students aged

between 10 – 15 years (MYSA, 2012) face the greatest risk of disengagement from learning. There is some evidence that learning spaces can make a positive impact on learner engagement among young adolescents when they provide the opportunity to socialise, collaborate, work independently, access technology and provide ease of interaction between teachers and peers (Blackmore, 2011). However, little research attention has been paid to understanding middle years students' own experience and expectations of their learning spaces. Therefore, seeking their first-hand perspectives, this study has explored the imaginings of Year 6 middle years students about their future high school learning spaces. Set in the context of transitioning to high school, the study investigates how learning spaces can engage and support students in their learning.

#### **1.4 LEARNING SPACES, PLACES AND LEARNING ENVIRONMENTS**

This study adopts *learning space* as its underlying concept. I have drawn upon Lefebvre's (1991) concepts of perceived, conceived and lived spaces in exploring the Year 6 students' experience of their primary school physical learning spaces, their imagined or conceived future high school spaces and their social interactions within these spaces.

The terms *learning space*, *place* and *learning environment* are sometimes used in the policy and research literature interchangeably. *Learning environment* is often associated with quantitative research and psychology based classroom interactions (Dorman & Fraser, 2009; Fraser, Aldridge & Adolphe, 2010). The ontological and conceptual understanding of learning environments tends to be associated with the scientific or positivist tradition. The educational environment concerns features such as atmosphere, ambience, tone or climate that pervade a particular setting (Dorman & Fraser, 2009).

*Place* is also a contested term that is sometimes used interchangeably with *space* (Cresswell, 2013). *Place* may refer to three aspects; location, locale and sense of place, synthesising these aspects as meaningful location (Agnew, 1987, as cited in Cresswell, 2013). Places can have spaces between and within them. When spaces become invested with meaning they are usually given a name and thereby become a place. For example, the space between two buildings can become the 'Year 7 area' as Year 7 students tend to gather there at break times. Cresswell (2013, p.8) contends that

Lefebvre's view of socially produced space plays the same role as 'place' through the dynamic nature of inhabiting and personalising spaces into places of meaning and connection.

*Learning spaces* in schools encompass social, virtual and physical spaces. Learning spaces can be understood to include external and internal built spaces, shared community facilities and landscapes as well as various technologies (Blackmore et al., 2011, p.iv). This definition encapsulates the concept of learning spaces being more than classrooms, as the environment around learning is acknowledged, be it physical, digital or social. The integration of both physical and social spaces conceptually distinguishes this definition of *learning space* from the psycho-social understanding of *learning environment*.

Spaces, whether natural or built, shape social relations and practices of instruction and interaction (Blackmore et al., 2011, p. 3). This understanding of learning spaces moves beyond the notion of "a passive container for social action" (McGregor, 2004b, p. 351) to a socially constituted, interactive view of spaces. Thus, spaces are constructed from relations and are forever changing, emerging and dynamic; the conceptualisation of learning spaces is much broader than referring to a physical building, or an inanimate container for learning. Learning spaces in the 21<sup>st</sup> century have been designed to be "more flexible, spacious, welcoming and enabling digital and social collaboration" (Willis, 2014, p.4).

This study's understanding of *learning spaces* was informed conceptually by the work of Lefebvre (1991) who argued that spaces are socially produced and achieved through human activities that occur in perceived, conceived and lived contexts. These concepts are explained in more detail in Chapter 2.

## **1.5 RESEARCH APPROACH, KEY FINDINGS AND SIGNIFICANCE**

### **1.5.1 Research approach**

The purpose of this qualitative case study (Simons, 2009) was to gain understanding about the expectations and wishes of Year 6 students concerning the spatial aspects of their future high school. It addressed the research question:

*How do Year 6 students imagine their future high school learning spaces?*



The ‘case’ studied was one class of Year 6 middle years students at a State Primary School in Brisbane, Australia in the year prior to their transition to high school. Conceptually, the case study viewed the students’ preferences and imaginings about learning spaces through the lens of Lefebvre’s (1991) Spatial Triad. From a policy perspective, it was contextualised by Queensland’s *Flying Start* education reform (2011) that in 2015 relocated Year 7 from Primary to Junior Secondary, effecting a radical change in middle years schooling.

Using qualitative research techniques (Creswell, 2012), I collected and analysed a variety of visual and verbal data. Visual data collection involved Year 6 students photographing their preferred primary school learning space before creating a visual image (collage, drawing or digital image) to visualise their imaginings of future high school spaces. Verbal data were collected through student annotations about their photographs and images as well as responses to semi structured interview questions.

Data analysis involved coding and interpreting the visual and verbal themes that emerged from the students’ verbal and visual responses (Silverman, 2005). Data were also analysed through the framing lens of Lefebvre’s Spatial Triad (1991) and Bland’s (2009) typology of imagination.

The findings revealed the Year 6 students’ preferred known learning spaces at their current primary school and represent their imaginings of their future high school spaces. The visual representations of their spatial preferences and imaginings identified affective, social and cognitive aspects of learning spaces that are important to young people.

### **1.5.2 Summary of key findings**

Five key findings emerged from the Year 6 students’ imaginings about high school learning spaces. Students revealed their desire to learn in natural spaces, open spaces, sustaining spaces that provide fresh air, appropriate temperature and quietness, active spaces and autonomous spaces. The findings will be explored in more detail in Chapter 6.

### **1.5.3 Significance of the research**

The study's findings are significant in providing important insights of Year 6 students, as key stakeholders in the learning process, to inform the design of high school spaces. The findings will contribute to a deeper understanding of Year 6 space-related learning preferences and imaginings which can inform design decision makers and educators.

The fresh understandings arising from this study are of potential interest to designers, education policy makers and school administrators. These understandings may help raise stakeholders awareness of what expectations or perceptions children have of their high school spaces prior to transitioning to those spaces. Thus, the findings may assist the creation of high school spaces that address the identified decline in school engagement and achievement among middle years students (Carrington, 2006).

In addition, the study demonstrates the benefits, and offers a practical model, of student participation in conversations about learning space design. The Year 6 imaginings were represented visually through the creation of images using a choice of materials. The meaning of the students' images was supported by annotated and interview responses. In this way the study supports participatory design research evidence that young people are creative, pragmatic and competent designers (Bland et al., 2013). The benefits of attending to student perspectives include transforming pedagogical and organisational practices and positive, collaborative teacher-pupil relationships (Clark, 2010; Rudduck and Flutter, 2004; Thomson, 2008). Listening to middle years students can increase student engagement, sense of ownership and the development of creative problem solving skills (Carrington, 2006).

This study is timely and significant for Queensland where major educational change has been occurring related to the traditional structure and physical location of Year 7. However, the findings are also relevant beyond Queensland as transitioning from primary to secondary school is a significant stage in the schooling of many students in Australia and elsewhere.

## **1.6 DEFINITIONS**

The following definitions inform this study:

### **1.6.1 Learning spaces**

Learning spaces include external and internal built spaces, shared community facilities and landscapes as well as associated technologies that shape the social relations of teaching and learning (Blackmore et al, 2011, p.iv). The definition provided to the student participants was that “learning spaces are the thinking, social, living spaces where we create, interact and engage with learning”. Learning was not defined for students, but left open for students to define from their own understanding. The impact of this openness is briefly evaluated in Chapter 6.

### **1.6.2 Middle Years**

Middle years describes both a phase of schooling and early adolescent students aged between 10 - 15 years (MYSA, 2012). According to this age definition, students in Years 4 - 9 are considered middle years students, a period spanning childhood to adolescence (MYSA, 2012).

### **1.6.3 Transition**

The definition of transition used in this study refers to the move between primary and secondary schooling. Transitions generally involve adapting to new roles, identities, expectations, interactions or relationships (Hanewald, 2013). Transition to high school is considered a social and academic turning point for young adolescents (Hanewald, 2013).

## **1.7 THESIS OUTLINE**

Chapter 1 introduces the research background, conceptual lens, policy context, approach, findings, significance and key terms.

Chapter 2 critically reviews the literature about learning spaces. I discuss the value of accessing student perspectives and using imagination in exploring learning spaces through the lens of current research. I also provide the theoretical framework of the case study by exploring Lefebvre’s Spatial Triad (1991) and Bland’s (2009) types of imagination.

Chapter 3 details the methodology and research design. The choice of qualitative case study (Simons, 2009) to explore the imaginings of the Year 6 students is described and justified. The methods of using photographs, visual images and interviews to

produce the data are explained, as is the assistance of an art teacher during the second phase of data collection. The ethics process is detailed and limitations of the study shared.

Chapter 4 presents the findings about the students' preferred primary school leaning spaces.

Chapter 5 focuses on how the students imagined and represented their future high school spaces through the visual images they created and their interview responses.

Chapter 6 summarises and discusses the findings. I also discuss the strengths and limitations of the study, and offer associated recommendations.

### **1.7.1 Conclusion**

Chapter 1 has introduced this qualitative case study which explores a class of Year 6 students' imaginings and representations about their future high school learning spaces before they transitioned to that space.

The research is conceptually framed by Lefebvre's (1991) Spatial Triad which provides a way of looking at the interrelations between social, physical and mental aspects of experiencing and thinking about learning spaces.

It is contextualised by Queensland's *Flying Start* education reform (2011) that in 2015 relocated Year 7 from Primary to Junior Secondary. Students are transitioning to high school at a younger age and in the middle of their middle years, a period associated with disengagement and a decline in academic achievement (MYSA, 2012). This major educational change provided the impetus to explore the expectations and wishes Year 6 students have for high school learning spaces that may enhance their learning experience and respond to the disengagement associated with the middle years of schooling.

As indicated, the findings are significant in providing fresh understandings with the potential to inform the design and provision of high school learning spaces that support Year 6 students' transition to high school.

# Chapter 2: Literature Review

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## 2.1 INTRODUCTION

The literature review explores research concerning learning spaces, student perspectives and imagination and details the theoretical framework that informs this study. Lefebvre's (1991) Spatial Triad provides the theoretical framework for this study and is detailed in Section 2.2. The three elements of the Spatial Triad are also used to structure the literature review. The physical *spatial practices* are explored in Section 2.3. Literature concerned with the social experience of learning spaces is presented in Section 2.4. The next section (Section 2.5) focusses on the conceived view of spaces through an examination of research that has investigated student perspectives about the design and use of learning spaces. The use of student imagination in research is also reviewed (Section 2.5.1). Gaps in the literature and connections between current research and the purpose of this study are identified. There is a gap in research regarding middle years students who are transitioning to new learning spaces within a high school context. This case study aims to explore student perspectives and imaginings with this particular age group at this particular juncture in their schooling experience as they anticipated moving to high school to learn in new spaces. The purpose of this study aims to contribute towards a deeper understanding of Year 6 students' imaginings of their future high school learning spaces.

### 2.1.1 Background

Learning spaces are referred to as the *third educator*, such is their importance to inspire learning and impact the experience and outcomes for students (Nicholson, 2005). The metaphor recognises teachers, students and the environment as simultaneously impacting the learners' development (Strong-Wilson & Ellis, 2007). This view indicates the importance of learning spaces in the social, emotional, academic and physical experience of schooling. The concept of the third educator originates from the Reggio Emilia approach of designing creative, purposeful learning spaces where children learn in an aesthetically pleasing, welcoming environment.

Reggio Emilia is the name of an Italian town where educator Loris Malaguzzi founded a series of early childhood schools following World War Two. His pedagogical approach was heavily influenced by constructivist thinkers such as Vygotsky, Bruner, Dewey and Piaget (Becraft, 2013). Working with his community and other educators, Malaguzzi established a school and educational philosophy around a number of principles that highlighted the value of the child and their ability to learn from others in an interactive, thoughtfully designed centre of learning. One of the defining principles established by the Reggio Emilia approach is to have warm and friendly learning spaces where encounters, relationships and communication are encouraged (Becraft, 2013). In addition to the focus on social relationships, the principles of Reggio Emilia include aesthetics, active learning, flexibility, collaboration, reciprocity, transparency and bringing the outside inside (Gandini, 1993; Strong-Wilson & Ellis, 2007). The principles listed can be recognised in the wider literature about what students want in their physical learning spaces (Bland, 2009; Burke & Grosvenor, 2003; 2015). The role of spaces in allowing innovative learning to take place is not limited to early childhood schools or schools following the Reggio Emilia approach, as the idea of learning spaces as the third educator is widely adopted (Dudek, 2005).

In this literature review the design and impact of learning spaces is considered in primary, secondary and tertiary contexts, with reference to international and Australian research. The importance of learning spaces is identified as a factor that shapes learning experiences, outcomes and transition. The literature has been reviewed through the three theoretical categories of space defined by Lefebvre (1991).

## **2.2 THEORETICAL FRAMEWORK**

The theoretical framework for this study is derived from the writing of French Marxist philosopher Henri Lefebvre on the processes of the production of space. In *The production of space* (1991) he explains that spaces are socially produced and realised through social practices, while also balancing the political and power relationships that these conceived processes reveal. Lefebvre argues that we should be “concerned with logico-epistemological space, the space of social practice, the space occupied by sensory phenomena, including products of the imagination such as projects and projections, symbols and utopias” (1991, p11). He conceptualises his

argument as a spatial triad and it is this understanding that informs the design of this research.

Lefebvre's Spatial Triad (1991) depicts three distinctive, yet interrelated understandings of space relating to the physical, mental and social spaces that we produce, reproduce and inhabit. The physical aspect is referred to as *spatial practice* and is the perceived view of the material world. This aspect considers spaces as merely physical by nature, and views the products and architecture of physical or material objects. An example of spatial practice can include the physical spaces of schools that produce 'school' places, such as playgrounds, classrooms, walkways, toilets, stairwells and gardens. The second aspect involves imagining, as it is the conceived view of space, which Lefebvre refers to as *representations of space*. Architectural floor plans, maps and development plans are examples of this aspect of the spatial triad. The third aspect of the triad is the lived experience where social relations take place, known as *representational spaces*. The dynamic element of spaces constructed through relations are represented in this aspect of the triad. This may describe where different groups are known to relax at lunchtime, where students collaborate and discuss their school work, or explain who is allowed in corridors, who looks after the school garden, or whether sitting on floors is considered socially acceptable. The holistic nature of the framework ensures that the understanding of space moves from being a mental abstraction to informing and relating to the lived experience.

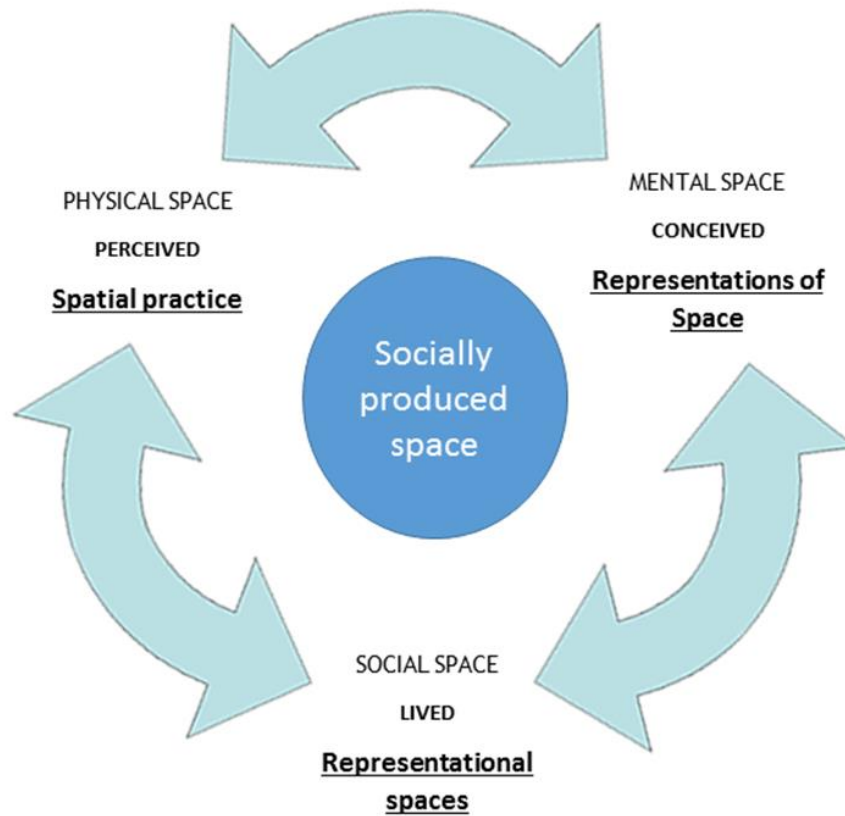
Lefebvre's use of a triad offers a balanced, coherent model which embraces the social construction of spatiality (Watkins, 2005). Lefebvre posits that if spaces are only purely material (spatial practice) and purely idealistic (representations of space) they would be estranged from the lived experience. The conceptualisation of the spatial triad reconciles this tension by approaching space from the realm of the mental to become the foundation of engaging with the world (Watkins, 2005). Lefebvre's view challenges the notion that spaces are immobile and container-like by describing the spatial qualities of a house:

*Consider a house, and a street, for example. The house has six storeys and an air of stability about it. One might almost see it as the epitome of immobility, with its concrete and its stark, cold and rigid outlines . . . Now, a critical analysis would doubtless destroy the appearance of solidity of this house, stripping it, as it were, of its concrete slabs and its thin non-load-bearing*

*walls, which are really glorified screens, and uncovering a very different picture. In the light of this imaginary analysis, our house would emerge as permeated from every direction by streams of energy which run in and out of it by every imaginable route: water, gas, electricity, telephone lines, radio and television signals, and so on. Its image of immobility would then be replaced by an image of a complex of mobilities, a nexus of in and out conduits (Lefebvre, 1991, pp. 92-93).*

His analysis highlights the activity of the space as well as the ‘nexus’ of interrelationships between the aspects of the space. Thus, the spatial triad lends itself to dealing with our thinking, material experience and social engagement with spaces and is a useful construct to develop understanding about spaces, particularly regarding classrooms which can be perceived as immobile and “container-like” (Leander, Phillips & Taylor, 2010). Comber et al. (2006) engaged with all three factors of the triad when considering the renewal of a school site as material, relational and constructed and therefore open to reconstruction. The Urban Renewal Project (Comber et al., 2006) engaged both the researchers and the participants in spatial practices, in representations of space and in thinking about representational spaces, demonstrating that this theoretical framework has practical and theoretical precedence for studies in Australian schools. For this study I have developed a visual representation of the triad which aims to represent the synergy of Lefebvre’s spatial triad.





*Figure 2.1. Lefebvre's Spatial Triad*

Spatial practice “embraces production and reproduction, and the particular locations and spatial sets characteristic of each social formation” (Lefebvre, 1991, p.33). This perceived aspect of space refers to the physical dimensions of space and is required to understand the spatial events of life. In my understanding of the difference between learning environments and learning spaces, if I limited my focus to this one aspect of the triad, I would be more concerned with the learning environment. However, the holistic approach devised by Lefebvre, which emphasises the balance and interconnectedness of all three aspects of the triad, provides a useful construct to explore student experiences and imaginings of high school spaces. Soja (1999, p.9) pictures the triad as a “fugue”, a musical composition where the three aspects of space are like musical instruments playing together at the same time. Hence my concern is with learning spaces that are embedded in the physical dimension of spatial practice while acknowledging the importance of the social and conceived spaces.

The representations of space refer to “conceptualized space, the space of scientists, planners, urbanists, technocratic subdividers and social engineers” who “identify what is lived and what is perceived with what is conceived” and was the “dominant space in any society (or mode of production)” (Lefebvre, 1991, p.37). According to Lefebvre, power is situated where spatial choices are made. In an educational scenario this part of the triad concerns the decision makers, whether government department figures, architects or school authorities who make choices about the development of schooling spaces, often in isolation from the stakeholders. Imagination also resides in this mental abstraction of space as the designers and decision makers are imagining the purpose of schools and weighing up how spaces might be purposeful, functional, economic or sustainable. Within schools the conceived spaces are bounded by practicalities. However, this aspect of spatial understanding can be purely idealistic as it is separate to the actual habitation of spaces.

Representational space on the other hand is “space as directly lived through its associated images and symbols, and hence the space of ‘inhabitants’ and ‘users’” (Lefebvre, 1991, p. 38-39). This understanding of spatiality moves the triad from a mental abstraction to something living and real as it relates to our experience and engagement in social spaces. Lefebvre regards this aspect of the triad as the balancing element to the other two pieces of his triad. The social dimension of spaces refers to the way spaces are produced and used through relationships and interactions.

It is the *representations of space*, the *conceived* view of space that is of particular relevance to this project. Lefebvre’s triad was helpful to me as I imagined how I might design this research project to enable students to express their views and imagine high school learning spaces. Designers, urban planners and architects embrace this imaginative aspect of space as they conceive and produce plans for new spaces and places or reimagine established spaces. In Lefebvre’s Marxist interpretation of the world, the power of making these decisions in the production of spaces is far removed from the voiceless young person. However, I invited Year 6 students to take upon themselves the role of imagining and conceiving their high school learning spaces, whilst acknowledging the limits of this research to bring about actual change. As a major stakeholder in the social and physical experience of learning spaces, Year 6 students were asked to share their conceived views of high school learning spaces through the creation of visual images. These *representations of space*, were informed

by their lived primary school experience, that is, by the social *representational spaces* and physical *spatial practices*. Thus all three aspects of Lefebvre's triad inform the research approach as outlined in Chapter 3. Lefebvre's Spatial Triad is also reflected in the emphases provided in the literature about the physical and social experience of spaces and the design opportunities for young people. Student representations provide the data for the case study, informing an understanding of what young people imagine, value and want in learning spaces. In Section 2.5 literature has been discussed where young people have shared the role of designer with an architect to promote better design outcomes.

### **2.3 MATERIAL SPATIAL PRACTICES – PHYSICAL SPACES**

There is a well-established body of knowledge about the material spatial practices in early years, primary and tertiary learning spaces (Blackmore, et al., 2011). The material spatial practices in middle years have not been the focus of research. This study could not directly address the material spatial practices of middle years students in secondary school as the participants were still in primary school. However the imaginings and representations of the participants were informed by their current physical experiences of spatial practices. Horne Martin (2006) explains that the function of the physical nature of spaces is a setting for teaching and learning while also being a participant in the teaching and learning (p. 92). In Horne Martin's review (2006) the distinction is made between the architectural facility and the arranged environment of the learning space. The architectural facility provides the framework and the teacher arranges the learning environment. The arranged environment informs the relationship between the physical layout and behaviour. Both the facilities and the arranged environment, such as choices of seating, can impact on student learning and behaviour, either by facilitating opportunities for agility and movement or by dealing with potential distractions. The physical, material spaces therefore are highly significant in the middle years context. The middle years student can experience rapid physiological development during this period so practical issues such as space to move around without feeling clumsy, and the provision of larger desks are required to provide an equitable education (Pendergast & Bahr, 2010). The psychological issues of identity formation and socio-cultural influences regarding the importance of peers also impact the design of the physical space. For optimal learning, the physical spaces need to minimise distraction, provide students' independence, allow for flexibility, and

cater for peer mentoring, active learning and collaboration (Blackmore et al., 2011; Woolner, 2010). Woolner (2010) discusses the suggested relationship between poor learning environments and poor learning outcomes. In a review of literature focussing on school environments, she identifies noise, air quality, temperature, space, lighting and maintenance and renovation as all impacting the physical, psychological and social experience of students, while also acknowledging the complexity of identifying causal connections between the learning environment and student outcomes.

More conclusive evidence of the impact of the physical learning environment on academic student outcomes has recently been published by Barrett et al. (2015). The study used multilevel statistical modelling for 3766 primary school children in the UK and revealed an impact of school design on improved student learning rates (Barrett, Davies, Zhang & Barrett, 2015, p.118). The study confirms the importance of naturalness (light, temperature and air quality); individuality (ownership, flexibility) and stimulation (colour, complexity) contributing to positive increases in student progress. The results from this quantitative study add to the body of qualitative literature that has previously identified the qualities of the learning environment contributing to the learning experience.

Noise, lighting, temperature and colour are all mentioned as potentially impacting student attention and therefore affecting the learning experience (Horne Martin, 2006). Blackmore et al. (2011) record that a body of evidence relates to these qualities as well as further practical issues such as air quality, ventilation, furniture and carpets potentially affecting the health of students, as well as the building age and aesthetics which affect perceptions of wellbeing. Thus the actual physicality of learning spaces is a serious issue to consider when designing. Cleveland and Fisher's (2014) review of the literature concerning physical learning environments concludes that the majority of evaluative tools focus on the physical features "rather than the alignment between spaces and desired educational practices, activities and behaviours" (p.25). Cleveland and Fisher (2014) raise the need for research to consider the broader implications of spatial development to include the impact on social interactions and pedagogical practice. This concern is addressed by considering the *representational spaces* in Section 2.4 and the *representation of space*, Section 2.5.

Research reveals the gap between design and intent of the space and its eventual use (Blackmore et al., 2011). Spaces are dynamic, so even with the provision of material or physical spaces, perceptions of how to use them are influenced by the social interactions or priorities of the users. In their study of Building the Education Revolution (BER) funded libraries, Bland, Hughes and Willis (2013) identify issues of spaces being forced upon schools who then either ignore the proposed design of the space, redesign or undermine its use. One stark example was a blue screen room that had been designed to encourage students' creative use of virtual wizardry. Instead, the teachers in charge of the space used the blue screen room to store a laminating machine as there was a lack of storage space (2013, p. 81). The study found that the experience of moving into a new space provided the potential for teachers and school leaders to re-examine issues of transitioning, participation, reimagining spaces and engaging with new pedagogical practices. This can be a generative experience and involves affective, social, physical and conceptual adaptation and exploration (Bland et al., 2013). This process has the potential to lead to opportunities for engagement and authentic learning experiences concerning the social and conceived aspects of learning spaces. The exploration of the social production of learning spaces in the literature and their impact on the learning experience follows.

## **2.4 REPRESENTATIONAL SPACES – THE SOCIAL IMPACT OF LEARNING**

Social learning spaces that provide for interconnectedness and collaboration meet a social and emotional purpose of design. McGregor (2004) understands space as a dynamic part of social interaction. She uses the term 'spatiality' to describe the social production and meaning of space (2004, p.13). In their literature review of built learning spaces and learning outcomes, Blackmore et al. (2011) refer to the improvement in student/teacher relationships and interactions, evidence of increased levels of student interpersonal competencies, engagement and team work as a result of the social aspect of learning spaces. The researchers also note the emotional aspect created by space as there is evidence in the literature of affective outcomes, such as sense of belonging, inclusion, self-esteem and self-confidence (Blackmore, et al., 2011, p. 4). The creation of social spaces suitable for students to relate and share in their learning is identified as an important feature of designing learning spaces.

The literature demonstrates an inter-relationship between the design of learning spaces and learning. Spaces, whether natural or built, shape social relations and practices of instruction and interaction (Blackmore et al., 2011, p. 3). For example, interactions between teachers and students and students with their peers can be more collaborative in flexible and agile spaces. There are connections between pedagogy and design in both traditional learning spaces and more learner-centred, collaborative, interactive spaces. The spaces reflect the pedagogical choices being made and mediate the social practices of teaching and learning (Mulcahy, Cleveland & Aberton, 2015). For instance, the lay-out of a formal classroom can reflect the pedagogical approach. Rows of desks facing a board reflect a teacher-centred approach, while groupings of desks may imply a more collaborative, learner-centred approach to teaching and learning. Mulcahy et al. (2015, p.587) refer to the relational aspects of flexible and open learning spaces providing “more individualised learning, more access to teachers (or teams of teachers as noted in the two primary schools), and improved ability to make new friends across the learning community for collaborative learning and for socialising with other students”. The design of learning spaces has the potential to open up opportunities for meaningful learning or can stultify learning through limiting the flexibility of social interactions. The literature also makes a clear link between learning spaces and student outcomes, while recognising that spaces are only one factor among many in the complex relationships of teaching and learning that inform learning outcomes. In their review of 700 spatial studies, Blackmore et al., (2011) found that the connection between outcomes and the use of spaces were mediated by tangibles (e.g. air quality, light, spatial density), what I would classify as material spaces, and intangibles (school and classroom culture, sense of belonging and self-efficacy) as well as teacher-student relationships (Blackmore et al., 2011, p.4). These last two categories reflect the social production of spaces, named representational spaces by Lefebvre (1991). While no simple or linear link emerged through the review of 700 studies (Blackmore, et al., 2011), there is evidence that learning spaces do impact on the learning and teaching experience.

The connection between learning spaces and student learning outcomes was evident in Walker, Brooks and Baepler’s (2011) study that revealed the positive impact on tertiary student results and social experiences of learning and teaching through the use of Active Learning Classrooms (ALC). The new design of classroom spaces

allowed for increased collaboration in ICT enriched university spaces. Student-centred and active pedagogies were made possible through the use of these learning spaces and students outperformed final grade expectations compared to their fellow students located in a traditional classroom (Walker et al., 2011, p. 1). This result showcases the benefits of designing learning spaces that allow for movement, democratisation of space, ICT compatible areas and flexible arrangement of collaborative spaces.

Walker et al. (2011) also investigated the relationship between the type of learning spaces and university student learning outcomes, behaviours and perceptions of the learning experience. In setting up a repeat experiment the researchers controlled for every factor except the type of classroom to isolate the effects of the type of learning space. Students taught in an active learning classroom outperformed the students who received the same content from the same lecturer in a traditional lecture room. In all three areas of outcomes, behaviour and perceptions of the learning experience, the cohort from the newly designed active learning classroom were more satisfied and their results more successful. The traditional learning space was found to inhibit active learning whilst the ALC encouraged collaboration, facilitation rather than lecturing from the lecturer, and resulted in greater engagement according to the students' perceptions of learning (Walker et al., 2011). Whilst there was no indication that students were involved in the design of the new learning spaces, the results encourage greater investment in refitting or building these sorts of student-centred spaces in other contexts of learning.

Unlike the previous study, Horne Martin (2006) found that it is difficult to identify a direct causal effect relationship between the school environment and learning outcomes through quantitative research (p. 103). However, her review of qualitative research about function, room organisation, noise, lighting, temperature and air quality, colour and density highlights the indirect influence of space on learning and behaviour. Horne Martin identifies the existing relationship between classroom environment and student performance. The finding focusses on the material spatial practices but Horne Martin recommends "a more holistic approach to the examination of the factors responsible for student achievement" (2006, p.103). This recommendation moves towards a focus on the social aspect of learning spaces and advocates for the development of participatory approaches to the uses and planning of school spaces. The benefits of building a sense of community, ownership and

improving wellbeing when students are allowed to participate and their ideas are heard is expressed (2006, p. 100). This focus on student participation in the design of learning spaces is pertinent to my case study. The middle years context of my research raises the concern of disengagement from schooling during this period of schooling. It is my contention that even without direct causal links to increased academic performance as recently revealed by Barrett et al. (2015), the literature reveals the positive attributions of learning spaces to perceptions of welcoming, comfort, innovation, collaboration, creativity and interconnected possibilities for learning and therefore deserves more research attention.

The design of learning spaces can either positively or negatively impact the adolescent learning experience (Nicholson, 2005). It has been previously mentioned that there is a gap in the literature specifically focussing on middle years student experiences of learning spaces. An exception is Nicholson’s chapter in Dudek’s book on *Children’s Spaces*. Matching design opportunities against eight criteria developed by the American National Middle School Association (NMSA, 2011), Nicholson demonstrates how student learning and engagement can be supported through spatial features. Table 2.1 summarises some of Nicholson’s ideas regarding the material and social spaces mapped against the criteria for middle school practices (Nicholson, 2005, p. 59-60). The separation of the two elements of material elements and social features emphasises the importance of social spaces as they align to middle years practices. The importance of the spaces in relation to the middle years criteria is clear and point to the importance of thinking creatively and clearly about learning spaces as they directly impact on student learning.

Table 2.1 *Spatial features matched with National Middle School Association (NMSA) criteria for best middle school practices*

<b>NMSA criteria for best Middle School practices</b>	<b>Nicholson’s suggested design opportunities for educational spaces</b>	
	Material elements of design	Social features of the design recommendations
Educators committed to young adolescents	Building must be fun and exciting, filled with colour and light.	There should be places to hang out



A shared vision		A planning process informed by the commitment and vision of all stakeholders.
An adult advocate for every student	Space for files	Activity space for advisory groups to meet.
Family and community partnerships		Parents' room, office, lounge, as well as community access to facilities such as the gym, the auditorium and the media centre.
Varied teaching/learning approaches, cultivating multiple intelligences, providing hands on experiences, interdisciplinary, actively involving students in learning; a curriculum that is challenging, integrative and exploratory	Places to accommodate a wide range of equipment.	Facilities to enhance the intelligences – music, art, drama, dance, film and video, out-of-doors social spaces. Also required are classrooms of various spaces and classrooms that permit varied activities; project rooms that are not necessarily science rooms; places to work and to be alone
Assessment and evaluation processes that promote learning		Authentic assessment involves spaces to create, perform and present student work for evaluation.
Flexible organisational structures		Provision for individual and team planning; team offices that are not departmentalised; team areas for kids, flexible spaces for flexible grouping; planning time and spaces to work that are not in the lunch room; teachers seen to be professionals.
Programmes that foster health, wellbeing and safety: comprehensive guidance services	Alternatives to corridor locker areas	Student areas which communicate a sense of trust and safety; a clinic with a nurse; counsellors whose offices are located where the reason for going is not clearly evident, to encourage a relaxed view on the discussion of personal problems; nutritional planning in the cafeteria.

Nicholson's (2005) suggestions include practical ideas to make learning spaces efficient and safe while also raising the aesthetic, social, flexible and inspirational aspects of learning spaces that impact on the schooling experience for young adolescents. It is noteworthy that even with the focus on how to make the learning

spaces more suitable for middle years students and the purposeful alignment of spatial design meeting middle school practices, Nicholson did not include students in her list of stakeholders sharing the vision. This is a surprising omission, and reflects the lack of student participation in learning space design detailed in other studies (Bland et al., 2013). It is also striking that the focus is on formal and indoor spaces without reference to outdoor or natural spaces for learning.

Although it is difficult to isolate learning spaces as being the prime reason behind improving student outcomes, such research demonstrates their potential impact. There is emerging evidence that learning spaces communicate both overt and subtle messages to students about the value of their learning and place in the created spaces (Blackmore et al., 2011; Nicholson, 2005). There is also evidence in the literature (Mulcahy et al., 2015; Walker et al., 2011) that learning opportunities arise through well designed spaces which positively correlate with student achievement. Attempting to link the design of learning spaces to improved student achievement is not the focus of my case study. Rather I am trying to understand how Year 6 students imagine and represent their future learning spaces. Year 6 students may draw on some of the same ideas that have emerged in the social and material aspects of learning spaces. A review of the literature has shown that accessing imagination and using student perspectives about the design of spaces has occurred in previous research and aligns with the third aspect of Lefebvre's Spatial Triad, the representations of space.

## **2.5 REPRESENTATIONS OF SPACE – THE CONCEIVED VIEW OF SPATIAL DESIGN**

While Lefebvre gives examples of those who conceive of space as designers, architects, and social engineers (2001, p.38), I argue that Year 6 students are creative, capable and informed designers of learning spaces. This is evident in a range of literature from different contexts. Examples of studies where students have participated in the design process, both conceiving and informing the re/design of learning spaces, establish the benefits and opportunities that exist when including young people.

### **2.5.1 Design of learning spaces – early childhood, primary and tertiary settings**

Asking students to imagine and be involved in the design of their own spaces has successfully occurred before, mostly in early childhood, primary and tertiary

settings. Clark (2010) records the insightful participation of young children in designing early childhood spaces. Clark developed a 'mosaic' approach to conduct her research with young children, gathering verbal and visual data as well as observing children interacting with space. Integral to the mosaic approach is the premise that children are experts in their own lives and should be asked for their perspectives on developing spaces for themselves. Clark's approach for working with early childhood participants involves listening, using multiple methods, recognising different voices, valuing participation and focusing on children's lived experiences (Clark, 2010). In her research she found that when young children negotiated with architects, they proved themselves as competent and provided views and ideas that the adult designers had not considered.

Within a primary context Johnson (2008), Bland, Hughes and Willis (2013) and Comber, Nixon, Ashmore, Loo and Cook (2006) share the results of their studies when children are empowered to imagine, reimagine and then act upon the use of school spaces. The students in these studies proved competent to engage in the dialogue about their own spaces, with varying amounts of support from the researchers. In the research conducted by Johnson (2008) and Comber et al. (2006), the students' conceived views of space informed the physical and social development of new learning spaces.

In contrast to the early childhood and primary studies, research in tertiary settings point to the benefits of well-designed learning spaces, while revealing limited student perspectives used in the design process. Riddle and Souter (2012) state that consultation with university students regarding their learning spaces is rare and often too late in the design process. Their case study challenges the assumptions made by university decision makers regarding student perspectives in repurposing space to engage students' learning needs. The tertiary students were not included in the design process and did not use the space as the designers had conceived. Although the research indicated that tertiary students were rarely included in the design process, university students can articulate their views about learning spaces. Architecture students, Shoulder, Inglis and Rossini (2014), reflect on their own use of learning spaces and report on the benefits of flexibility through shared learning spaces for tertiary students. By recounting their own experience as students they make recommendations for all universities to consider.

There appears to be a gap in the learning spaces literature, as there is no mention of research concerning middle years students moving from a primary context of learning to secondary school. Nicholson (2005) wrote about a middle schooling context; matching spatial features with criteria for best practice in the middle years; but not of a project when students were integrated in the design process or engaged in revisiting the spaces to reimagine purposes or possibilities afforded by the spaces. This qualitative case study aims to contribute towards filling this particular gap. Blackmore et al. (2011, p. 3) draw attention to a number of gaps in the learning spaces literature. Much has been written about the design phase and then very little about implementation, transitions or sustainability phases. There are five main areas identified that require further input. These overarching themes include looking at how teachers and students negotiate new spaces and relationships; management of transitions; relationships between student outcomes and use of learning spaces; professional development of teachers to best use the new spaces and attention to the affective dimension of change (Blackmore et al., 2011, p.19). All of these under-researched areas deserve further investigation; indeed the transitioning experience between primary and secondary school provides the context for this study. Year 6 students in Queensland are facing the transition to high school at an earlier age, and perhaps face a level of anxiety or uncertainty concerning their perceptions of high school. These factors are highly relevant for research that addresses the need to understand affective dimensions in experiences of moving to new learning spaces. Student perspectives are explored through accessing Year 6 students' imagination and discourse about their expectations of high school learning spaces.

### **2.5.2 Student perspectives**

There is a difference between research that reveals student perspectives and research highlighting student voice. Fielding (2001) argues that student voice goes beyond merely obtaining student perspectives and posits that situating, profiling, negotiating and enacting upon student perspectives leads to genuine transformation within education. Thomson (2008) cautions that there is no universality behind student voice. A small number of young adolescents do not speak on behalf of all young people. Thus the concept of student voice can become quite problematic in research (Fielding, 2001; Thomson, 2008) and student perspectives are preferred in this study.

The identification of student perspectives and learning spaces has been used before in ethnographic participatory research (Bland, 2009; Clark, 2010; Johnson, 2008).

The benefits of highlighting student perspectives regarding their learning are detailed in a study by Johnson (2008). Johnson's research was embedded in a primary school where she was school principal. She conducted workshops that were designed to support the students in their role as co-researchers, as they developed visual and critical literacies. Johnson scaffolded learning opportunities for the participating students to critically assess their school and contribute to actual change. By using visual images rather than written responses the research was inclusive for all student participants, regardless of cultural background or literacy skills. The study also provided the student researchers an opportunity to showcase their existing expertise, not only in their engagement with critiquing their primary school spaces, but of expressing themselves through visual communication and use of technology. The process of the study clearly demonstrated the competence and critical thinking children possess. The places identified by the students as requiring change were given priority within the school budget and changes were enacted. Thus it was an empowering opportunity. Johnson also noted the transformative potential of using children's visual representations to challenge adult perceptions about school spaces. In this study it is very clear that student perspectives were heard.

The work of Clark (2010) and Johnson (2008) in using images created by children-as-researchers to determine changes in their learning spaces provides testimony to the successful partnership of young people, researchers and interested parties (architects in Clark's study and the school finance committee in Johnson's situation). Children and young people can make critically astute decisions shaping practical change while experiencing the empowerment of participation in choices about their own lives. However these examples are not representative of the body of literature concerning learning spaces informed by stakeholder interest.

Lack of student input in design and evaluation is clearly revealed through Cleveland and Fisher's (2014) evaluation of sources regarding learning spaces and student outcomes. Their finding is reiterated by Ghaziani's (2008) position that children's voice "is perhaps the most important and needs to be heard" when considering school design (p.235). Yet, prioritising student ideas is not new. A focus on student views and perspectives as a means to improve a school is the central tenet

of Rudduck and Flutter's work (2004) as they argue for the integral placement of student voice within school communities. Students continue to be the major stakeholder in a school so Rudduck and Flutter's argument makes intuitive sense. Yet there is little evidence to suggest that listening to student ideas and views is occurring. Morrow (2011) highlights young people's reasonable views and insights into their environment, whilst also drawing out the limited opportunities for young people to articulate them. Morrow's summation is that young people's participation "appears to be virtually non-existent" (p. 69). By embracing a more participatory and collaborative relationship between teachers and students, student perspectives can be identified and a school culture can be transformed. This notion harks back to Freire's idea of 'culture circles' in which the learners' ideas and experiences are heard and valued (Rudduck & Flutter, 2004, p. 140).

### **2.5.3 Student imagination**

Student imagination involves higher order thinking and is useful in problem solving and creating sociological change (Wright-Mills, 2001). Egan (1992) and Greene (1995) argue for the cognitive and affective benefits of releasing the imagination in education. Egan explored the history of imagination and the various and sometimes nebulous interpretations of what define imagination. Egan states that imagination "lies at the crux where perception, memory, idea generation, emotion, metaphor, and no doubt other labelled features of our lives intersect and interact" (1992, p.3). This description is deliberately broad and allows the individual to construct their own interpretation, whilst hinting at the affective and cognitive elements of imagination. Egan defines imagination as the capacity to think of things as possibly being so; being inventive, creative and enriching rational thought (1992, p.43). Greene also articulates the educational benefits of utilising imagination. Imaginative capacity is the ability to look at things as if they could be otherwise, considering what should be or what is not yet (Greene, 1995, p.19). By accessing imagination Greene believes that individuals are able to conceive alternatives and see multiple perspectives, thus avoiding resignation and paralysis of thought and action. Eisner (2005) argues that imagination emerges from experience, and recognises that schools are ripe places to teach and change through imaginative, creative thought. This presents a challenge and an opportunity for educators to encourage imagination in young people.

Rich insights are provided when students imagine their ideal school or their future learning spaces (Bland et al., 2013; Burke & Grosvenor, 2003). Bland, Carrington and Brady (2009) investigated the issues of middle school engagement and imagination through a project which began with a two day workshop on research and utilised imagination exercises to engage adolescent participants. The purpose of the study was to encourage students-as-researchers to initiate action research in their schools to find ways to re-engage middle year students. The researchers noted the empowerment, excitement and increased engagement experienced by the student participants. The participants reconnected with the joy of learning through imaginative activities, having their views valued and relating with their teachers in new ways during the workshop (Bland et al., 2009, p.13). The researchers also noted the use of critical thinking and empathy in the students' responses as the issue of middle years engagement was explored. The project (Bland et al., 2009) reiterated the arguments of Greene (1995) and Egan (1992) that imagination develops the capacity of seeing the world differently. Imagination is considered a powerful thinking tool to embrace in research.

Bland (2006, 2009, 2012) has used imagination with student researchers to engage their critical and creative thinking and to provide them with an opportunity to re-engage in their educational experience. He categorises imaginations as being empathic, critical, creative and fantasy (2009). Bland argues that empathic imagination can help give voice to not only the marginalised but those who have been excluded from the collaborative process (2006, p.35). Bland designs research to re-engage disadvantaged learners through the use of imagination (2006). Bringing 'the other' into thinking or imagining alternatives from the current status quo highlights the cognitive and affective benefits of engaging imagination. Bland (2006) refers to Freire's concept of 'hope', as imagining a better or different world gives room for empathic and creative imagination to provide emancipatory alternatives. Imagination, therefore, is a productive and powerful tool to engage students. The Year 6 students participating in this study may not be disadvantaged learners but they have been excluded from the design process concerning their high school spaces. Imagination provides the tool to engage their design skills and seek their perspectives concerning learning spaces.

Asking students to imagine their ideal school invigorated many students to share their views through drawings, essays and poetry in a Guardian newspaper competition

held in 1967, repeated in 2001 and repeated again in 2011. Similar themes, concerns, priorities and dreams emerged despite the decades that separated the student perspectives (Burke & Grosvenor, 2003; 2015). Expressions of relief in being given the opportunity to voice their perspective were given. In the imaginings shared there was clear evidence of analytical thought, creativity, empathy and of course examples of fantasy where school does not exist at all. The compilation of student imaginings is instructive for all educators and parents to understand what young people think and want from a school. Colour, light, circular designs, more space, comfort, clean toilets, less noise and carpet are all mentioned in the idealised spaces that students imagined (Burke & Grosvenor, 2003; 2015). The imaginings of the students mainly focussed on prosaic and practical features of their schooling that they wanted to address, illustrating what students want in their schools. Students want achievable physical improvements that will positively impact their social and cognitive participation in their learning. The student responses reveal that young people are competent and invested stakeholders in their learning spaces. Yet students continue to be regularly excluded from the design process of their learning spaces (Cleveland & Fisher, 2014). I want to contribute to reversing this oversight and investigate Year 6 students' imaginings about their high school learning spaces, to explore what is important to students as they transition to high school and to provide an opportunity for one group of middle years learners to voice their perspectives.

## **2.6 SUMMARY OF LITERATURE REVIEW FINDINGS**

Evidence in research across tertiary (Shoulder, Inglis & Rossini, 2014), primary (Johnson, 2008) and early childhood settings (Clark, 2010) points to the cognitive, social and affective benefits of engaging students in providing critical perspectives about the use and design of learning spaces. Blackmore et al. (2011) also report that accessing student perspectives concerning their learning spaces leads to further engagement and constructively affects student wellbeing and academic performance. These findings are reiterated by literature pointing to the connection between learning spaces and enhanced learning experiences and outcomes (Barrett et al., 2015; Walker et al., 2011).

There is a gap in the existing research related to middle years student perspectives regarding the design and use of learning spaces as they prepare to



transition from primary to high school. This research aims to contribute towards developing an understanding of what Year 6 students conceive of high school learning spaces. Learning spaces are recognised as a third educator (Nicholson, 2005), such is the impact of the spatial experience on the academic, social, emotional and physical dimensions of schooling. The spatial understandings of Year 6 students warrant further research attention, particularly as they are at a period of development known for disengagement and a drop in academic outcomes (Pendergast & Bahr, 2010).

## **2.7 CONCEPTUAL FRAMEWORK**

At the start of the literature review I introduced my visual representation of Lefebvre's (1991) Spatial Triad as the theoretical framework for this study (Figure 2.1). The conceptual framework of the study has been added in Figure 2.2. The spatial aspects related to the three elements of Lefebvre's triad inform the research design as Year 6 students consider their experience of physical and social spaces within primary school and imagine their learning spaces in high school. Their conceptions of material spaces (spatial practices) and social spaces (representational) will inform my understanding of how students imagine their future learning spaces (representations of space).

Spatial practices suitable for middle years students: flexible, digital, spacious, welcoming and inspirational. The Year 6 students' understanding of spatial practices is informed by their knowledge of primary school learning spaces.

**How do Year 6 students imagine their future high school learning spaces?** The research question articulates what I want to understand. The conceived *representations of space* provide the conceptual framework for this study.

The interconnected nature of Lefebvre's (1991) Spatial Triad represents how students' experience of space can be simultaneously physical, mental and social. Each aspect of the triad will be evident in how the Year 6 students reflect on their primary school spaces and how they imagine their high school spaces.

The *representational spaces* mediate relationships and can be seen in the way students collaborate, interact and use their learning spaces. This aspect of Lefebvre's triad is explored through the students' experience of their primary spaces and projected forward onto how they anticipate embodying their high school spaces.

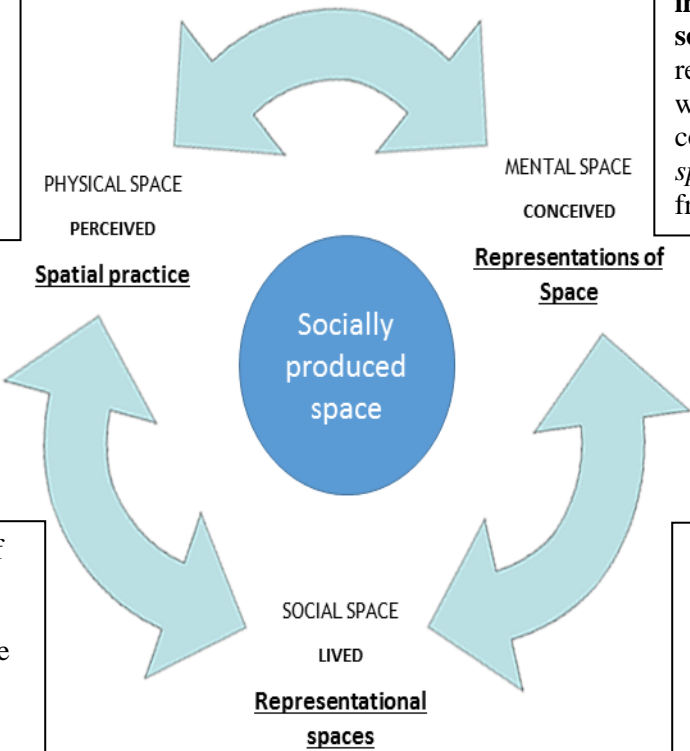


Figure 2.2. Conceptual framework of case study, informed by Lefebvre's (1991) Spatial Triad

**2.8 CONCLUSION**

The review of literature provides evidence in tertiary (Shoulder, Inglis & Rossini, 2014), primary (Johnson, 2008) and early childhood settings (Clark, 2010) of the cognitive, social and affective benefits of engaging students in providing critical perspectives about the use and design of learning spaces. Yet there is a gap in the literature concerning the particular age group of final year primary students preparing for high school. From 2015, this year level in Queensland is Year 6, and the year level coincides with the students being in their middle years, a period of schooling associated with disengagement and lower academic outcomes (Carrington, 2006; MYSA, 2012; Pendergast & Bahr, 2010). The literature points to the connection

between learning spaces and enhanced learning (Barrett et al., 2015; Blackmore et al., 2011; Walker et al., 2011) and this deserves further investigation with this particular age group. Collaborative and participatory research has established that young people are creative, pragmatic and competent designers (Clark, 2010; Thomson, 2008), thus it is anticipated that Year 6 students will have worthy contributions to make to the discourse around learning spaces.

Learning spaces research has emphasised the positive impact that space can make on student engagement and learning. The spaces students learn in are considered so important that they have been referred to as the ‘third educator’ (Nicholson, 2005). Engaging students’ imagination as a valid data source had been used in prior research, yet it is often a source of design ideas for architects and decision-makers that has been overlooked (Bland, Carrington & Brady, 2009; Bland et al., 2013). Releasing imagination as a teaching and learning tool (Egan, 1992; Eisner, 2005; Greene, 1995) has positive implications for retaining student engagement throughout the middle years and aligns with the objectives of highlighting student perspectives and exploring transitioning experiences to high school.

Lefebvre’s Spatial Triad is used in prior school-based research (Comber et al., 2006) to explore learning spaces through the lived and material knowledge of primary school spaces and the conceptions of future spaces. Insights into the *representations of space* of high school learning spaces will add to the literature by deepening our understanding of the conceptual understandings students bring to their high school learning spaces.



# Chapter 3: Research Design

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## 3.1 INTRODUCTION

The purpose of this qualitative case study is to investigate Year 6 students' imaginings of their future high school learning spaces. The exploration aims to develop an understanding of how final year primary school students imagine high school learning spaces as they face their transition to secondary school. Year 6 student participants were asked to represent their imaginings through creating a visual image and providing supporting information through annotations and responses to interview questions. The theoretical framework which underpins the research design is Lefebvre's (1991) Spatial Triad, as outlined in the previous chapter. This chapter details the qualitative methodology and research design in Section 3.1, the recruitment of participants in Section 3.2, the process for data collection and analysis in Section 3.3, an outline of the research ethics in Section 3.4, and the potential limitations in Section 3.5.

## 3.2 METHODOLOGY

A qualitative methodology is used to explore the research question,

*“How do Year 6 students imagine their future high school learning spaces?”*

The research question allows for careful investigation of the participants' subjective experience. Qualitative research design was an appropriate choice for this type of research question because it enabled me to ask participants 'how' and 'why' questions to further understand their experience of learning spaces (Creswell, 2012; Silverman, 2010). The design and approach of this study reflects the six major characteristics of qualitative research outlined by Creswell (2012). The first characteristic is the exploration of a problem to develop an understanding of a central phenomenon. Students' imaginings of learning spaces is the phenomenon explored in this study. I researched the experience and imaginings of learning spaces with a class of Year 6 students to gain an understanding of how they imagined their high school learning spaces before they transitioned to new spaces in a secondary school setting. The context of the problem explored through the phenomenon of learning spaces is the issue of middle years students' disengagement in their learning (MYSA, 2012). The second characteristic refers to the role of the literature review to justify the problem being investigated. In discussing relevant literature, Chapter 2 identified the need and opportunity to seek out

greater understanding of Year 6 students' thinking about learning spaces. There is a gap in the literature as research has not raised the perspectives of final year primary school students regarding high school learning spaces. The third characteristic refers to the purpose and research questions designed to develop greater understanding through participant views. In this study I address a clearly defined research question in order to gain understanding about how Year 6 students imagine their future learning spaces. The purpose of the small scale qualitative study is to develop an understanding of how Year 6 students imagine and represent their high school learning spaces. The fourth characteristic relates to the number of participants used in a qualitative study which is usually more concentrated than a quantitative study. In this study 22 student participants provide the data. The concentration on one class ensures that students' individual perspectives and insights were obtained. Creswell's fifth characteristic of qualitative research is concerned with the process of data analysis and interpreting the meaning of the findings. Both inductive and deductive analyses were applied to the Year 6 data and the interpretations reflect the class of Year 6 students' thinking and imaginings concerning learning spaces. Their imaginings were thematically coded and major themes and contrasting views explored. The final characteristic concerns the various approaches to writing up the final report. My voice and participation are acknowledged in the description and analysis of this report, however, as much as possible, I have featured the student voices and images. All of the six major qualitative features of research underpin the general methodological design for this study.

### **3.3 RESEARCH DESIGN**

Qualitative case study methodology is used to explore and report how a class of Year 6 students imagine their future high school learning spaces. The case being studied is a group of Year 6 middle years students prior to transition to high school. Qualitative case study is a widely accepted research approach for exploring educational phenomena (Creswell, 2012). There are various case study approaches and I have adopted qualitative case study (Simons, 2009). Simons defines case study as "an in-depth exploration from multiple perspectives of the complexity and uniqueness of a particular project, policy, institution, programme or system in a 'real life' context. It is research based, inclusive of different methods and is evidence led. The primary purpose is to generate in-depth understanding" (2009, p.21). A qualitative case study values and documents the diverse perspectives of participants, engaging them in the research process by asking questions and seeking clarification. It is through analysis and interpretation of how people think, feel and act that many of the insights and understanding of the case are

gained (Simons, 2009). Qualitative case study is appropriate for my research as it provides the framework to explore real life perspectives of one class of Year 6 students as they prepare to transition to high school and to examine in depth their understandings and expectations of high school learning spaces. Case study research offers a flexible qualitative approach, providing the opportunity to seek multiple perspectives held by members of a Year 6 class during their final year of primary school.

The case study involved one class of Year 6 students in the ‘real life’ context of their classroom. A series of data collection activities provided the opportunity to observe and interpret how the students imagined and represented learning spaces. Multiple visits to the students’ primary school classroom allowed me to gain insights into the role of physical and social learning spaces in their educational experience. The students’ visual, spoken and written responses enabled me to build an understanding of how students imagine their future learning spaces by analysing the visual and verbal data inductively. The one class of Year 6 middle years students constituted the case as they were at a particular stage of schooling when imagining high school learning spaces could be explored before they transitioned into real high school spaces. The data created may not be representative of all Year 6 students, however the analysis explored is significant to these students and, as Silverman (2010) argues, a single case can be extrapolated beyond the single class experience.

A qualitative case study is also suitable for this research as it allows the participants to engage in the research process (Simons, 2009). High participant involvement aligns with my concern that student perspectives are heard and that students in the middle years of learning are engaged in sharing their ideas about learning spaces. In the study’s findings, students’ imaginings are presented visually and their meaning clarified through student annotations and verbal responses.

Visual images provided the lens to examine student imaginings. Adopting techniques often used by visual ethnographers, I collected and analysed photographs, and other images (Clark, 2010; Johnson, 2007; Pink, 2007; Prosser, 1998). In this case study, producing visual images engaged the participants and drew out multiple perspectives about their learning spaces. Visual images suited the design and intent of this particular case study as learning spaces can be conceived and experienced visually. Visual representations can also convey imaginative thinking effectively. Visual research is well suited to research with children (Thomson, 2008). Young people are interested in images; images communicate aesthetic, emotional and intellectual responses; images are an inclusive form of data; and young people find research

with images engaging (Thomson, 2008). The enthusiasm of the participants and the insights revealed through their imaginings exemplify Thomson's (2008) summation.

In this study, participants engaged in two visual data collection activities. The student participants photographed their preferred primary school learning spaces. This was an introductory step to thinking about the physical and social spaces the students favoured. As explained in Section 3.3.3, the photographs taken by the participants acted as a visual record of their preferred primary school learning spaces. In addition, the students' creation of a visual representation of their imagined future high school learning spaces provided the visual data to explore their imaginings. Both sets of images were annotated by the student participants to ensure their visual meaning was clarified. The annotations were a second source of data. This approach follows Bland's use of annotated drawings in his research with children to elicit their ideas and imaginings (Bland, 2006; Bland, 2009; Bland et al., 2013). A third type of data was verbal as all the students were asked to clarify their visual conceptions through responding to semi-structured interview questions. Inductive analysis of the multiple forms of data enabled themes to emerge (Creswell, 2012) to build an extensive, deep understanding of the class of Year 6 students' view of learning spaces. The study's findings presented in this thesis take the form of a written report with a selection of the participants' visual data showcased.

In carrying out the case study I drew upon a key benefit of qualitative case study which allows for researcher reflexivity in coming back to participants for clarification regarding their conceptions of learning spaces. I was able to ask new questions or probe for further information, and through my visits to the Year 6 classroom I had the opportunity to openly position myself as a participant rather than silent observer (Creswell, 2012). However, the focus was on the middle years student imaginings and perspectives and their voice remains central to the case study. Students' thinking and creativity emerged through this methodology to inform my understanding of students' experience of learning spaces.

### **3.3.1 Recruitment of participants**

The 22 case study participants were Year 6 students from one class at a large, independent state primary school on the north side of Brisbane, Queensland. Established in 1975, the school has grown to just under 1000 students with a variety of older, refurbished or renovated single storey buildings and a recently built triple storey building to house the expanding student population. The school student body is multicultural with 40 languages other than English spoken (Education Queensland, 2014). The case study school was the third school approached to participate in this study. I appreciated the willingness of the administration and class teacher



to agree to the research. After receiving ethical clearance from QUT and Education Queensland I approached a class of Year 6 students to participate in the research. All members of the Year 6 class were invited to participate as the research was designed to be inclusive of all learning preferences. In the verbal invitation I referred to the students as ‘experts in their own lives’ (Clark, 2010) and explained that only Year 6 students can provide a Year 6 perspective of their lived primary school experience and their pre-transition imaginings of high school. I explained that their involvement in the research would provide a clearer understanding of what they imagine about their high school spaces and could potentially inform education decision-makers and designers regarding the kinds of learning spaces students prefer. Twenty-two students out of the class of 31 returned their signed permission slips to participate in the learning spaces research. Thirteen girls and nine boys gave their consent to participate in the study. Consent and ethical considerations of participation are discussed further in Section 3.5. No student was excluded from participating in the visual activities of the study, however only those students who returned signed permission were interviewed and their data analysed.

### 3.3.2 Data collection and analysis

The study comprised seven steps, as outlined in Table 3.1 below. Data collection revolved around three concentrated visits to the school yielding four major data types; photographs, annotations, visual images and semi-structured interview responses. The data collection and analysis process is further explained after the table.

Table 3.1 *Steps of data collection and analysis*

Data steps	Data collection and analysis activities	
<b>Step 1</b> <b>Data</b> <b>collection</b> Photographs	First data collection session - Afternoon with Year 6 class, end of Term 2, 2015	<p>a) Researcher introduced learning spaces and research focus to students. Discussed physical and social experience of primary school learning spaces.</p> <p>b) Each student took a photograph on iPad of where they preferred to learn in their current school setting. Formal, informal, built or natural learning spaces could be photographed.</p> <p>c) Students created a title for their photograph and annotated why they chose their learning space and who shared the space with them.</p>

		This stage relates to Lefebvre's <i>Spatial practices</i> and <i>Representational spaces</i> .
<b>Step 2</b> Analysis	Initial analysis of photographs	d) Researcher analysed annotated photographs of preferred physical learning spaces and the social aspect of learning recorded. Selection of photographs of physical and social spaces chosen to share with students during second school visit.
<b>Step 3</b> Annotated drawings	Second data collection session, with 'Atelierista', beginning of Term 3, 2015.	<p>e) Researcher shared with students a summary of findings from initial data collection about the kinds of spaces these Year 6 students preferred and a couple of the photographs of current preferred learning spaces on Powerpoint. This step was meant to include the students in the research process and to clarify how their perspectives were building an understanding of what Year 6 students like in learning spaces.</p> <p>f) Introduced guest art teacher the 'Atelierista' to students. She ran a brainstorming exercise to help students imagine how their high school space would look, feel and smell.</p> <p>g) Researcher asked students to visually depict how they imagined their future high school learning spaces. Students chose between visualising their spaces using water colour pencils, collage materials or using an iPad app. Atelierista supported the students with advice for creating their image. For example, collage group should start with background materials first; and drawing group were advised that water colour pencils work best if you begin with light colours before adding darker colours.</p> <p>h) Researcher invited students to verbally annotate to explain their choices and decision-making. Some provided written annotations.</p> <p>This stage relates to Lefebvre's <i>Representations of space</i>.</p>

<b>Step 4</b> Analysis	Initial analysis of drawings and annotations	i) Researcher analysed drawings for major themes emergent in the data concerning learning spaces, emotions revealed, social aspect of spaces and unique perspectives. Transcribed annotations and developed code for themes.
<b>Step 5</b> Semi structured interviews	Third data collection session - Individual interviews. Term 3, 2015.	j) Each participant interviewed. Their image was returned to them and they were encouraged to speak about their imagining and what it meant to them. (Four main questions listed below on p 60.)
<b>Step 6</b> Analysis	Analysis of interview responses	k) Researcher transcribed and coded interviews according to emerging themes. Types of imagination were also analysed (Bland, 2009).
<b>Step 7</b>	Writing final thesis	l) Researcher wrote up case study, integrating data analysis and images in final thesis.

The Year 6 students graduated from primary school before the thesis was finalised and the complete findings could be shared with them. However, during their final week of primary school I gave each participant a thank you card with their preferred primary school photograph printed on the outside and a copy of their created image on the inside. I wrote a message of thanks for their participation and wished them well for their transition to high school. This was an important outcome of the research to highlight that their perspectives had been heard and valued. An explanation of how the data were collected (section 3.3.3) and analysed (section 3.3.4) follows.

### 3.3.3 Data collection

The data collection process was planned to occur over three sessions, however the visual images required a second, shorter session to complete and the individual interviews with the Year 6 class of participants occurred over a number of morning sessions. My initial visit to the class provided an opportunity to introduce the research project and to hand out the permission slips. Two weeks later I returned to the Year 6 class to explore their lived spatial practices and social experience within their primary school. The details of how I invited students to

participate have been given as the framing of the invitation shaped some of the students' responses and their positive involvement in the research process.

### ***Session 1: Photographs of preferred primary school spaces***

During the first data collection session I asked the students what they understood learning spaces to mean. Then we considered the definition of learning spaces (Blackmore et al., 2011) being the “thinking, social, living spaces where we create, interact and engage with learning”. I emphasised that the concept of learning spaces is much more than classrooms and encouraged students to think about inside, outside, built, virtual and natural learning spaces within their school. I did not define ‘learning’ with the class and this may have affected the interpretation of learning spaces that emerged. The final part of the introduction to learning spaces regarded the importance of environmental factors such as air quality, light, noise, temperature, colour and flexible furnishings impacting the learning experience. After this discussion the students were given a brief time to personally reflect on where they liked to learn within their primary school learning spaces.

Once they had decided on their preferred space I ran through some guidelines regarding respect for others when taking photographs for the research project. I asked the students to respect the value of each person's perspective; to respect that other classes would still be working in their classrooms; to be respectful with the use of technology and to respect that no ethical permission had been given for faces to appear in the photographs. To organise the movement of students through the school to take photographs I asked for a show of hands for students who had chosen an outdoor space and the majority of hands went up. Two major outdoor areas were chosen by 20 of the 22 participants. The remaining two students chose their classroom as their preferred learning space. The classroom teacher supervised the group of 12 students who chose the oval as their preferred learning space. I supervised the 8 students who chose the undercover outdoor area adjacent to the classroom and the 2 students who chose their classroom. To be transparent, there were four other students who chose an indoor, built space, however they did not return a permission slip and for ethical reasons their choices cannot feature in this thesis.

First, each student took one photograph on an iPad. They then wrote a short annotation explaining why they had chosen their preferred space and described who shared the space with them. I recorded verbal annotations from students who preferred not to write down their ideas. The Year 6 participants were decisive in their photographic choice and each provided one photograph as a representation of their preferred primary school learning space. Students used

their initials on the corner of their photographs so I could identify student visual responses. I used my personal iPad for this activity, however, some of the students who opted to take photographs of the oval used school iPads. They airdropped their images to my iPad and the images were then deleted from the school device. Students handed me their handwritten annotated notes for analysis and for a number of students I recorded a verbal annotation. This ensured that students with literacy issues were fully included and their perspectives recorded.

***Session 2: Water colour drawing, collage or iPad image of imagined high school spaces***

Following the winter school holidays the second session of data collection focussed on the representations of the Year 6 students' imaginings of their future high school learning spaces.

A high school art teacher worked with me in this session. This artistic support reflects the Reggio Emilia tradition of having an *Atelierista* facilitating art work with a class (Becraft, 2013). Although the Reggio Emilia approach was initially designed for early childhood, the practice of including an art specialist was appropriated to support and extend the middle years students' visualisation of their imaginings. The Year 6 students had never been taught by an art teacher and appreciated the expertise she provided regarding the process of applying their imaginings to paper or on their iPad. The *Atelierista* in this case study supported the students' artistic visualisation of spaces and this led to the creation of high quality images that recorded the students' imaginings. I have looked at pencil drawings for visual research with students (Bland et al., 2013) and wanted to provide an opportunity for the Year 6 participants to receive expert advice on creating more colourful and conceptualised images to reflect their imaginings. Firstly, students were asked to mind map their thinking about high school learning spaces to prepare for the imaginative task of creating an image. They were asked to reflect on how they felt about their future high school spaces and to imagine how high school might smell, look and feel. Following this planning exercise students were asked to choose how they would represent their imaginings.

Students could choose to represent their imaginings in three different ways. The *Atelierista* and I set up well resourced "learning spaces stations" for collage, water colour drawings and iPad digital images. We rearranged the desks from their straight rows into three different groups of various sizes. The largest group were those using the watercolour pencils. The second largest group were those who chose collage. The smallest group chose to use their iPad. Some of the students who began in the iPad group changed during the session to record

their imaginings through collage, leaving only one participant to create a digital image of his imaginings. The collage group were the most interactive as they shared ideas about material choices and they created very colourful images. Their enthusiasm may have attracted extra students to join them.

The *Atelierista*, (a high school art teacher), supported the students as they worked on their images, discussing perspective, layering of colour from light to dark when using watercolour pencils, applying background colour first when using collage materials, and making suggestions about app choices and approaches for those who chose to use their iPad. Her expertise added to the research experience, making the artistic element of creating the images both a worthwhile and enjoyable educational experience for the participants. Her involvement allowed me to concentrate on observing the flow of ideas and the associated emotions displayed. I found the experience of having an *Atelierista* supporting the artistic side of visual image research beneficial as I was freed up to be more of an observer rather than facilitator. I was able to see the students excited and engaged in the activity, interacting with each other and with the art resources as they created their colourful images. The art teacher reflected that she was disappointed by the conceptualisation of the images. Time and material constraints may have hindered thinking through what the students wanted to convey in their images. Their images are discussed in Chapter 5.

The classroom teacher was also a keen observer during this session, commenting on the different process to his usual art lesson which was more about copying an artistic style rather than generating images through an imaginative process. The busy afternoon session ended without all images finished. With the classroom teacher's permission I returned alone to the Year 6 class so that the students could finish their images and provide annotations.

I collected verbal annotations from many of the students. Others wrote an annotation explaining why they had imagined their high school learning space in their own particular way. The visual, verbal and written data provided insights into student perspectives on high school learning spaces design, solutions, preferences, themes of concern and interest.

### ***Step 3: Semi structured interviews***

Following the initial analysis of the students' images and annotations I returned to individually interview each participant. I invited the students to join me in the outdoor undercover area beside their classroom and recorded the interviews on my iPad as the students held their image. Although this created issues of sound and wind to contend with, it seemed appropriate to interview the students in an outdoor, open space as they had collectively revealed

their strong preference to learn outside the classroom. In the interviews the visual images were used as prompts to stimulate the student responses (Schwandt, 2007). By asking open ended questions I allowed the students to clarify and extend the meaning conveyed by their drawings and annotations. The interviews were semi-structured around four main questions:

- Tell me more about your picture.
- Is there anything else you want me to notice?
- If you could change or add anything what would it be?
- What makes this a learning space for you?

Student responses to these open questions varied in length and detail, and for some I did not have to ask any other questions. For others I prompted further response by asking questions such as:

- What inspired your imagination about high school learning spaces?
- Are there teachers or other students sharing the learning space with you?
- How do you feel about moving into high school learning spaces?
- What advice would you give to an architect or high school principal who was responsible for developing high school learning spaces?

Responses to the posed questions clarified my understanding of the students' visual representations. The research visits occurred over a number of days and 20 of the 22 original participants were present to record an interview with me. I used my iPad to record their voices and made up three and four letter name pseudonyms for each of the participants to de-identify their responses. I manually transcribed their verbatim responses on my laptop before analysis of this final data type proceeded. The interview data was the final data collection and I had complete sets of data from twenty of the 22 participants.

### **3.3.4 Data analysis**

The rich data collected through the qualitative case study required me to carry out detailed inductive analysis and interpretation. I had three main data types to analyse, requiring two different approaches. Thematic inductive analysis was used for the annotations and verbal interviews and a deductive approach using Bland's (2009) typology of imagination for the visual representations of high school learning spaces. I am aware that analysis refers to the procedures such as coding and theme generation which assist the researcher to organise and

make sense of the collected data, while interpretation concerns the personal perspective and insights derived from knowing the data well (Simons, 2009). My goal as researcher was to make meaning from the data through an inductive, intuitive and iterative process. The overarching perspective that I adopted was informed by Wolcott's (1994) transformative approach to description, analysis and interpretation. Meaning was made by *describing* what was going on, *analysing* themes that emerged from the visual and verbal sources, and *interpreting* what was to be made of the data (Simons, 2009).

I used an inductive approach (Cresswell, 2012) to analyse the semi-structured interviews and annotations of the two visual images. I transcribed the participants' annotations and audio recorded interview responses and saved them using the de-identified pseudonyms. I found the transcription process helpful as it forced me to listen attentively to what the student was saying as well as noticing the non-verbal cues such as pauses or giggles. I listened to each students' interview multiple times as I typed up their responses and my questions. This provided another opportunity to listen closely and attend to their perspective and to ensure that I had clearly understood each Year 6 student's intended meaning. Through this inductive process, gaps emerged between what I had read about learning spaces and what the students were telling me. Themes around fresh air and gendered differences required further reading. I used a deductive process of analysis through Lefebvre's (1991) Spatial Triad and widening the literature search looking outside the data for expertise and research precedence.

I elected to stay close to the data and did not use a software package such as Nvivo to code and develop themes. For each data collection type I created a table to record each participant's response and this was useful for comparative analysis between the students' responses. I used colour codes to assist with the comparisons between responses as well as noting the individual differences between student perspectives. I also developed a synthesised version of each participant's data, which contained their photograph, annotation, visual image and interview transcript with a descriptive summary to focus my attention. These various ways of presenting and looking at the data allowed me to stay close to what was being said and what was visually depicted by each student. My approach for the three main data analysis activities follows, looking at the written and verbal data (annotations), interview data and visual data.

The first group of verbal data was the students' written and spoken annotations of their preferred primary school spaces. The annotations revealed a variety of spatial practices and concerns that related to the students' decision to photograph a particular learning space. Through an iterative process I identified emergent themes concerning why students chose a



particular learning space. These will be detailed in Chapter 4. I shared the findings of this first data analysis with the Year 6 class. The students and their teacher showed genuine interest in their combined and contrasting perspectives.

The second group of verbal data type was the individual interview responses. The students' responses yielded fascinating insights into how Year 6 students imagined their future high school learning spaces. I considered their transcribed words, and occasionally their non-verbal cues such as nervous laughter, in identifying the key words and emerging themes. The details of their interview responses are shared in Chapter 5 of the thesis.

A different analytic approach was applied to the visual data created by the students as they imagined their high school spaces. This involved two levels of analysis, informed by Bland's use of a typology of imagination (2009) and identification of main features of drawings in a thematic table (2013). I used Bland's (2009) typology of the four major categories of imagination to differentiate the images as: fantasy, creative, critical and empathic. This was a deductive approach. Secondly, I identified the design elements of the visual images. This was an inductive approach. Adopting Bland's (2012) analytical approach, I identified the three most visually prominent features of each drawing to create a matrix of common features. I was aware that this was an interpretative process, and at times my eye was drawn to the impact of colour or the content of the image. Choosing three features ensured that I was being careful with what I was noticing. I was able to check with participants during their interview regarding whether I noticed the features that they wanted me to see in their image. This process aligned with Prosser's (2007) view that visual research must primarily look at what is visually perceived. I attempted to clarify the multiple meanings that can be attributed to an image by referring to the annotations as a secondary source of comparison and elaboration. This approach is consistent with Bland (2012) who argues that reference to a secondary source such as annotations is essential to the interpretation of children's drawings to mitigate the imposition of adult subjectivities and understandings. For example, as an adult I may make false assumptions about apparent power structures or gender themes that reflect my understanding but are not the intended meaning of the young participant.

In pursuing this analytical process, I was aware that an image is not neutral as it has been literally and socially constructed (Thomson, 2009). The students' processes of selecting, producing and editing images probably involved choices and intent, and their images could contain multiple meanings (Pink, 2007). Thus, by drawing on data from multiple sources I

endeavoured to authentically convey the participants' meaning and perspective through my description, analysis and interpretation.

Questions when looking at the verbal data included:

- *What similarities and differences were apparent in student imaginings about high school learning spaces?*
- *What informed student imaginings?*
- *What ideas about transitioning to high school emerged from Year 6 students' drawings and verbal responses about their imagined high school learning spaces?*

A subsequent question that contributed towards theory building was:

- *How has Lefebvre's Spatial Triad informed an understanding of students' spatial experience of learning spaces?*

These questions provided the backdrop to the analysis and findings which emerged from the student perspectives and images described in this case study (Simons, 2009). In the analysis I sought to showcase multiple perspectives of the Year 6 student participants to build a clearer view of their thinking about learning spaces.

### **3.4 RESEARCH ETHICS**

As this qualitative case study involved researching with children, I treated ethical concerns conscientiously. The limitations of the study were also appropriately communicated to the students so that they received an informed view of their involvement. At my initial visit to the Year 6 class I set out the academic contribution they would make through their participation, rather than any physical designs being realised from their contributions.

I followed the Queensland University of Technology (QUT) research ethics approval process guiding the research. I addressed issues such as writing the participant consent letter in appropriate child friendly language and the use of iPads through the University ethics process.

I followed the Department of Education, Training and Employment research guidelines. There were no sensitive issues pertaining to my research proposal and research was conducted at only one school, so the Education Department Primary School principal approved my application to conduct research at his school. I visited the Year 6 class to invite them to participate in the research on high school learning spaces and handed out an information sheet

regarding the research and the consent form to participate in the research. This advised participants and their parents or legal guardians that the risk of harm to participants was low; however, if there was cause for concern, counselling was available through the university. I advised every participant of the option to withdraw at any time during the study without comment or penalty.

Students and parents/legal guardians were informed that all data provided by students would be treated confidentially and that I would take every care to comply with the ethical requirement that no photographs showing faces of children would be taken in the process of students photographing their preferred primary learning spaces. To minimise this issue, the social aspect of the spaces and who uses them were recorded in words. Identifiable photographs of the people sharing the space were intentionally not taken. If identifiable photos had been inadvertently taken, I would have deleted them immediately from an iPad or other device used. This did not eventuate in the study as the Year 6 students were careful to photograph only the physical aspects of their preferred primary learning space.

In my description and recordings of the findings, I de-identified the data and created pseudonyms to protect the students' identities. The primary school's identity is also not revealed in the description and discussion. The physical and virtual data from the research is securely stored in a locked filing cabinet in my home office and on the QUT digital data storage system.

### **3.5 LIMITATIONS**

I was aware of a number of possible limitations concerning this case study. First, I was focusing on one Year 6 class and this is a relatively small sample size. Restricting my research to one school and one class potentially limited the range of spaces imagined and represented by Year 6 students elsewhere. The imaginings of this particular participant group might be limited by their similar expectations and experiences of learning spaces. Second, the research relied on student engagement in visual and verbal data collection. Some students may have been reluctant to participate in the creation of a visual image or speaking to an adult during the interview, and consequently their perspective may not have been fully expressed.

Third, students who use English as an additional language may not be able to fully participate in the written and spoken data collection activities. Fourth, the restricted higher degree timeline for this study and my desire to complete the research before the Year 6 students began a formal transitioning program toward the end of 2015 meant that I had a limited

timeframe in which to complete the research. Fifth, teacher influence might have affected the research within a Year 6 classroom.

In the design of the study I attempted to mitigate each of these potential limitations. First, the size and nature of the purposefully selected cohort for this study was appropriate and in keeping with qualitative methodology. As a qualitative case study, it sought in-depth understanding of a real-life phenomenon. Its purpose was to gain rich and detailed insights from participants within a well-defined context, rather than generalisable results derived from large samples. In addition, the school has a diverse student population with varied cultural and SES backgrounds and the Year 6 students could therefore be expected to contribute varied conceptions of future learning spaces rather than presenting a homogenous understanding.

Second, with regard to potential lack of student participation, I arranged for a high school art teacher to join me as an ‘Atelierista’ in the session when students were asked to visually depict their imaginings. The ‘learning spaces stations’ provided students with choices for visualising their spaces and the session was designed to engage all students. However, students who declined to be involved were free to do so. The design for data collection was flexible so that if a student declined to participate in a semi-structured interview I would not exclude their previously created data. The findings from the case study would not be seriously compromised if a few class members withdrew from the research.

Third, concerning students who use English as an additional language, I designed the research approach to be inclusive. Using photographs and drawings as major sources of data allowed students with limited verbal fluency or literacy to participate. Annotations could also be audio recorded and translated if required and I was able to transcribe annotations for students who struggled with writing.

Fourth, there was some flexibility provided by the classroom teacher in the timing of research with the Year 6 students. Formal transition programmes usually occur during the final term of primary school so I aimed to have completed the data collection prior to that time. This also meant that knowledge of high school spaces did not preclude the valid and creative imaginings of the primary school participants.

Fifth, the limitation of teacher influence did not appear to eventuate. The classroom teacher was engaged and supportive but did not actively attempt to influence student imaginings or spatial choices. The *Atelierista* and myself as researcher also avoided leading or directing student responses; rather, facilitating and actively listening to the students’ perspectives.

### 3.6 CONCLUSION

This chapter has outlined the research design and methodology of this qualitative case study. Data collected includes verbal annotations and interview responses and the students' visual images and photographs to explore the Year 6 students' experience and imaginings concerning high school learning spaces. The visual methods align with the students' physical, social and cognitive understandings of learning spaces and engage and include all of the Year 6 participants. The data collection and analysis process, as detailed, involves an inductive approach and is also deductive following Bland's (2006, 2012) approach to analysing children's imaginative drawings. The chapter also presented the ethical considerations and potential limitations of the study. The students' perspectives explored through verbal and visual data have contributed towards a deeper understanding about Year 6 primary students' imaginings and expectations about high school learning spaces, revealing their design ideas as well as their emotional and cognitive expectations of high school spaces. The findings are presented in Chapters 4 and 5 and discussed in Chapter 6.



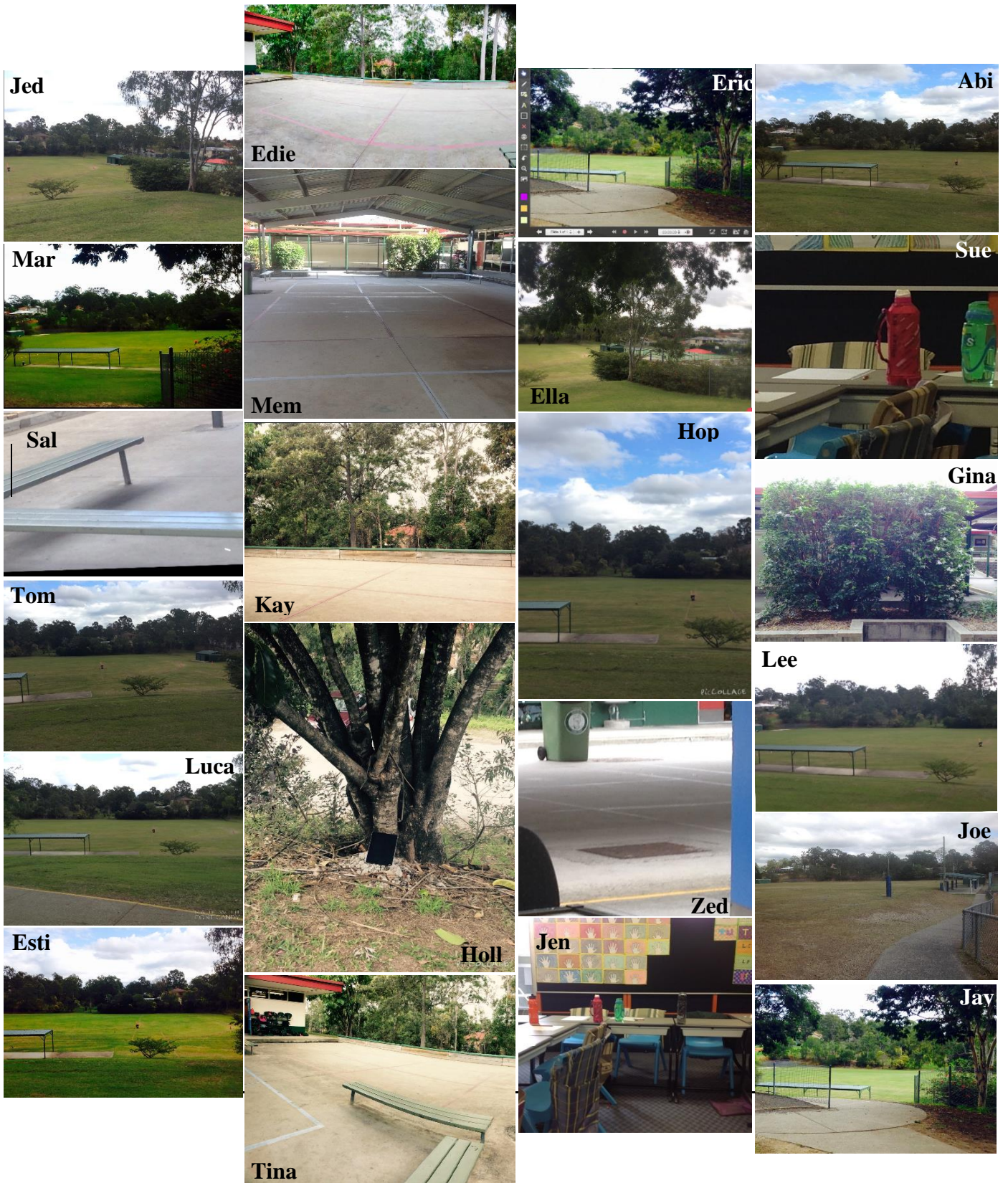


Figure 4.1. Year 6 student participants' photographs of their preferred primary school learning spaces

# Chapter 4: Preferred primary school learning spaces

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## 4.1 INTRODUCTION

Year 6 students' expectations, hopes and imaginings about high school learning spaces inform our understanding of what is important to primary aged children as they prepare to transition to high school to learn in new spaces. Their knowledge and experience of high school learning spaces are mediated by their lived primary school experience of learning spaces (Barrett, Zhang & Barrett, 2011). Therefore, in this case study, prior to the exploration of their imagined future learning spaces, the students reflected on the aspects of their primary school spaces that they preferred, considering both the physical and social aspects of those spaces. The students' photographs (Figure 4.1) and annotations were the lens through which I gained insights about their experiences of learning spaces within their current learning setting. This set of data provided the foundation for exploring and imagining high school learning spaces (Eisner, 2005). Lefebvre's Spatial Triad (1991) provided the theoretical frame for the findings. Within the Spatial Triad each aspect of space interacts and the lived spatial experience influences the social and cognitive understandings of space. Understanding student perceptions of primary school spaces provided me with the opportunity to see whether there was a relationship between how they experienced primary learning spaces and how they imagined their high school spaces.

In this chapter, I first describe the students' current primary school context (4.2). Then, I present the findings about students' preferences for learning spaces within this school, relating them to two elements of Lefebvre's Spatial Triad (1991): physical spaces which I associate with *Spatial practices* (4.2) and social spaces which I associate with Lefebvre's *Representational spaces* (4.3). In the concluding section (4.5) I consider the implications for Year 6 students transitioning to high school (4.5) in light of their primary school learning space experiences. Thus, Chapter 4 sets the scene for the following Chapter 5's presentation of findings about the students' imagined future high school learning spaces, relating to the third element of Lefebvre's Triad: *Representations of space*.



## 4.2 PRIMARY SCHOOL CONTEXT

As I walked into the brightly coloured Year 6 classroom my eye was drawn to the students' art work that covered the opposite wall and hung from lines that criss-crossed the room. On closer observation I noticed that large pieces of art work had been displayed on the ceiling as well, so students who looked up could see more examples of their creativity. On another wall organisational rotations for group work were displayed. Even the windows had step by step instructions for an assessment item written out for students to check against. The classroom appeared a purposeful place for learning.

The Year 6 classroom was situated in a single level block of four classrooms that was divided by concertina doors on one side and a withdrawal room on the other. Built in the 1970s during the open learning movement (Cleveland & Woodman, 2009) the classroom was designed to be an open, double classroom. However, while I was there the green concertina door was always closed as the adjoining room was the Japanese language classroom. The classroom had been renovated with new floor coverings, desks and chairs and freshly painted colourful walls.



*Figure 4.2.* Year 6 classroom from back corner



*Figure 4.3.* Year 6 classroom looking across from doorway. (Photo taken at end of year after art work taken down.)

The northern side of the classroom had two windows with louvered windows above. These windows looked directly on to the rear of the school hall. There were tinted windows on the southern side of the classroom beside the classroom door. The teacher's desk was at the entrance of the classroom. It was a large workspace used for student conferencing and parent meetings. There was a storage room and a large sink area beside the wall built over linoleum flooring. An assortment of balls and play equipment were stored under the sink. There were three ceiling fans above the students' desks. At the time of research in Term 3, the students had experienced the heat of the summer term (average 28 – 30 degrees) with the



only temperature relief provided by the fans and windows. The air conditioner was added late in the autumn term when temperatures were cooler.

The desks were arranged in a U shape facing the interactive and static whiteboards. Between the whiteboards was a small glass window providing visual access to the withdrawal room. The withdrawal room was used for small groups, teacher aide support, individual testing, and also housed the Year 6 students' 3D printer, computer printer and reference books.

In this classroom, the Year 6 students participated in a 'bring your own device' scheme and each student used an iPad throughout the day. The technology focus provided opportunities for students to work with, and independently from, their teacher. Through my informal discussions with the classroom teacher I discovered he was a proficient technology user, who provided in-service training to other school staff in the use of technology and his students regularly used their iPads for both learning and assessment. During my visits to the classroom I saw students sitting in small groups at the front of the classroom and also within the U shape of the desk layout sitting with their teacher on the carpet. Pairs and small groups were also allowed to work outside in the undercover area where they could be visually supervised through the tinted windows. The Year 6 students seemed adept at using digital technologies in various locations.

Directly outside the classroom door there was a large, rectangular undercover area with bench seating at each of the corners. The undercover area was used as a meeting place for the three large Year 6 classes, an eating area and handball court. The undercover area had views of the bush area that was used for studying the environment. When students sat outside to learn, eat or play they could look away from the buildings and out across this environmental zone of the school on the Eastern perimeter of the school grounds. A building of four classrooms was parallel to the Year 6/Japanese block with two of the classrooms being used for music lessons. The senior toilets sat at one end of the outdoor area, separated physically and visually by shrubs growing in well maintained garden beds.



*Figure 4.4.* Undercover area, facing towards toilet block (Mem)

As an observer looking at the students' current classroom learning space I could identify potential concerns about the small size of the room (7.2m x 10.7m) with so many early adolescent students to fit in. The classroom accommodated 31 students. This large cohort of growing bodies was packed into the classroom space. Although the desk layout was welcoming and provided opportunities for students to work collaboratively, it was evident to me that the number of desks and chairs restricted creative ways of arranging the furniture. In addition to the density issue, I wondered about the noise impact of the Japanese classes practising their language skills on the other side of the concertina door and the nearby music classes practising diagonally across from the students' classroom. I was also aware that students could only see other buildings and concrete surfaces when looking through the windows of their classroom. Hence I had an aesthetic concern in addition to the concern over potential density and noise factors. Balancing these limitations were the bright colours, fresh carpet, new desks, art work covering wall spaces and ceiling, and of break out zones in the withdrawal room and undercover outdoor area.

The students' use of iPads suggested a potential for learning spaces to be flexible in both physical and virtual ways. The use of technology can provide greater choice in where and how to learn. The school administration and teacher appeared to value the users of the spaces through their commitment to renovating the physical space, and embracing new technologies to elicit new virtual experiences. However, I was interested in understanding what the Year 6 students thought about their learning spaces within their school. I wanted to identify what physical and social aspects of learning spaces were important to these middle years students. When asked, the students expressed preferences for learning in outdoor settings and a small number preferred learning within the Year 6 classroom.

### **4.3 PREFERRED PHYSICAL SPACES: CURRENT SPATIAL PRACTICES**

The students identified their preferred primary school physical spaces in the photographed images presented throughout this chapter. In line with Lefebvre's (1991) Spatial Triad, the physical spaces are associated with *spatial practices*. The findings that emerged from the data analysis of the student photographs and their annotations are discussed according to student preferences for outdoor spaces (4.3.1), connecting with nature (4.3.2), appropriate noise levels (4.3.3), spaciousness (4.3.4), fresh air (4.3.5) and indoor spaces (4.3.6). Finally the social aspects of the preferred learning spaces are also explored (4.4).

The students articulated their preference for learning in outdoor settings or within the classroom. Of the 22 Year 6 participants, twenty students reported that they preferred

learning in an outdoor area. Twelve of the students preferred learning on the oval, eight preferred learning in the outdoor area next to their classroom and two preferred learning inside the classroom.

### 4.3.1 Outdoor spaces

Most of the Year 6 students in this case study preferred learning spaces that were natural rather than built. As soon as students nominated where they wanted to photograph within their primary school it became clear that the vast majority reported that they preferred to learn outside of their classroom. The two main spaces were the oval and the outdoor learning area beside their classroom. This finding is similar to previous studies that show primary aged students desire access to “abundant, useable, outdoor space” (Barrett et al., 2011, p.111; Tanner, 2000).



*Figure 4.5. School Oval (Maddy)*



*Figure 4.6. Outdoors area (Kay)*

The students’ expressed desire to learn in an outdoor space was linked to natural elements. A connection with nature was evident in the framing of trees or bushes in many of the students’ photographs. The oval’s expanse of grass appeared to provide connections with nature, whilst also inviting students into a larger space for learning. Themes that were visually presented (e.g., focus on trees, expansiveness) were also confirmed in the written annotations which revealed the students’ desire to learn in an open and spacious environment, feeling connected with nature and benefiting from fresh air. In their annotations students also appeared to attribute physical, social, cognitive and emotional connections to their choices. Their preference to learn outdoors was associated with the key elements of connecting with nature, quietness, fresh air and spaciousness.

#### 4.3.1.1 Connecting with nature - “nature all around”

The importance of connecting with nature was evident in the responses provided by the students. It was a theme that was also visually apparent in the students’ photographs, the

majority of which included trees, bushes, grass, clouds and sky. The state of being ‘near nature’, ‘around nature’, ‘with nature’, ‘nature all around’ or ‘near the nature’ were often recorded in their annotations. The students in this study stated their desire to be close to nature but most did not elaborate upon why that was important to them. The students’ wish for proximity to the natural world reflects research with children about learning spaces (Bland et al., 2013).

Other studies have shown the positive effect of green space upon children’s development, making connections between cognitive, social and emotional developmental outcomes with contact with nature (Taylor & Kuo, 2006). Student wellbeing was suggested by these students’ annotations, however they were not explicit in making emotional, cognitive or social links.

For example, Edie provided a vivid impression of being connected to nature in explaining her preference to learn outside her classroom.



*Where do I like to learn? Outside the classroom. I like learning outside as I am with nature and I can get a nice breeze. Also, it is nice and quiet and all you can hear is the trees rustling and the birds chirping.*  
Edie’s written annotation

Figure 4.7. Edie

Connecting with nature for sensory reasons such as hearing birds and trees, for a quiet learning space, and for environmental factors like a breeze all created Edie’s preferred learning space. Edie’s annotation illustrated how and perhaps why she and other students liked to learn outdoors surrounded by nature. From the Year 6 classroom there was no view incorporating natural elements. It was only when students worked outside of their classroom that they could see trees, or feel much of a breeze. However, the primary school had many well established trees and behind the Year 6 block of classrooms was an area designated as an environmental space. Edie’s photograph captures part of that tree landscape (Figure 4.7).

#### 4.3.1.2 Quietness – “sometimes quiet”

The students seemed to articulate a preference for sociable learning within certain personally acceptable noise limits. The desire for a mix of both quiet spaces and spaces where students could talk freely with friends was identified by both those who preferred to learn outdoors and indoors. The connections made to noise and quietness reflect research about the impact of noise on student learning and the requirement to reach acceptable noise

ranges (Barrett et al., 2011; Horne Martin, 2006). Many student responses indicated that they liked quiet, but were content to have a little noise associated with working in a space with friends. Tina listed both quiet and talking in her annotation, providing reasons for preferring to learn outside the classroom:

*Outside – fresh air and sometimes quiet and fun with friends. It is not cramped and it is wide open and you're around nature and you could talk and be with friends.* Tina

According to Tina, the outdoors space allowed for learning with friends and fun, while still being identified as a 'sometimes' quiet space. The quietness was not silence, and the quietness in the outdoor area perhaps contrasted with the noise level within the classroom.

Luca chose the oval as his preferred learning space because he found quietness there. Like Tina he preferred quietness while still being able to talk.

*Outside, friends – Oval. This is where I like to learn because it is a quiet learning space that lets me communicate with my friends.* Luca's annotation

Students tended to experience lower noise levels outside than in their densely populated classroom. Zed was unambiguous about his preference to learn outside the classroom. He wanted to work alone and learn in quietness.



*Outside, because it's quiet. I like to be by myself.* (Zed's verbal annotation)

Figure 4.8. Zed

His preference to learn outside the classroom was reflected in his succinct response and the direction of his photographic shot, taken by swivelling around in his classroom chair. The outside may represent the opportunity to isolate himself and to enjoy quiet. While this photograph represents a space that is a place of retreat for an adolescent boy (Clark & Uzzell, 2006, p. 187), others desired the accompanying noise of social interaction.

#### 4.3.1.3 Fresh air – “feeling fresh air”

Noise was not the only environmental factor commented upon by the students, air quality was also highly significant. The desire to breathe, smell and feel fresh air was one of the most commonly recurring themes throughout the Year 6 students' annotations. As

previously mentioned, there were windows on only two sides of the classroom and this may have restricted fresh air and ventilation. The students' specific references to air quality reflects previous research that highlights the importance of fresh air in a learning space for both health and learning (Blackmore et al., 2011, p.30). The prevalence of Year 6 students commenting on 'fresh air' highlights a possible association between the students' experience and their perception that learning outdoors provides a better and healthier learning space. Both boys and girls in the case study commented on their preference to learn outside in fresh air. The theme of fresh air was linked to issues of both ventilation and temperature and reflected affect responses made by the students in their choice of preferred primary school space.



*Outside. I like the outside because it has fresh air and it has nature all around it and inside it is normally hot and outside has a lovely breeze.*  
Gina's annotation

Figure 4.8. Gina

Gina provided a possible explanation for the prevalence of fresh air comments. She preferred to learn in the area outside the classroom because it was cooler than the 'normally hot' classroom. She also stated that outside there could be a breeze. Temperature appeared to be a factor that impacted the students' experience of learning within the classroom. Hot temperatures are often a concern for Queensland students and studies show that temperature and humidity are linked to "Sick Building Syndrome, relative absenteeism and lowered mental acuity" (Blackmore et al., 2011, p. 30). In light of this, it was not surprising that 'fresh air' emerged as an important theme in the students' annotations.

One student shared an affective response to the smell of fresh air, commenting, "the smell of fresh air is just relaxing". The sensory experience was related to the emotional state of relaxation. Year 6 students also made connections between open spaces and feeling relaxed.

#### 4.3.1.4 Spaciousness – "Open, easier to learn"

A number of students preferred learning outdoors because it allowed them to spread out in a larger space. The desire to learn in an open space seemed to be closely associated with the themes of nature and fresh air. Being in the 'open' was preferred by many of the



students. Students revealed that when outside the classroom they felt ‘less cramped’ or ‘not cramped’. Marc was very direct in explaining his preferred primary school space:

*I like learning on the oval because there is a lot of space and fresh air. It is easier for me to learn with this type of environment. (written annotation)*

Marc’s annotation appears to reveal the link he had made between learning spaces and perceptions of suitable learning conditions and benefits for learning. In the student responses the oval and the area outside their classroom were both considered beneficial learning spaces because of the sense of expansive space. This suggests a more negative association with their experience of learning in a container-like classroom (Leander et al., 2010), however it may equally represent genuine student desire to learn in a less supervised, natural space that provides room to move, play and learn (Barret et al., 2011).

Cognitive benefits from learning in an open space were also suggested by students. Hope photographed the oval and explained that being in a ‘less cramped space and fresh air, with other people’ cleared her mind and allowed her to ‘think better’. She identified that clarity and collaboration were made possible by being in the open space. The positive impact of learning in a spacious area was also echoed by Joe:

*Nature, learning with friends on the oval. Open, easier to learn. Know nothing’s concerning, don’t have to worry. Less pressure than indoors. (written annotation)*

Affective and cognitive elements prompted this young man’s spatial choice. Joe felt less stressed when he was learning outdoors, connected with nature and with friends. He linked the ‘open’ oval setting to his ability to learn. The psychological and emotive implications of being in the outdoors were evident in his choice of language; ‘nothing’s concerning’, ‘don’t have to worry’ and ‘less pressure’. His annotation was significant in suggesting that he was feeling pressured, and perhaps associated that with working and achieving in his classroom. His preference for learning on the oval was also linked to social opportunities of learning with friends, finding psychological reassurance and greater clarity and connectedness. Although Joe was the only student to be so explicit about the affective impact of learning outdoors, the themes of connectedness raised in his annotated response were evident in other students’ responses. Students appeared to want to learn in spacious outdoor spaces, not only because they were open and less cramped but because they could feel connected with nature and with each other.

### 4.3.2 Indoor spaces

Two of the participants selected the Year 6 classroom as their preferred learning space in primary school. These students indicated the positive effect that being at their desk had on their learning. The visual focus of their photographs was on their personal desk. They identified the ability to focus and avoid distraction while in this space. Quietness was indicated as a factor for their preference. However one student liked learning inside because she could be by herself, while the other student liked being with her friends and sharing ideas with other people while inside the classroom.



*At my desk. No one talking – by myself. I like my desk it is neat and orderly and I find it easy to focus.*

Sue's annotation

Figure 4.10. Close up of desk - Sue



*At my desk because it's quiet and I can share ideas with other people. I like learning there because it's with my friends and I don't get distracted that much from them. I like sitting with my friends, not by myself.*

Jess' annotation

Figure 4.11. Classroom corner - Jess

It was clear from the two photographs (Figs 4.10 and 4.11 above) that the participants sat quite closely together in the classroom and if they were friends this may have impacted their choice of preferred space. However the differences in the two girls' annotations suggested that they were thinking independently and had personal reasons to justify their choice.

A sense of order and control was presented by Sue as a reason behind her learning space preference. Personalised space was important to her. Her photograph zoomed in on her desk, water bottle, paper, pen and chair with chair bag and tote (under desk storage) tray. The classroom surroundings were inconsequential to what she was visually expressing. Her desk was neat and communicated control and order. Her annotation confirmed what the photograph suggested. Sue was focussed on learning and her optimal learning conditions were neatness and quietness. Her preferred primary learning space was in stark contrast to the



open, public, outdoor spaces that other Year 6 students wanted to share. Sue's response presented an insight into a Year 6 student who liked her own inside space and was happy to learn within a more formal setting.

Jess was also happy to learn at her desk but her focus was on collaborating rather than working in isolation. The photograph (Fig 4.11) was of a section of the classroom close to the window. In addition to a number of desks and chairs, some of the class art work can be seen. The framing of the photograph suggests the more social scenario of working with students at nearby desks. Jess stated that she had her own personal space within the classroom, but friends were close by. Her admission that she did not get distracted 'that much' was an honest appraisal that there were times when she was distracted. The students seated nearby could not be too loud however as Jess referred to the quietness of being at her desk. Learning and sitting with others was Jess's preference because of her apparent desire to connect with others. The social dimension of learning spaces will be explored more in section 4.4, but it was evident that Jess valued the opportunity to collaborate.

The preference to learn inside the classroom was only expressed by two students, yet the themes of enjoying friendship, quiet, and being able to focus on their learning were also evident in the responses of peers who shared the same aspirations while learning outside. The distinguishing theme of these learning space preferences was that working at a desk provided order and control that was not available to those in less formal or furnished settings. This preference appears to reflect a personal learning style and personality.

#### **4.4 PREFERRED SOCIAL SPACES: EXISTING REPRESENTATIONAL SPACES**

As the findings of this study indicate, along with the physical dimensions outlined in the previous section, learning spaces have social dimensions. Thus, this section outlines the *Representational spaces* (Lefebvre, 1991) or social spaces in primary school where the students (and teachers) interact socially.

The majority of student responses revealed the value and importance that they as young adolescents placed on working with their friends. Many explicitly declared their preference to learn with others and photographed spaces that fostered interactions. Students chose spaces where they could talk and this reflects Clark and Uzzell's (2006) research that young people flourish and extend each other when they are provided with spaces that allow meaningful social relationships and interactions. While many of the participants preferred

being outside the classroom where they could learn with friends, one student preferred to be inside the classroom to learn with friends.

#### 4.4.1 Social spaces

The students' annotations revealed their desire to connect with friends, to collaborate, play, run, talk and be together. The social aspect of learning was clearly expressed. The desire to learn outside was not just about the features of the physical space, but more about inhabiting the social spaces created. The students who chose an outdoor area as their preferred learning space photographed areas connected with recreation, where they could play as well as learn. The oval was the most frequent choice of both boys and girls and it was the learning space that they most associated with recreation and play at the school. They used the oval for activities and ball games like soccer during both school breaks and before and after school. The Year 6 students had their Physical Education lessons on the oval. The outdoor area between the Year 6 and Year 5/Music rooms was both the students' eating area and a series of hand ball courts. Students mentioned 'playing', 'running around', and 'watching' as they used these active spaces. It was perhaps because these outdoor spaces were connected with playing that Joe (mentioned above) found learning outside less pressured than in the classroom.

Jay specified when, where and with whom he liked to learn:

*Outside on the oval at lunch time. I like learning at the oval as I like socialising, sport and watching as well as playing.* Jay written annotation

Jay enjoyed the oval space for the curricular and extra-curricular opportunities as well as the social prospects it offered. He depicted himself as an active participant as well as an observer. He was very clear about what he liked and the oval was the best space to provide opportunities for his learning preferences. Tom provided similar reasoning:

*Anywhere outside because fresh air and with friends but mostly at the oval because I like running around.* Tom written annotation

For others being on the oval was not necessarily about playing or moving but being free to speak with peers and share the "place with my friends" (Eric). From their responses the value of socialising and talking was clearly important to the Year 6 students. It may also imply that there was a greater freedom to talk or an opportunity to be less supervised than experienced in an internal space:

*Oval, being with people. I like learning in that space because I can talk to people, also get fresh air.* Lee written annotation

The students often associated fun with learning in outdoor spaces and social interaction. Their responses suggested that they perceived being outdoors with a more flexible and less formal opportunity to learn. Ella succinctly expressed this preference:

*Oval, because it's open, colour and view. It's just fun no matter what. I hate being by myself my mates make everything more enjoyable.* Ella written annotation

Gender differences emerged from the students' annotations in the way they referred to their use of the oval. Boys referred to physical activity while the girls referred to the oval as a site for being with their friends, a place for socialising. Both genders revealed a desire to be actively engaged with their friends as they learn.

Sal's photograph was quite different from her peers. Rather than focus on the general outside area she deliberately framed the photograph to concentrate on the bench seating. Sal chose the outdoor area because she could learn there, in 'comfort' and fresh air.



*Outside the classroom because it's much better. Also I like working outside because it has fresh air and it's more comfortable.*  
Sal's annotation

Figure 4.12. Sal

The visual framing may reveal the importance of a collaborative setting where sitting together was made possible through the permanent arrangement of the L shaped seating. The hard physical surfaces of concrete and metal apparently did not detract from the social implications and opportunities the photograph suggests for sitting with friends or a teacher. Sal mentioned comfort as a reason for her learning space choice. Although comfort is often associated with soft furnishings, she perceived comfort in sitting at the bench in the large undercover area. The social possibilities of the space, hinted at in the photograph, transform the physical space to a preferred place of learning. This reflects research into adolescent place preferences in a Dutch study that found "liking a place was associated with the social and physical affordances of the place" (Clark & Uzzell, 2006, p. 181). The researchers found that the three main reasons given for place preferences were; the place was good for a specific

type of activity, the place included certain environmental features and the place was shared with other children (2011, p.181).

The large number of student participants who specifically mentioned that they liked to work with friends is a timely reminder about what remains important to middle years students as they prepare to transition to high school. Many young adolescents want healthy, open spaces where they can connect with their friends to freely talk and learn with each other (McGregor, 2004).

#### **4.5 SUMMARY OF FINDINGS – PRIMARY SCHOOL LEARNING SPACES**

The physical and social spatial preferences revealed by the Year 6 students are significant for educators in both primary and secondary schools as they highlight young adolescents' desired movement from a contained classroom space towards more open spaces where they can learn in natural, collaborative settings. Environmental factors such as fresh air and quietness are shown to positively impact the students' ability to focus and learn. Therefore it is important to note that for many, focussed learning occurs in a natural space rather than a built environment. The findings reveal a strong connection between learning outdoors and connecting with peers. This corroborates other research into young adolescent preferences for outdoor, natural spaces (Clark & Uzzell, 2006) and the importance of peer relationships (Carrington, 2006; Pendergast & Bahr, 2010).

Many of the features of learning spaces mentioned by the Year 6 students can be found in other Australian (Bland, 2009) and international studies. Ghaziani (2008) identified similarities between a number of UK projects revealing children's desire for features such as natural light, ventilation, bold colours, and restful places, outdoor learning areas with trees, water and animals. Some of these features are mentioned in the Year 6 students' annotations and visualised in the photographs taken, particularly outdoor learning areas, trees and "fresh air" ventilation.

Unlike other research (French & Hill, 2004), the students seldom indicated any interest in colour, light and interesting spaces. The aesthetics or impact of colour was only mentioned by Ella, who referred to the colour she could see while on the oval. She was referring to a natural palette of colour rather than boldly coloured classroom walls or buildings. Although the Year 6 classroom featured bold colours the students did not mention them. In contrast to an Australian study (Bland et al., 2013) the students only mentioned animals in reference to hearing birds, and did not express a preference for water. Their main attention to physical design was on open or expansive spaces with natural connections, attention to environmental factors such as quietness and fresh air. Only two of the 22 students

highlighted their preference to work inside the classroom. Implications emerging from the data collected from the Year 6 students therefore include the importance for schools to provide open learning spaces and for teachers to enable more outdoor activities.

#### 4.5.1 Flexible spaces

With the majority of students electing to learn away from the classroom, there is an evident need for schools to provide flexible learning spaces within and outside the classroom so that students are less contained within a formal setting (Leander et al., 2010). None of the students identified flexibility as an important issue. This may be because it is a more adult, synthesised concept, but their responses imply adeptness at seeing learning spaces beyond the typical classroom. One of the main reasons behind the expansion and potential flexibility of learning spaces is the introduction of virtual spaces via technology. However, only one student from this ‘Bring your own device’ class referred to technology. This may be because technology was available to them and integral to their lived experience. The Year 6 students could use their iPads and the school’s WIFI connectivity anywhere within the school grounds. This provides the freedom and opportunity to learn in varied physical and virtual spaces in a flexible way.

Table 4.1 Summary of preferred primary school learning spaces

<b>Physical preferences for learning spaces (Spatial practices)</b>		<b>Social preferences for learning spaces (Representational Spaces)</b>	
Learning outdoors	20	Being with friends	15
Spaciousness	6	Learning independently	3
Connecting with nature	6	Being able to think clearly	5
Fresh air	10	Quietness	7
Temperature	2	Emotional connections with space	5
Physically active space	2	Fun space	3
Learning inside the classroom	2	Technology	1
Colour	1		
Sense of order	1		

The preferred physical and social spaces included in Table 4.1 were nominated by students within their annotations. Many of the preferences referred to within the annotations were evident in the photographs taken (See Figure 4.1, p.67). For instance, connecting with nature was visually expressed in 17 of the photographs taken, with trees, bushes, sky and grass emphasised. Preferring to learn in open spaces was also visually apparent in the framing of many of the photographs. The social aspects of learning spaces were not so clearly depicted

within the photographs but revealed through the students' annotations. The vast majority of students articulated their preference to learn with their friends, while also expressing their desire to learn in a quiet space. In this respect the physical and social interactions of learning spaces were evident, as being outside the classroom was perceived as providing the opportunity to be with friends while also being in an open, quieter space.

#### **4.6 CONCLUSION**

Imaginings of future high school spaces are grounded in the spatial experiences the final year primary students' have known in their primary school (Eisner, 2005). Thus before exploring the students' imaginings and representations of high school spaces it was important to identify the students' physical and social preferences in their primary school learning spaces. This chapter has explored these preferences emerging from their annotated photographs. The Year 6 students were clear about their preference to learn outside their classroom, connected or near nature. The particular context of the class having a large number of students in an only recently air-conditioned classroom may have impacted their views regarding density, noise, temperature and air quality. Their preferences for outdoor learning spaces aligned with the social aspects of their preferred spaces. The students chose areas where they could talk with friends, develop greater autonomy and freely move around or play. Their preferences have implications for the physical and social transition they were facing from primary school to Year 7 in high school. The following chapter will explore the findings regarding the students' imaginings or 'representations' (Lefebvre, 1991) of high school learning spaces.







Figure 5.1 Students visual images of their imagined high school learning spaces



# Chapter 5: Imaginings and representations of high school learning spaces

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## 5.1 INTRODUCTION

The previous chapter focussed on the Year 6 students' preferred primary school spaces and the physical and social aspects of space they reported as being important to them. Their exploration of future high school spaces was built upon these known spatial experiences of primary school. This chapter presents the Year 6 student imaginings and representations of their future learning spaces. In this chapter the findings from analysis of student images, annotations and interviews respond to the research question, *How do Year 6 students imagine their future high school learning spaces?*

The Year 6 students' imaginings revealed prior knowledge of high school spaces plus their hopes, anxieties and expectations about what these spaces might be like. The students' visual representations made it possible to explore what they valued in a learning space and their design ideas for physical and social spaces at high school. Some of the themes which emerged from the students' experience of primary school learning spaces, identified in Chapter Four, continued into their imaginings of high school. Their lived experience of the social and physical aspects of space at primary school intertwined and informed their imaginings of high school spaces. The students' imaginings also reveal possibilities and practicalities for adults to consider when thinking through the design and use of high school learning spaces.

In this chapter, I firstly explore the different types of imagination evident in the student images. Four student examples are discussed to illustrate the types of imagination; empathic, critical, creative and fantasy (Bland, 2009). These imaginings are framed as the *conceived* or mental aspects of space within Lefebvre's Spatial Triad (Section 5.2). Secondly, I consider the dynamic interactions between the students' imaginings of learning spaces with the *physical* (5.3) and *social* aspects (5.4) identified in their representations of high school learning spaces. Representative images, annotations and interview responses are selected to highlight the students' imaginings. The chapter concludes with a summary of key findings (5.5).

## **5.2 CONCEIVED VIEW OF HIGH SCHOOL LEARNING SPACES EXPLORED THROUGH FOUR TYPES OF IMAGINATION**

The conceived view of space (Lefebvre, 1991) relates to imagining or mentally constructing spaces for particular uses. In this case study students were asked to imagine their high school learning spaces and represent their imaginings through creating an image. The images they produced with water colour pencils, collage materials and digital graphics visualised their imaginings of what high school spaces may look like and their interview responses provided additional information concerning how they conceived the spaces would be used. Some of the students' imaginings were influenced by what they knew of their future high school. Eleven of the students re-created known or easily recognisable high school spaces, two even presented identical layouts to one another based on their orientation high school visit. Other students produced images that creatively added to their known experiences while another cluster of students imagined alternative learning spaces. My analysis of their images and interview responses identified main concepts and emotions connected with their imagined spaces. I used Bland's (2009) typology of imagination to identify the types of imaginative thinking evident in the images.

As discussed previously (2.5.3), Bland developed a typology of imagination to differentiate the kinds of imagination that emerge in children's drawings about learning spaces (Bland, 2009; Bland et al., 2013, p.11). This typology is based on theoretical understandings of imagination and provides a model of analysis to recognise empathic, critical, creative and fantasy types of imagination (Bland, 2009). These concepts are helpful in thinking about the students' representations of space through another lens. By referring to Bland's (2009) typology I was able to think about the conceptual understandings revealed through the images that went beyond focussing on the visual content. In some instances, motivations for certain spatial choices were revealed through contemplating what type of imagination may have been applied by the students. While the images were separated into different analytic categories in the following sections, it is acknowledged that multiple types of imagination and spatial practices inform each drawing. The borders between the types of imagination are porous and dynamic. For this reason, a selection of some of the images are analysed in more detail at the start of this chapter to indicate the rich intersections.

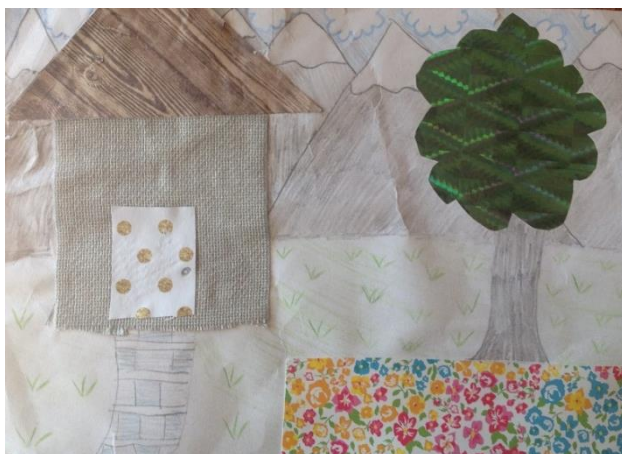
### **5.2.1 Empathic imagination**

Empathic imagination conceives possibilities and solutions to benefit others (Bland, 2009). Empathic imagination is considered in this chapter first because of the particular

context of students transitioning to high school and facing uncertainties. Greene (1995, p. 3) argues that imagination “makes empathy possible”. She theorises that understanding the ‘other’ often depends on the poetic use of our imagination. The move to a new learning context can be quite daunting for young adolescents (Hanewald, 2013). A small number of students exhibited empathic imagination in their images of spaces that seem to invite transitioning students into welcoming and calming spaces. Three students represented spaces that empathically engage and encourage a smooth transition into both classroom and outdoor high school spaces.

Bland argues that imagination can elevate empathy through considering the voices of marginalised others (2009). All Year 6 students could be considered marginalised in light of their restricted voice in spatial matters (Rudduck & Flutter, 2004; McGregor, 2004) in the high school context, however in this instance, one student’s imagining of high school emerged as an example of empathic imagination towards her future self. Jen’s image (Figure 5.2) and interview response conveyed the desire to feel secure and calm in high school spaces. Her tranquil scene of a large cabin surrounded by snow-capped mountains expressed reassurance from an anxious child to her future high school self.

In the interview Jen spoke openly about her anxiety regarding the transition to high school. Imagining her idyllic European scene as a learning space perhaps assuaged some of her concern about this major change. Jen imagined where she felt she could feel ready to learn, not “distracted” and in a secure mood. She reflected on her picture by saying, “It makes me feel comfortable and calm”. The natural landscape of mountains, tree and flowers somehow aided Jen’s wellbeing.



*I like Europe and seeing snow.  
Jen’s annotation*

Figure 5.2. Jen

Jen’s empathic imagining of high school made the connection evident between learning spaces and emotional responses to school experience, whether they are open, welcoming, or freeing (Arndt, 2012; Waite, 2011). It was also evident in this image that Jen was drawing on

a wider experience of the world than her Brisbane based context to access emotions that were important cues for wellbeing and learning.

### **5.2.2 Critical imagination**

Critical imagination is a more restrained type of imagination in that it can be disciplined or restrained by experience or critical in response to experience. Bland (2009) includes a number of sub-types to explain the various attributes associated with this type of imagination; reflective, sociological, disciplined, utopian and critically-pragmatic. The disciplined sub-type is associated with Giddens' (2001) theoretical position that utopian thinking has, at times, to be restrained to avoid becoming fantasy and impractical. Critical imagination was evident in student images and annotations as students revealed their practical insights through pragmatic imaginings about high school.

In my analysis of the images, the students who reproduced known elements of high schools exhibited restrained imagination as they visualised what they expected rather than hoped high school spaces would look like. Ten of the students showed restrained or critically-pragmatic imagination, as they included spaces that were formal, including school buildings, classrooms and a science laboratory.

Some students applied critically-pragmatic imagination that was “tempered by reflection to determine ends-in-view” (Maxcy, 1991, p.126). They critiqued their images and pointed out they included elements that they personally disliked such as the existence of formal multi-storey buildings and classroom layouts that were highly structured. They included them as they believed that they represented high school spaces, regardless of what they personally liked in learning spaces. Other students included the built facilities that they anticipated but emphasised the outdoor features where they preferred to learn, such as outdoor tables and green spaces (Abi, Sal, Jed, Joe). This type of imagining deals with the expected realities of high school while communicating hopes for an alternate spatial experience. Abi was one student who articulated this position.



*I want to learn outside for most of it. Only Maths and English inside, everything else studied outside. Peaceful outside. There's an undercover area besides the building.*  
Abi's annotation

Figure 5.3. Abi

Abi's picture featured bright colours linked to the natural outdoors and dull colours with the building. Abi was the only student to include people in her picture. She drew stick figures within the window frames and sitting at desks on the top floor. Her visual image reflected a restrained anticipation of what high school learning spaces might include: learning within a multi-storeyed building, sitting in rows inside individual classrooms while also having outside spaces for break times or informal learning. Abi's annotation implied a knowledge of segmented high school curriculum conducted in multiple classrooms, learning as an individual activity, a self-awareness of where she learnt best and an emotional response that favoured learning in a natural space. She felt "peaceful" when learning outdoors. Themes of temperature, air flow, stimulation and focus which emerged in her comments about primary school spaces were repeated in her interview response:

*Well, it's usually about like how outdoors will be better to learn instead of in buildings, where people can just doze off and not listen. Outside you can pay attention and it would be better. Cause inside it gets stuffy and hot. Outdoors it's fresh and the air is better.*

Her opening remark seemed to reflect her experiences of spaces that make it difficult to learn in primary school classrooms. Spaces that were hot, stuffy and not stimulating were being projected into a continued experience in high school, yet by identifying and contrasting them, she was also critiquing the experience and making suggestions for alternatives. She later added more information to her preference to learn outside saying there was "less boringness" when learning outdoors.

A natural environment was where Abi hoped to learn, but her imaginings of high school presented the formal buildings she expected to find. In this respect her image and supporting comments highlight critical and restrained imagination. It seemed clear that Abi's

hopes were clearly in response to her primary school experience of working in a small, hot classroom with a large group of students. The physical and social implications of learning spaces impact emotional and cognitive responses in the conception of adopting new spaces. In this respect Abi's image and comments engaged with all three aspects of the Spatial Triad as well as being an example of critical imagination.

### 5.2.3 Creative imagination

Creative imagination can be understood as “inspirational, creative, innovative, and problem-solving in nature” (Maxcy, 1991, p. 112). Creative imagination can be recognised through a number of sub types, such as poetic imagination (Bland, 2009). Two students imagined natural spaces and their poetic, almost metaphorical representations, highlighted the importance of nature to the emotional wellbeing of students within learning spaces. They created images of open green space (Figure 5.11) and a tree (Figure 5.8). Other students' images exhibited creative-pragmatic imagination. Bland (2009) attributes problem solving qualities to this kind of creative imagination. Holly and Hope provided design ideas that dealt with their pragmatic imagination of traditionally built high school spaces and their desire for a natural learning environment by imagining wall sized windows and large windows and skylights to visually connect with natural, outdoors scenes. Holly (Figure 5.4) explained that her learning space was “close to the outside”. The enormous windows in both images acted as a spatial compromise to the physical location of formal learning into the outdoor spaces by visually connecting the inside/outside dichotomy.



Figure 5.4. Holly



Figure 5.5. Hope

Holly and Hope both applied creative problem solving to foster connectedness between the built and natural environments within their imagined high school spaces.

Ella's image (Figure 5.6) was a distinctive example of creative imagination as she depicted her high school learning space as a festival in the city. Like many of her peers she wanted to learn outdoors in open space, being connected with nature in a cooler environment



than the classroom, but she added some original features to her image. She drew inspiration from the Brisbane River Festival which prompted her thinking about learning outdoors in the coolness of the night. This conceptualisation was similar to Black's (2007) study of the city as a classroom creating positive engagement (as cited in Blackmore et al., 2011). The coloured lights hanging between trees and the lights from the city buildings provided colour and interest. They acted as both decoration and stimulation for learning and were connected with nature by being hung between trees.

Ella's image reflects findings by Horne Martin (2006) about the positive impact of colours and lighting on student performance, behaviour and attention in a review of research into classroom environment affecting performance. The contribution of natural and artificial lighting on the aesthetic and psychological character of a learning space and the impact of colour on blood pressure and creating a relaxing environment have been made (Horne Martin, 2006). Although Ella was not privy to the research she intuitively expressed her knowledge of positive environmental factors contributing to an inspiring learning space. Lefebvre (1991) imagines conceivers of spaces as professional architects or planners, whereas Ella's insights affirm the value of seeking out student perspectives.



*I picked the city because learning at night is cooler and a calmer environment. Learning through the day is hot. Night – having colour and light is a good way to learn - in nature and in open space. Amazing if a school could let students learn outside because it is more engaging and you're more likely to pick up things. Ella*

Figure 5.6. Ella

Ella's annotation indicated she was generalising about "good ways to learn" and "students" in voicing her perspective. She assumed that cool, calm, colour and light were spatial choices that other students shared about quality learning spaces. Ella's annotation switched between first and second person, which may suggest that she was offering informed commentary to the research community and educational decision makers on behalf of students. When she used the word "amazing" she cast doubt on whether schools might "let" students work outside, but she was in no doubt that working outside might help students be engaged to learn.

Ella explained that her image was not a literal representation but a metaphor:

*The trees represent nature and being outside. The lights represent students, how we're all really different and so they are all sort of different. The different colours represent how different we are. And how when it comes together it makes something really beautiful. And the buildings represent the classes and stuff and how sort of boxed in it can sometimes be.*

This added layer of meaning highlights not only the aesthetics of her imagined high school space but a desire for inclusivity in the design of spaces that cater for different learners' needs. In this respect she was also displaying empathic imagination. Ella imagined holding 'creative discussions' in this space and opportunities for social interaction. Ella chose the oval as her preferred space in primary school and her annotation made it clear that being with friends, or 'mates' as she referred to them, was all important. Thus, the social relations afforded by her imagined high school space were an extension of her primary school experiences.

#### **5.2.4 Fantasy imagination**

The fantasy type of imagination emerges from daydreams and reverie. Based on Maxcy's (1991) theoretical position on fantasy, Bland (2009) noted that fantasy based imaginations were often thought to be unproductive. Yet within the images in this project, the students' whimsical notions also communicated clear ideas about wanting to be engaged, comfortable and excited about learning in these spaces. In this respect the images and ideas were productive. Some of the collage images included fantasy notions such as disco flooring, sand pits and beds as part of the imagined high school learning space. In an interview one boy shared his suggestion that each classroom should contain a pin ball machine.

Esti's collage imagining (Figure 5.7) verged on fantasy as she envisaged her high school learning space as 'Christmas everyday' with slide, swing, sandpit, Christmas tree and presents. She was explicit in wanting fun in her future learning spaces and she wanted to fuse her imagining of a fun learning space with reality.





*It's Christmas everyday and really fun at my high school. I don't just imagine this. I want this really badly.*  
Esti's annotation

Figure 5.7. Esti

Esti argued that fun was important in learning spaces as it “makes you want to learn more”. In her interview she detailed an example of fun learning by recounting a maths lesson when the class measured the volume of the outdoor learning area. Fun was not divorced from the reality of learning, rather it involved creativity in delivery and approach. The fun aspect of her collage was created with the notion of sharing the space with ‘lots of people’ and a teacher ‘there sometimes’. She imagined the space as a collaborative setting and an engaging space. Her desire was for some freedom from close supervision and greater autonomy from teachers. The imagined space also inspired positive emotion as it made her “feel relaxed”.

Yet Esti's image raised the issue of wishful imagining of it being like Christmas everyday that may not be fully realised when the students transitioned to high school. This was also a consideration for students wanting to learn in completely natural spaces throughout their days of high school. This tension will be addressed in Chapter 6.

### 5.2.5 Representational spaces – Embodied spaces

As students created their visual imaginings about high school learning spaces some made connections between how they would feel in the learning space and others imagined what they would be doing in the learning space. These connections raised the importance of bodies in learning spaces as both individuals and groups experience the social, mental and physical spaces relationally and alone. The body has been described as “the geography closest in” and can be viewed as both “an entity within space and a social space in itself” (Rich, 1986 as cited in Cook & Hemming, 2011, p.3) Emotions and physical activity are experienced through the body. Lefebvre referred to the spatio-temporal “rhythms” of the body interconnecting the passive body (the senses) and the active body (labour) converging in space (1991, p. 405). This theoretical background of the importance of the body in experiencing and responding to spaces is now illustrated with Year 6 affective responses and embodied practices.

### 5.2.5.1 Conceptions of freedom

Feeling free and relaxed in learning spaces was important to young adolescents (Hopkins, 2011). These Year 6 students referred to the “calming” effect of their created space, while others used descriptors like “relaxed”, “comfortable”, “peaceful”, “feel free” and “happy” in response to their imagined high school learning spaces. These affective responses highlight the importance of creating and using spaces in ways that engage and encourage students to focus on learning in a positive mood and mindset, whether through colour, nature, openness, fresh air, thermal comfort or pedagogical approaches.

Some of the participants made clear links between freedom and learning in outdoor spaces. This reflects Waite’s (2011) research that freedom and fun are linked to learning outdoors as students are motivated, engaged and more likely to remember when learning in an outdoors setting. A small number of students created images that made them feel relaxed, free and calm.



*It's free. A tree makes me feel free. Lee's annotation*

Figure 5.8. Lee

Lee created an image that represented his imagining that high school learning spaces would be “about how you feel free. And how you get fresh air.” His image reflected his positive view of transitioning to high school, “no matter what High School you go to it will be all good and you will feel fresh”.

The importance of environmental factors was present in Lee’s representation of high school and was a continuation of his primary school preference for working on the oval. Lee’s focus on a tree was both literal and a metaphor for freedom. Lee declared the tree did not have to be outside, it could be anywhere, as it was more about the feeling of freedom conveyed by the image. The tree represented fewer boundaries in high school than the ones he experienced in primary school and was also new, “fresh”. However, Lee’s preference was to learn outdoors as that was where he felt most free. He verbally imagined himself sitting on the ground, leaning against the trunk, being outside with classmates, aided by technology, doing either PE or Maths and with a teacher present. Hence, the tree was also a literal

learning space. It was a positive, natural image and represented Lee's conception that high school learning spaces would be liberating and his body would be fully present.

A contrasting image that also represents a student's desire to be fully present and liberated was provided by Sue (Figure 5.9). Sue imagined her high school learning space as she had photographed her primary school space, by focusing on the personal space around her desk.

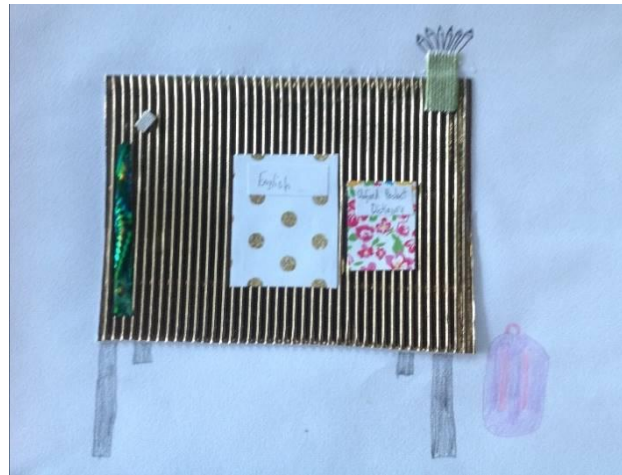


Figure 5.9. Sue

Sue imagined her optimal learning conditions and her affective response to a good learning space:

*Well if I'm sitting down and I'm by myself I'm really relaxed and it really helps if I'm by myself, it helps me think and it makes me feel nice.*

In her imagined high school learning space, her feelings of relaxation and 'niceness' were linked to the cognitive benefits of being alone. Her desire to learn as an individual contrasted with the majority of the Year 6 respondents who preferred to work together with their peers. However her concern for spaciousness was similar to her peers. Her desire to learn without noise and in a focussed way was also shared by her peers. At first her image seemed quite simple, yet what she was expressing could be problematic in a high school context where students move around and rarely experience a desk for their own personal use throughout the day. Her imagined control and the associated benefits of relaxation may be just as unlikely as those who conceived of relaxing while leaning against a tree, or sliding on playground equipment. In addition to conceiving how they would feel in their future high school space, the students revealed how they imagined being active and creative learners as they inhabited their high school learning spaces.

### *5.2.5.2 Conceptions of active and embodied learning spaces*

Active learning encourages problem solving, movement and creative participation in a learning process appropriate for middle years learners (Carrington, 2006). It is associated with embodied space. Low (2003) defines embodied space as the location where experience and consciousness take on material and spatial form. Within Lefebvre's triad it is the body connecting with the social aspect and physical spatial practice. For the Year 6 students these connections occur in formal and flexible spaces. Year 6 student participants revealed their broad view of what learning might occur in their imagined spaces as they conceived of playgrounds, ovals, science labs, hallways and classrooms. The representational spaces and spatial practices conceived by the students identified expectations that they would be creating knowledge through activities like reading under a tree, using their iPad, or engaging in creative discussion. Year 6 students imagined themselves taking control of where and how they would be learning in their high school. Their conception of high school learning spaces highlighted the interactions they anticipated between the physical and social aspects of the spaces. Some students (Luca, Sue, Hope, Eric) imagined typical classroom settings that would suit a traditional delivery of curriculum, whilst others wanted to do most of their learning on an oval or basketball court, requiring a different pedagogical approach. The embodied use of the spaces varied between the Year 6 participants.

Quite a few of the boys imagined playing a sport (Marc – swimming, rugby union; Tom – rugby league, swimming; Jed – basketball; Jay – soccer) and this constituted preferred learning for them. No doubt skills would be learnt and the sports might be covered in physical education lessons. However they were happy to imagine other curriculum areas using the sports field spaces for subjects such as drama, maths and woodwork. A few of the girls (Mem, Esti, Edie) pictured high school learning spaces containing playground equipment. Adolescents have been stereotyped as digital natives (Prensky, 2001) however these Year 6 students still wanted physical spaces to encourage active rather than virtual play. They envisaged reading and maths as occurring quite naturally and with flexibility in these playful and relaxing spaces.

In addition to playing in both sporting and recreational contexts, Year 6 students imagined conducting “cool” science experiments (Eric), learning with technological devices (Joe, Lee, Jay, Kay), interacting with others (Luca), thinking (Tina, Sue), paying attention (Abi), reading (Edie), creating artwork (Abi, Zed), looking out of windows (Marc, Sal), exploring and enjoying new experiences (Holly), making decisions about what was learnt (Hope) and having creative discussions (Ella). Students also anticipated “moving around”

(Jed, Joe) and “changing classrooms” (Tom) as they transitioned to high school with different structural practices and potentially a larger campus. In these varied and pragmatic imaginings, the Year 6 students showcased their substantial existing prior knowledge of typical high school curriculum areas and practices. The diversity of insights and understanding of productive learning are evident in the students various imaginings of what they would be ‘doing’ in their high school spaces. Their perceptions of what actually constituted learning would be an interesting study on its own.

### **5.3 IMAGININGS OF PHYSICAL SPACES**

Year 6 students created images of the physical spaces where they imagined they would learn. They envisaged learning in both outdoor, natural spaces in high school and within built environments. The strong common theme between their primary school preferences and imaginings about high school was a desire to connect with nature. Connections with nature dominated the visual representations with trees, blue skies, sun and associated environmental factors like ‘fresh air’ reported as important. The following four aspects of the students’ imaginings about their future physical spaces are discussed in this section: the dominant theme of connecting with nature (5.3.1), connections with technology (5.3.2), the desire for open spaces (5.3.4) and built spaces (5.3.5).

#### **5.3.1 Nature: “I’d be happy to lean against a tree”**

Sitting outside, feeling a breeze, looking at trees through a window or leaning up against a tree trunk were all imaginings presented by students as they considered their future high school. Fifteen of the participants made explicit connections with nature in their art work through the inclusion of trees (albeit, one is a Christmas tree – figure 5.7) and three more depicted grass. Only three students had no natural connection in their visual image. Students attributed connectedness with nature as an alternative way for their bodies to engage in schooling, as well as a helpful support for their learning with reasons such as air quality, space, acoustics, clarity of thinking as well as emotional responses like feeling free, peaceful and relaxed provided. While for other students, learning outdoors and being connected with nature was the antithesis of their densely populated primary classroom experience and was what they hoped for in high school:

*Outside is my favourite learning space and that’s where I do most of my thinking*  
(Tina – interview source)

*It's probably just to know that you are not crammed inside the classroom, it's so quiet when you're outdoors you can hear birds and that. (Joe – interview source)*

*Fresh air, feeling of being free, instead of being in a confined space. You can spread your legs out. (Holly – interview source)*

*I like the fresh air and the nature around, the trees. Being able to look out at the environment. (Sal – interview source)*

Being connected with nature was imagined as providing opportunities to stretch out, think more clearly, and enjoy the sensory experience of seeing and hearing natural elements. Jay reported the desire to learn while sitting under a tree leaning up against its trunk (figure 5.10). He also really wanted to be on the high school oval playing sport and doing as many active subjects as possible.



Figure 5.10. Jay

Jay created an image of an outdoor learning space centred on his desire to play soccer. It was a hopeful and yet realistic image for someone like Jay who was transitioning into a Queensland Football School of Excellence. The soccer net was the focus of his image, but when I asked Jay what he would like me to notice about his picture he said, “*The trees. I like being outdoors, in the sun, because I like fresh air.*” Connections with nature were often associated with environmental factors such as the quality of (fresh) air, temperature and light. Jay imagined being joined by his coach and friends in the space and his learning would be supported by using a laptop. In imagining feeling the sun, breeze, hearing new sounds and stretching out legs or leaning against trees, the students were showing their awareness of how they wanted to learn in ways that acknowledged all of their senses and their bodies. Often western traditions of learning privilege cognitive and abstract ways of learning, and this has been designed into our school learning spaces that emphasise sitting inside at desks with books and writing (Blackmore et al., 2011). These students conceived alternative ways of learning through spatial practices.



### 5.3.2 Technology: “You take your iPad out there”

The students’ regular use of personal computer devices such as laptops and iPads meant that they imagined working in a natural setting and not just in a classroom. Students in the case study were familiar with the freedom afforded by personal devices:

*Just being outdoors. Learning, like you take your iPad out there, like we do here.*

(Kay – interview source)

Kay’s imagining of a high school learning space highlighted how technology has created the opportunity for learning in flexible and connected ways with nature. The ‘where’ of learning has become vastly broader than classrooms, with the possibilities of virtual spatial practices made possible through technology. However, only one student mentioned technology in her preferred primary school space and none of the students portrayed virtual spaces in their images of high school. Perhaps these would have been difficult to represent in the materials available for the images. However, in the interviews a number spoke about their anticipated use of technology in a natural space. Jay’s image and responses (above) revealed his hope to be connected with nature, having space to run and learn, and this learning space would be enhanced by access to a laptop.

### 5.3.3 Open Spaces: “Less squishy ... not crowded”

Nine of the Year 6 students depicted spacious areas in their imagined future high schools. Their interview responses confirmed the importance for them of having enough, or more space while learning. The students’ imaginings seemed to contrast with their experience of a densely populated primary classroom. This was significant as previous research shows that less density has been associated with better learning outcomes and high density conditions with “excess of stimulation; stress and arousal; a drain on the resources available; considerable interference; reductions in desired privacy levels; and loss of control” (Horne Martin, 2006, p.100). Barrett, Zhang and Barrett’s review of primary school students’ views also found that students equated ‘big is better’ (2011, p. 121). This desire for more space in high school was articulated in interview responses:

*It’s probably just to know that you are not crammed inside the classroom. (Joe)*

*I don’t like confinement at my desk. (Jay)*

*Less squishy ... less crowded (Zed)*



*An outdoor scene. Big, open space, lot of room, lots of trees, not crowded, learning by myself. Not an oval. This space makes me relaxed, grass and trees.*

Zed's verbal annotation

Figure 5.11. Zed

Zed imagined an outdoor, open space where he could relax. He visualised the absence of stress in the open, almost abstract scene (Figure 5.11). His visual image hinted at the capacity that space has to induce feelings of relaxation and freedom. There was an absence of learning stressors in this wide open space. Taylor and Kuo (2006, p. 131) have confirmed a link between green space and wellbeing which Zed intuitively referred to in his image and annotation.

Zed imagined himself happily “sitting under a big tree” in the open, natural space he created. Zed imagined working by himself, doing his favourite subject, art. No people were needed in his space. Technology was not required as he preferred to be self-contained with pencils, rubbers and books. The picture Zed produced came from an “image of nature” (interview source) that he began quickly as he started the art activity. His imagining reiterated his spatial and learning preferences from primary school. Zed’s imagining was an image of low density learning and was far removed from his primary classroom experience. As in other student responses, the natural environment was vitally important. The majority of students imagined being connected with nature and almost a third of the participants wanted to benefit from being in larger open spaces.

#### **5.3.4 Material and built spaces: “Just the upgrade”**

For the past two centuries schooling spaces have been formal in design and layout (Burke & Grosvenor, 2003). Although school buildings have transformed in design, educational functionality underpins the design of built learning spaces (Newton & Fisher, 2009). The students’ imaginings reflected this tradition. Eighteen of the Year 6 students drew and pasted collage materials to depict the sort of built facilities and resources they imagined awaited them in high school. Multi-storeyed and single level buildings, pools, a range of sporting fields and sporting equipment, playgrounds as well as interactive whiteboards, various technologies, science laboratories, lockers and desks appeared in their



images or were referred to in their interviews. Some of these facilities were familiar from their primary school experience, while others were highly desired by the Year 6 students, a swimming pool for instance:

*Our school doesn't have a swimming pool. I'd like to go to a school for a swimming carnival and actually swim in the pool. (Tom - interview source)*

In some cases, students' imagined considerable improvement in their learning space. For example, Marc commented:

*Like everything changes. The facilities upgrade a bit. You get laptops instead of iPads, actual soccer fields and sports fields, instead of just an oval. Just the upgrade. It's good.*

These students expressed excitement at the different facilities they would encounter and the contrast with their known primary experience. In contrast, Joe was not excited about learning within built spaces. Although he imagined double storey buildings he commented, “*I didn't put much in the buildings because that is where I don't like to learn*”. In this case his imagined high school learning spaces conflicted with his preference to learn in more natural settings. However, most participants shared more positive views of learning within built spaces.

One student who expressed an optimistic view of built spaces was Luca. He created an image (Figure 5.12) which invited the viewer to look into the colourful classroom via the wide open doors. He composed the image purposefully:

*The door opening to a new learning space and how different it is from primary school to high school. (Luca - Interview source)*

There is an aspirational element to this comment. He wanted high school to be different. This thought was echoed by a number of his peers who also imagined better facilities and resources available to them in high school.



Figure 5.12. Luca

Luca provided reasons for why his image of a high school classroom represented a good learning space for him:

*It's colourful and I get to work with others in a place where I am comfortable.*

This positive view of a classroom learning space was linked to an aesthetic appreciation (colour), a social and pedagogical implication (collaboration, working with others) and an emotional response (comfortable). The feeling of comfort may also be linked to the impression of a low density classroom, with only two desks visible. Luca's image embraced the positive possibilities of built spaces in high school and like many of his peers he imagined the social implications of learning with others. As previously mentioned (Section 5.25), students' emotional responses were part of the social and embodied aspects of the triad. The physical and social dimensions of space were experienced simultaneously and never separately. Luca expected interactions in high school but explained that "it is harder to draw people". Hence the social implications of learning at high school existed in his imaginings of high school spaces but were difficult to reproduce in an image. His image and interview responses revealed the balance between the material and social aspects of the spatial triad.

## **5.4 IMAGININGS OF SOCIAL SPACES**

Within Lefebvre's (1991) Spatial Triad the social aspect of space, that is the *representational spaces*, mediate relationships and are evident in the way people interact with each other in the physical and mental use of space. Social practices and relationships are negotiated within and around the natural and built spaces of schools (Blackmore, et al., 2011). Learning spaces provide opportunities for students to interact, collaborate and engage with their peers and teachers, while also having the potential to hinder and limit social practices. The Year 6 students may have created their imagined learning spaces thinking primarily about the physical elements of their imaginings, yet as they expressed their perspectives the social implications of their representations emerged. Ten of the participants spoke about their preference to learn with others. Their various imaginings of the social implications of their images are discussed below under the headings of friendship (5.4.1), classroom layout (5.4.2) and quiet spaces (5.4.3).

### **5.4.1 Friendship - "Seeing new friends"**

As students discussed their imagined high school spaces they began sharing who they imagined would share the space with them. Many expressed a desire to "work with others" (Lee, Luca), to learn "with friends" (Edie, Holly, Jay), with teacher or coach (Jay, Lee, Jed), to be with lots of people (Esti) and to have people around (Sal). Tom was optimistic as he

shared he was looking forward to “seeing new friends”. Only two of the students (Sue and Zed) wanted to work without peer interaction. However, the majority identified the desire to learn with others.

This desire to work with others has pedagogical implications for teachers, although it is expected because of the socio-cultural developmental changes experienced by young adolescents and the age appropriate move towards the importance of friendships (Carrington, 2006). Middle years literature documents the importance of peer relationships for young adolescents with suggested pedagogical approaches for teachers (MYSA, 2012; Pendergast & Bahr, 2010).

The beginning of Year 7 was a major social transition for the case study students as their primary school feeds into many different public and independent high schools. After being in one primary school classroom, with one group of students and primarily one teacher, the transition to high school presented all of the Year 6 students with change, diversity and a wider social platform for interacting with spaces, students and a range of specialist teachers. The Year 6 students’ imaginings of being with friends was very positive in light of their imminent transition to high school, as they imagined themselves in a new context separated from their primary school friends but anticipating new acquaintances and friendship groups. Jed shared that the best thing about high school would be:

*Probably because you get different teachers and you get some of your friends in some of your classes, and not so many in others; moving around. (Jed - Interview source)*

Anticipation and awareness of different social practices in high school were evident in his response. In addition to imagining peer interactions and friendships, students imagined learning with others within their high school classrooms.

#### **5.4.2 Classroom layout – the social implications: “To be a bit different”**

Classroom layout can be viewed in terms of social practices as well as physical representation and this was clear in the student imaginings. The opportunity to learn with others lies within a more learner centred, constructivist approach to teaching and fits well with those who want to learn with others (Pendergast & Bahr, 2010). The social implications of inhabiting spaces can be seen in the way a classroom is organised. Straight rows of desks facing the whiteboard usually indicate a traditional pedagogical approach and separated desks indicate even less encouragement for students to interact with peers (Victory & Cohen, 2014). The students who created images that included such an arrangement appeared to imagine working as individuals rather than collaborating. Luca (Figure 5.12) wanted to

present openness and had not thought through the implications suggested by his classroom layout. Marc was happy to sit at an individual desk as he reflected it would keep him from being distracted, but Tom hated the idea because he preferred to ask for help:

*I imagine High School that way. I don't like it. (Tom)*

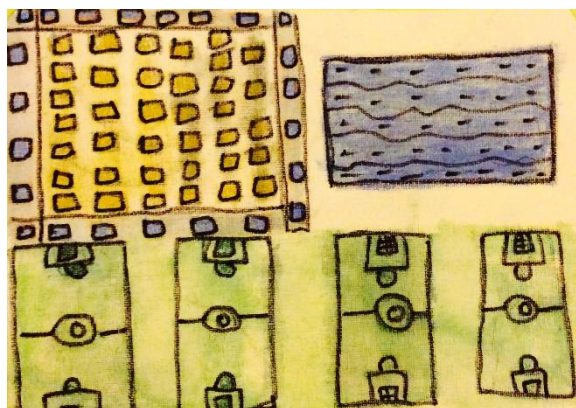


Figure 5.13. Tom's image with individual yellow desks.

Tom's comment raised a significant dilemma. Students had the freedom to imagine anything they liked, but some felt compelled to produce an image of what they believed high school would look like, including sitting at separated desks, even when they did not like learning in that way.

Hope drew straight rows for her desks (Figure 5.5) but throughout her interview spoke as if they were in a semi-circle formation. As a way of improving her design she contemplated:

*Maybe make it more like a tiered layout with desks. Might work better than a semi-circle. To be a bit different. (Hope – interview source)*

Issues of flow and layout encouraging group work did not arise in the students' images. Fourteen of the participants imagined they would be working with friends, so it was interesting that in every image with desks (Marc, Tom, Luca, Sue, Abi and Hope) there was no visual presentation of a collaborative setting. A disconnect emerged between the visual representations of the classroom learning spaces and the way students verbally imagined using the spaces collaboratively. This may have reflected their primary school experience of a more traditional classroom layout where the desks were rarely moved from their rows. The students' primary context seemed to inform their imaginings.

### 5.4.3 Quiet spaces – social implications: “Less noisy”

Students imagined themselves in both quiet spaces and in spaces that allowed talking. Noise levels emerged as an issue in the student responses as they imagined high school. Gifford (2002) and Horne Martin (2006) have drawn attention to the negative impacts of

noise (and complete silence) and have recommended a noise range suitable for academic performance and student attention. Blackmore et al. (2011, p.30) stated that “good acoustics (quality rather than amount of noise) are fundamental to academic performance”. The eight students who imagined quiet in their high school spaces were not as nuanced in their thinking about sound qualities. Yet their concerns regarding noise were genuine and indicated what was important to students of their age. Only three of the eight students who raised the theme of quietness imagined learning alone. The others indicated that they would like to work with others. Hence their view of quiet was not absolute quietness, but perhaps a less noisy learning space. This was a continued theme from their primary school preferences. Regarding their high school spaces Joe imagined being able to hear birds in his outdoor space, Zed imagined his outdoor space as ‘less noisy’, while Jen reasoned that her image (Figure 5.2) presented a good learning space because it was quiet. The student preferences for quiet and less noise may have arisen out of their lived primary school experience, but their concerns for quietness and restricted noise have been raised in other studies with children (Barrett & Zhang, 2009).

## **5.5 CONCLUSION**

In this chapter I have presented an overview of the data drawn from the Year 6 students’ images and interview responses. Student images of their imagined high school learning spaces were analysed by looking at the various types of imagination exhibited (Bland, 2009) and through the framework provided by Lefebvre’s Spatial Triad. Many of the Year 6 students’ imaginings about their future spaces reflected the learning preferences articulated from their primary school experience. However, new and original ideas were imagined in light of the transition to a new learning context with new possibilities. These were summarised throughout the chapter according to the conceived, physical and social interconnections within the learning spaces. In Chapter 6 the research findings that emerged will be discussed in response to the research question, ‘How do Year 6 students imagine their future high school learning spaces?’



# Chapter 6: Discussion and conclusion

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## 6.1 INTRODUCTION

The previous chapter presented findings that respond to the research question: *How do Year 6 students imagine their future high school learning spaces?* Chapter 6 discusses the overall findings and addresses the knowledge gap identified at the end of Chapter 2 with regard to the lack of specific research into Year 6 student understandings of learning spaces, particularly as they transition to a high school learning context for Year 7.

This discussion considers the students' wishful imaginings and realistic expectations about high school spaces as revealed through their photos, drawings and words. As outlined in the previous chapter, the Year 6 students' conceptions of physical and social spaces in high school were modest and optimistic. The five key findings are reviewed in section 6.2. The role of imagination in the study and the theoretical framework provided by Lefebvre's (1991) Spatial Triad are discussed in section 6.3. The importance of imagination in the transition between primary and secondary school is considered in section 6.4. Finally, the implications of the case study findings for students, educators and designers are discussed in section 6.5 with regard to control, consultation, critique and compromise. The findings from this study raise implications for those interested in engaging middle years students. Hence, the Year 6 students' spatial imaginings have been matched against the Middle Years Schooling Association's (2012) position paper regarding middle years practices and places in Section 6.5.6. The conclusion in section 6.6 includes a discussion of the contributions and significance of this study, recommendations for future research based on the methodology and findings of this case study and opportunities for further research.

## 6.2 FIVE KEY SPATIAL ATTRIBUTES

The findings of this study identify five spatial attributes of high school learning spaces that are of particular importance to Year 6 students. These are natural spaces, open spaces, sustaining spaces, active spaces and autonomous spaces. These

attributes align with the physical, social and mental aspects of Lefebvre's Spatial Triad as shown below (Figure 6.1).

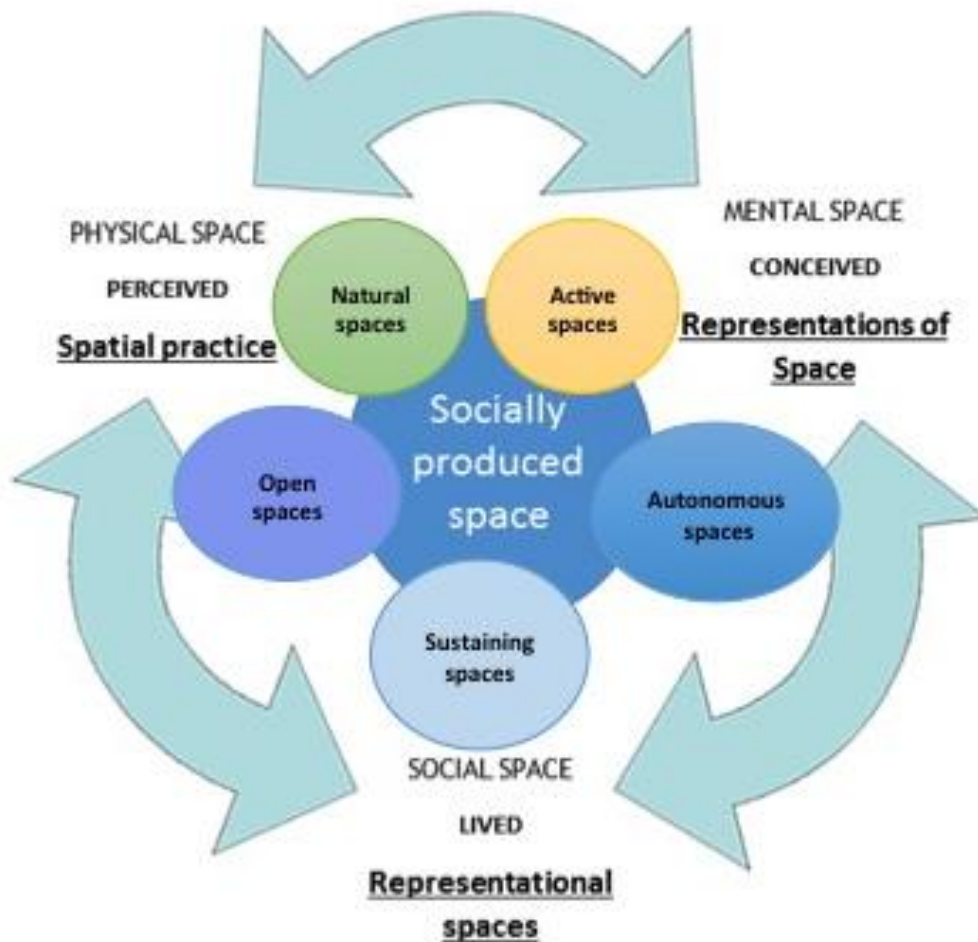


Figure 6.1. Five types of spaces imagined by students

Each of the five attributes of space identified by the Year 6 students convey how they imagined their high school learning spaces. The students' visual and verbal responses revealed that they imagined future high school physical spaces as natural and open. They imagined spaces with positive environmental factors, such as quietness and fresh air that would allow them to focus on their learning, while also providing opportunities to learn with friends. They also imagined spaces that would allow them to be actively engaged and present in their learning. The five spatial attributes conceived by the case study participants reflect the interconnected aspects of Lefebvre's Triad (1991) of the social production of space as they imagined the physical and social aspects of high school



spaces. These areas and relationships are discussed in more detail in the following section.

### **6.2.1 Natural spaces - “Near the nature”**

The most strongly supported finding was the importance that Year 6 students placed on learning in natural spaces. The Year 6 students were explicit in their desire to learn in natural spaces in both their primary context and their imagined high school context. Some form of natural connection was made in the vast majority of the students’ representations of high school, through either a specific annotation or visualising a natural feature such as the sun, sky, grass and trees. The desire to connect with nature was also a major theme behind the majority of Year 6 students who chose to learn outside their primary school classroom. Their imaginings of learning outside, connected with nature suggest slightly romanticised views of enjoying cooler temperatures, breezes, shade, quietness and feeling peaceful. The possibilities of sunburn, discomfort, mosquito or ant bites, wind and rain did not feature in their imaginings. Despite the realities and inconvenience that might dissuade adults and children from wanting to learn outdoors, studies with young people have shown that direct access to nature is clearly important to students elsewhere (Bland et al., 2013; Burke & Grosvenor, 2003). It is important that this desire to be with or near nature is taken seriously by school decision makers as Taylor and Kuo (2006) have identified that green or natural spaces are important for children’s healthy development, wellbeing and attention capacity. Views of nature and easy contact with nature are important for student learning. When the Year 6 students imagined natural high school spaces they connected cognitive benefits (attention), mood benefits (relaxation) and aesthetic qualities with learning while being connected with nature. So in this respect the Year 6 data aligns with previous research. While the finding was not new, the emphasis the students placed on the natural environment was significant and unexpected.

A difference that emerged in this study was the Year 6 students’ preference for connecting with nature was limited to trees, grass and sky. Mention was made of hearing birds and the Brisbane River featured in one image, but besides those two responses none of the Year 6 students imagined water features or animals sharing the space. This contrasts with Bland’s research with children (2009, 2014) that identified an almost universal desire for having both water and animals incorporated into learning spaces.

The dominant natural features were similar to those features most prominent in their primary school space and they did not often imagine beyond that.

It is possible that their imagination was grounded so strongly in their immediate experience of learning spaces partly because of the data collection methodology. By first inviting students to take photographs of their preferred primary spaces, their attention may have been directed to the physical environment that could easily be captured in a photograph. While there were some metaphorical representations of space, most of the students focussed on physical spaces. Notably the students imagined spaces near to, as well as in, nature. As explained in sections 4.3.2 and 5.3.1 this nearness was through windows, or looking out at a view, and was connected to emotional responses, wellbeing, social relationships and personal learning preferences.

Closely aligned with the students' desire to be connected with nature was their aspiration to work in open settings rather than in their classroom. From a theoretical perspective this reflects the blending of spatial practices and representational spaces. Thus, their concern with trees and the physical environment can be associated with the spatial practices of Lefebvre's (1991) Triad.

### **6.2.2 Open spaces – “not cramped”**

The findings reflect previous recommendations to provide spacious learning spaces that allow students to spread out (Barrett & Zhung, 2009; Clark & Uzzell, 2006). Open spaces were favoured by the majority of Year 6 students in both their preferences for primary school spaces and in their imaginings of high school. This was particularly evident in the primary school photographic images when over half of the student participants chose the wide expanse of their primary school oval as their preferred place to learn and another third wanted to learn in the large undercover area adjacent to their classroom. Students gave reasons for these spatial choices, referring to comfort, environmental factors, room to stretch out, views of nature, concentration and opportunities to be with friends. The students' choices reflected a conscious decision to move away from the “container” like spaces of a typical classroom (McGregor, 2004a) into open and larger spaces. The social, cognitive and emotional benefits of learning in open, informal spaces rather than a classroom have been identified in research (Black, 2007) and are preferred by this cohort. The preference to learn in open spaces was repeated in the high school imaginings, but a smaller number of students visualised learning in open spaces. However, other students imagined

spaces that were uncrowded and this suggests that the desire for low density spaces was common to the Year 6 participants. Their thinking may have been influenced by the density issues experienced in their primary classroom. Previous research into density has shown that it is a tangible factor affecting student outcomes within learning spaces (Blackmore et al., 2011) and is associated with negative psychological and cognitive experiences (Horne Martin, 2006). The students' preference to learn in open and uncrowded spaces is also not a new finding, but the extent of children who preferred learning in open spaces rather than traditional built environments was noteworthy.

### **6.2.3 Sustaining spaces - “Helps me think”**

The findings show the importance of providing high school learning spaces that are healthy and sustaining, particularly providing ‘fresh’ air and quietness. Quality of air emerged as a significant issue that was directly linked to learning as many students said it helped them think or focus. Horne Martin (2006, p.98) cites literature supporting the need for good ventilation for students' health and their ability to concentrate. The Year 6 students seemed to associate “fresh air” with a number of environmental and cognitive factors: temperature, smell, nature and providing better conditions for concentration. Thus, fresh air was also understood to provide an alternative to the classroom stuffiness they may have previously experienced.

Lethargy and inattention have been linked to warm and stuffy classrooms (Burke & Grosvenor, 2005; Horne-Martin, 2006; Warner & Myers, 2009). One student made this explicit as she spoke about the overly warm classroom causing drowsiness and lack of focus. The large proportion of participants who specifically mentioned fresh air believed they were more likely to breathe and feel fresh air in outdoor spaces rather than in their classroom.

Quietness was another finding that emerged and again, may have reflected the students' experience of learning in a densely occupied primary school classroom. Imagining a quiet space was important for 10 of the 22 students as they considered how they learnt best and what spatial conditions might support their learning in high school. This was interesting as some of the same students acknowledged that their primary school preference was to inhabit spaces where they could talk. In fact, part of the appeal of working in primary school outdoor spaces was the opportunity to

speak with friends. Yet for others, their preferred space provided a way of removing themselves from a noisy classroom. This environmental factor reflects a blend of physical and social preferences. The varied responses indicate the personal nature of learning and act as a reminder that students' learning preferences should be identified and accommodated by educators. While some students may thrive in a busy, talkative room others may become frustrated and confused. Flexible and agile spaces that enable collaborative as well as individual learning spaces are one design response that is emerging in school environments that may meet these preferences for sustaining, quiet spaces (Blackmore et al., 2010).

With the high number of students in the Year 6 classroom, noise was an inevitable factor in their learning experience, and one that was raised by students as significant for their learning. The issues of noise and quiet are raised in literature (Blackmore et al., 2011; Horne Martin, 2006) and connections have been drawn between the acoustics of learning spaces with learning outcomes and experiences. In this study the issues of quietness and noise reflect similar concerns over the impact of noise on student focus and attention. Sustaining spaces that offer fresh air and quiet spaces to focus on learning were sought after by the Year 6 students.

#### **6.2.4 Active spaces - “Something to do”**

The findings from this study also highlight the importance of providing playful and active spaces for incoming Year 7 students to a high school context. Active spaces are important to students in their learning spaces (Bland et al., 2013; Ghaziani, 2008) although the importance of play is mostly associated with early childhood spaces (Blackmore, et al., 2011; Clark, 2010; Dudek, 2000). The students considered the oval as the centre of play as well as health and fitness at their primary school and in their imaginings of high school. For some of the female students the oval was an important social space to be with friends.

In the high school imaginings, gender differences appeared in the expression of playfulness. Boys were more likely to represent sporting facilities and spaces that encouraged physicality. This reflects previous research in gender and space that reports outdoor spaces are “still largely monopolized by boys, particularly for sport activities” (Blackmore et al., 2011, p.23). A number of girls imagined playful settings including playground components and disco flooring. The playground features of slides and sandpits were unlikely to be found in a high school, but they

represented the girls' desire for engagement in interesting, "fun" spaces providing opportunities to do "something". Overall, there was no gender difference in the Year 6 students' desire to learn in active and engaging spaces, but there was some evidence that the girls' imaginings were more creative (Bland, 2009) while the boys' were more physical. This finding warrants further research attention as the desire for activity and engagement of their bodies has implications for middle years pedagogy that is explored later in section 6.5.2.

### **6.2.5 Autonomous spaces - "new experiences, endless possibilities, new environment"**

Middle years students grow in their desire for independence and autonomy (Carrington, 2006) and the study's findings reflect this as the students generally imagined spaces away from close teacher supervision while a minority envisaged learning in the classroom at high school. This finding aligns with other research showing that informal spaces are associated with more liberty for children (Thomas, 2010). Year 6 students evidently place importance on high school spaces where they work independently, supported by technology, with the teacher on the periphery.

Sharing autonomous spaces with peers rather than teachers was a recurring theme in this study. The importance of peers has been well documented in middle years literature (Carrington, 2006, Groundwater-Smith et al., 2007; Pendergast & Bahr, 2010) and recognised through research in youth and learning spaces (Hopkins, 2011). The minor role given to teachers in this study seems to invert the normal power structure of a classroom from a teacher centred focus to student centred emphasis. The peripheral role of the teacher was not a theme apparent in the learning spaces literature yet it was notable in the students' interview responses.

Associated with the notion of growing autonomy was students' thinking about freedom linked to spaciousness and connections to nature. This feeling seemed to be associated with the idea of transitioning to a new context for learning. However, a question remains about whether the students were imagining freedom from their primary school experience or freedom to transition and embrace high school opportunities that offered "new experiences, endless possibilities, new environment" (Hope's interview response). This anticipation of inhabiting future high school spaces reflects principles that have been identified as developmentally

appropriate for students of this age, who become ready to take on more responsibility and ownership for their learning in a high school context (Pendergast & Bahr, 2010). It also indicates that the students in this study held an overwhelmingly positive view of transition to high school. This finding contributes to knowledge about middle years students. It indicates opportunities for students to take ownership of their wellbeing in transition to high school through their imagination of their future selves as autonomous learners. It also suggests the potential of learning spaces to support this autonomy.

### **6.3 IMAGINATION WITHIN THE SOCIAL PRODUCTION OF SPACE**

The study's findings about the interconnectedness of school spaces aligns with Lefebvre's (1991) Spatial Triad. In this way, the study demonstrates that the Spatial Triad provides a conceptual framework for exploring the physical and social elements of learning spaces, interconnected with the imaginings of how high school spaces can be designed and used. Moreover, the interaction between Lefebvre's three aspects of the production of space informed the methodology and the analysis of the data.

Imagined spaces can go beyond the typical four walls, windows and doorway of a typical classroom experience to visualise alternate social and physical spaces for learning. However, imagined spaces can also be associated with known spatial experiences (Eisner, 2005). The interconnections within the production of space inform one another (Lefebvre, 1991), and this was evident in the way that students used their imagination within each of the three spatial aspects and not just the conceived representations of space.

The initial research design aligned imagination of high school spaces with Lefebvre's notion of conceived spaces, the *representations of space*. However when students were asked to photograph their preferred learning space in primary school, they represented more than the concrete and material spaces of learning that Lefebvre associated with spatial practices. Students drew on their imagination as they chose preferred learning spaces in primary school. They may not have experienced learning in these primary spaces but in their photographs and words, the students engaged in critical and creative thinking, conceiving alternatives and seeing multiple perspectives (Greene, 1995). Thus, they envisaged non-classroom spaces such as the oval as being the sites of productive learning. This accords with Egan's

definition of imagination as the capacity to think of things as possibly being so; being inventive, creative and enriching rational thought (1992, p.43). Social aspects of these spaces were made clear in the annotations and interviews as there were always social implications with their representations of material spaces, either learning with friends or by themselves.

The students' conceptions of high school spaces were connected to their experience of material and social practices in their current primary school learning spaces (Chapter 4). In many cases, their conceptions of preferred primary school spaces seemed to colour their thoughts about both their primary and high school images. Their images and photographs could also be viewed as a rejection of their primary school experience of learning within a container-like classroom by choosing more flexible and open spaces (Leander, et al., 2010; McGregor, 2004a). These interconnections were similar to Lefebvre's (1991) multiple aspects of the social production of space as a way of understanding how we use, relate and think about learning spaces.

Asking students to visualise and articulate their ideas about future high school spaces inverted the normal power structure of who designs and conceives spaces (Lefebvre, 1991; McGregor, 2004a). Although this opportunity was for research purposes only, the students shared their perspectives and insights into the attributes of space that support their learning. The Triad's applicability for other research about learning space design is recommended as the three aspects of space provide a balanced view of how we use, produce and consider the spaces we learn and live in. Seeking student perspectives produced insights into the importance of nature, open space and social spaces to young people. The research with Year 6 students demonstrates the power of giving students a voice, to increase understanding about their spatial expectations and needs.

#### **6.4. IMAGINATION SUPPORTING TRANSITION**

Insights gained through this study about Year 6 students' preferred and imagined learning spaces could inform the design of high school spaces that support the Year 6 transition from primary to high school. Learning spaces can welcome or alienate, engage or disengage, they can extend or hinder the learning experience and make a positive spatial contribution to the experience of transition to high school (Groundwater-Smith et al., 2007). Therefore, it is important for educators and

designers to recognise students as key stakeholders within their schools and to empower them to share their preferences and imaginings about learning space design as students are experts in their own lives (Clark, 2010).

The findings indicate the benefit of providing a variety of opportunities for Year 6 students to become familiar with high school spaces to ease their transition. A number of students mentioned in their interview that they had visited their future high school or had an older sibling at high school. Hence, they had preconceived notions about what high schools look and feel like. However, even those who did not have a strong connection with their future high school imagined learning spaces and spatial elements that would support their transition to high school. The images created were colourful, nature filled and optimistic. While the literature around the middle years of schooling points to disengagement as a key issue (Carrington, 2006; MYSA, 2012; Pendergast & Bahr, 2010) the findings from this study present more hopeful aspirations of the Year 6 students to be academically, socially and physically engaged upon transition to high school.

The majority of participants expressed in their interviews and through their positive images that they were optimistic about moving to a new locale for learning. Only one student spoke directly about her anxiety around moving to high school, and she created a visual image to soothe and reassure herself as she contemplated starting in a new environment away from her friends (Figure 5.2). The social ramifications of moving from primary to secondary school concerned two other female students who mentioned in their interview that they were worried about leaving their friends. Both of these students imagined learning outside in informal, natural settings. This may suggest that less formal learning environments can create a calmer setting for learning and facing new challenges (Horne Martin, 2006; Leander et al., 2010). However, this suggestion would require more specific exploration to confirm this connection in relation to Year 6 students moving to high school and facing new social and academic challenges.

Several images highlighted the students' knowledge of high school spaces. As mentioned above, some students had inherited knowledge from older siblings in high school and were familiar with the different structure of changing teachers and classrooms and of subsequent movement around a school campus. The Year 6 class had also developed some familiarity through visiting a local high school. A few mentioned they had visited their future high school for an interview. These



connections with their future space may have influenced their visual imaginings and for some encouraged them to re-produce what they had seen of high school spaces. Others were clearly reacting to their primary classroom experience and imagining an ‘alternative’ spatial experience that provided a range of possibilities. Arndt argues that “familiar elements convey a sense of security” (2012, p. 42) so even within the task of imagining future spaces, students were making connections that made them feel safe and calm as they faced transition to high school.

## **6.5 IMPLICATIONS OF THE FINDINGS**

The findings from this qualitative case study (Section 6.2) indicate that Year 6 students imagined their future high school spaces in both realistic and wishful ways that revealed *where* they prefer to learn as well as *how* they like to learn. Thus, they generally imagined natural, open, sustaining, active and autonomous spaces. These were embodied spaces (Cook & Hemming, 2011) where students were leaning up against a tree, spreading out their legs and getting comfortable. However, individuals imagined using the spaces in different ways. For example, while some imagined themselves engaging quite actively outdoors, others saw themselves sitting quietly under the shade of a tree reading a book. They generally associated these spaces with friends rather than their teacher, with some technological support available.

These findings have important implications for students, educators, professional designers and for those interested in middle years practices. Below, in discussing the implications, I address four important considerations: Control (Section 6.5.1), Consultation (Section 6.5.2), Critique (Section 6.5.3) and Compromise (Section 6.5.4). An example related to one student’s data (Section 6.5.5) illustrates these implications (Section 6.5.5).

### **6.5.1 Control**

It appears that just as we adults like to have some control over our experience of spatial choices, middle years students also desire to have some control over where and how they learn. One student was explicit in desiring control over her own desk space (Figure 5.9). While others wanted control over being able to talk to friends in more open spaces where they could interact while they were learning. Students revealed in their interview responses that they appreciated having some control, or at least some input, over where they might learn best and with that came a sense of freedom.

Lefebvre (1991) recognised that it is through spatial choices that power is produced and that designers or conceivers of space often hold spatial power. Students often have no power in design decisions (McGregor, 2004a) yet they have informed and creative ideas regarding the physical and social spatial qualities that engage and support their learning (Burke & Grosvenor, 2003; Rudduck & Flutter, 2004). With the opportunity to conceive and represent high school learning spaces, the students in this study were able to identify their spatial choices and express their desire for greater control and voice in where and how they learn.

The Year 6 students identified their desire for greater autonomy. Therefore, implications for educators include using a learner-centred pedagogical approach that provides opportunities for greater learner independence and peer collaboration within flexible learning spaces (Willis, 2014). Flexible spaces recognise that peers are very important to young adolescents (Pendergast & Bahr, 2010) for developing educational goals and relationships. The use of portable technology devices also allow for meaningful learning opportunities with flexibility in where they can be used. Teachers could also consider using a variety of open and natural spaces that invite a sense of student autonomy during class time. A workable solution would be needed between what teachers are able to do, particularly in regard to supervision, and what students want in regard to autonomous spaces. Classroom layout also needs to be thoughtfully considered and arranged in negotiation with students.

### **6.5.2 Consultation**

In every iteration of the data collection process, the Year 6 students readily engaged in the process of consultation for their unique Year 6 perspectives. They had interesting ideas and insights to share that I had not anticipated. This leads to one of the main implications raised by this study. Adults cannot assume to know what students want or where they like to learn; we need to ask them. Designers and education decision makers can gain rich insights and understanding through consulting student perspectives. Thus, the findings highlight the importance of involving students in determining the design and use of learning spaces. The Year 6 students' views could beneficially inform spatial, pedagogical and curriculum choices to support their transition to high school.

The findings encourage school administration and teachers to enable students to learn in natural, open, green spaces where they can connect in natural ways. The

Reggio-Emilia tradition (Strong-Wilson & Ellis, 2007) exemplifies opportunities for bringing the outside in as a way of strengthening student connections with nature. Barrett and Zhang's (2009) recommendations support the provision of learning spaces where students can connect with nature in meaningful, problem solving ways across curriculum areas.

The social implications of creating and enjoying interactions within learning spaces necessarily involves the provision of spaces that encourage communicating and learning between students and teachers. Students in this study articulated their concern for quieter spaces to help them think clearly, whilst also wanting opportunities to collaborate and learn with their peers. These desires warrant pedagogical and acoustic design attention from education decision makers as students negotiate the social spaces of high school. As this study shows, Lefebvre's (1991) notion of social 'representational spaces' offers a useful theoretical frame for this negotiation. He highlights the importance of considering the "inhabitants and users" (Lefebvre, 1991, p, 39) of spaces and developing an understanding of how the conceived and perceived spaces are produced. Here, the insights gained through Year 6 students' creative involvement and critical responses reiterate the value of seeking student perspectives.

For professional designers the findings demonstrate the benefit of consulting students as key stakeholders within a school and attending to student voices throughout the learning space design process (Rudduck & Flutter, 2004). Students are able to contribute first-hand client perspectives about the spatial needs and expectations that designers are required to address. For example, this case study draws designers' attention to the importance that Year 6 students attach to outdoor, natural areas and the potential contribution to their wellbeing of views of nature and easy access to natural environments.

As this case study has illustrated, students have insightful and worthy ideas to share with designers. They can be creative, pragmatic and effective problem solvers regarding their schooling spaces. Taking the opportunity to negotiate with all school stakeholders about the natural and built spaces of schools would enable designers to achieve best design practice

### 6.5.3 Critique

The study shows that Year 6 students are able to critique their current learning spaces in constructive and creative ways. Their imaginings of high school spaces often reflect a critique of their primary school learning spaces. They know from their own experience when spaces do not work for their learning. Thus, some students shared insights into ‘stuffy’ primary school classrooms that made them drowsy and noise levels that impacted on their ability to concentrate. These students evidently wanted to be free from the container like experience of a classroom (McGregor, 2004a) and overwhelmingly preferred to learn in outdoor, natural spaces. Their desire to be in more open spaces, learning in more independent and collaborative ways also marks a development towards more ownership of their learning.

The Year 6 students’ critique was complemented by insights about spaces that positively assist their cognitive, emotional and social ability to attend to their learning, for instance when they feel calm from feeling a breeze or looking at trees. Their imaginings of future high school spaces enrich their critique by increasing understanding about the nature of their spatial expectations and needs. They also highlight nuanced variations between imagination that is critical, creative, empathic and fantasy. Ella’s learning space (Figure 5.6) of being at the city in the cool of the night was an example of creative imagination that partially may also imply critique of her dull primary classroom learning space. Practical implications can be drawn from the poetic creativity of her image. Geographically high schools cannot all move to the centre of a city, but administratively they can introduce changes in school times to suit adolescent circadian rhythms (Wolfson & Carskadon, 1998) as well as cooler temperatures on summer nights. Moving the time for schooling from a generic 9am -3pm scenario to a later start or early evening is an issue to consider. Student imagination is not bound by logistics, yet produces ideas worthy of serious adult attention and discussion.

Some of the images that verged on fantasy could be dismissed as such. However, within the collage images of playgrounds and interactive spaces there appears to be a desire to be fully engaged in learning spaces. Munns (2004) describes engagement as taking students into their learning and building attachments. The collage images suggested spaces that would build emotional, social, cognitive and physical attachments. Year 6 students mentioned fun, beauty, activity and inspiration as desired aspects of their future spaces. In light of the concerns for

disengaged middle years students (Carrington, 2006), unusual ideas for learning spaces that engage attention and emotion are worthy of consideration.

The students' critique suggests that educators, school administrators and designers could support student transition to high school by providing a variety of outdoor and indoor spaces. To be suitable for young adolescents' physical, cognitive and social development, these need to be playful spaces. This design approach would contribute to the advantages of getting young adolescents fit, curious and moving with play equipment designed for young adolescents (Sturm et al. 2011).

#### **6.5.4 Compromise**

Not all of the student ideas can be realised. In the process of negotiating some control for the students over their learning spaces, through consultation and critique, students and teachers need to work out compromises between what is wanted and what is possible. Students are creative, hopeful and passionate, but they are not unreasonable (Burke & Grosvenor, 2015). Valuing and hearing their views, even when their ideas do not result in change is an important process and one that will be appreciated by young adolescents and beneficial to the adult decision makers in their lives (Rudduck & Flutter, 2004).

Year 6 students may have imagined their future high school learning spaces in the ways presented in Chapter 5, but there was no guarantee, or indeed likelihood that they would experience the freedom or connectedness they desired. This tension was addressed during an initial discussion between the participants and myself about the research. Although I encouraged Year 6 students to share their imaginings to help me understand their perspectives, I endeavoured not to provide any false offers that any of their imaginings could be realised through this research. With this knowledge, the Year 6 students conceived spaces that revealed combinations of realistic and wishful elements that used all types of imagination and interacted with all of the spatial relations within the spatial triad. Their conceived spaces reflect Lefebvre's recognition that purely material or idealistic spaces need to acknowledge the complexities of lived experiences, which in this case was the way that children anticipated they could symbolise and use spaces. Soja (1999, p.6) refers to this as "real-and-imagined" space. While students quite often represented high schools as containers with static spatial structures like rooms, desks, windows and even slides, there was always engagement with the living energy of nature through trees, wind

and snow, and with others through fun, diversity and collaboration, or a desire for reflection and focus. It is through the relationships and the interactions that are both social and symbolic that spaces continue to be lived and produced. Many of the students were imagining spaces that would lead to positive emotions and energy, and these symbolic and embodied connections can be realised through encouraging more learner centred pedagogies and active spaces and through negotiated compromise.

The Year 6 student participants have now graduated from primary school and currently inhabit their new high school learning spaces. There may be a disconnect between their imaginings and the reality of where they learn, however the opportunity to imagine the possibilities of learning spaces is a powerful creative and critical thinking tool (Greene, 1995) and a skill that will be useful as they continue their education journey. Imagining alternatives, solving problems and being aware of their spatial surroundings will be valuable to the students as they interact with their new physical and social production of space.

### 6.5.5 Example of Consultation, Critique, Compromise and Control

The four major implications that emerged through this case study can be explored in relation to Joe's responses.



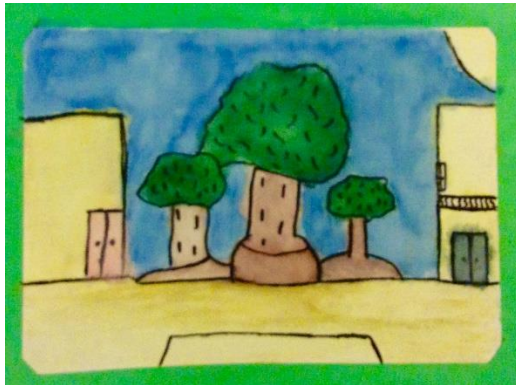
*Nature, learning with friends on the oval. Open, easier to learn. Know nothings concerning, don't have to worry. Less pressure than indoors* Joe's annotation

Figure 6.2 Joe's photograph of school oval

First, with regard to *consultation*, Joe's words remind me of how important it is to ask students where they prefer to learn. Through consulting Joe in an interview and through his annotated contributions, I uncovered important understandings about why he preferred to learn outdoors. In addition to ideas discussed by other Year 6 students, Joe commented about the psychological freedom he felt when learning outdoors. He perceived the outdoors as a less pressured space for learning. The informal, low density, green space and site of active learning was associated with less pressure and

anxiety in his thinking. In this outdoor space, Joe could relax and feel more in control of his learning. Learning spaces can add to the pressure of learning in a high stakes period of education with a busy curriculum, or they can provide an alternate, calming, natural, embracing space for students to think clearly. Thus, Joes' example indicates that consultation is a necessary step in understanding how learning spaces may support student learning needs and provide optimal learning conditions.

*Compromise* follows naturally from consultation. It enables working through how these preferences can be accommodated, so the students know that their voice has been heard and valued. The implication of compromise is evident in what teachers can do for students, but is also a step in students' critiquing their learning spaces. Joe visually expressed compromise in his water colour picture (Figure 6.3) and discussed it in his interview.



*I drew this picture because I like learning outdoors and you sort of have the freedom and you can have a look what's around you instead of being stuck in the classroom.*  
Joe's interview response

Figure 6.3 Joe's imagining of high school

In Joe's commentary about his imagined high school with multi-storeyed buildings he implied some *critique* related to "being stuck in the classroom". He also indicated in his interview "I didn't put that much in the buildings because that is where I don't like to learn." He balanced this critique with compromise by emphasising trees in centre place of his drawing. According to Joe, the trees represented freedom and his desire to learn in an outdoor space.

There was a continuation from Joe's primary school spatial preference of learning outdoors to the way he imagined his high school learning spaces, reflecting Eisner's (2005) argument that imagination emerges from experience. When consulted, Joe could articulate his views and his picture depicted the compromise he could make between what he expected (the building) and what he hoped for (learning outside under the trees).

*Control* was evident in Joe's responses, as he wanted to take ownership of where he learnt best and felt most able to learn. As shown in this example, there is potential to increase students' sense of control and engagement in their learning through consulting and identifying where and how they like to learn. This then enables compromises to be negotiated for best learning outcomes.

## **6.6 CONTRIBUTIONS AND RECOMMENDATIONS**

### **6.6.1 Contributions**

This qualitative case study explored the imaginings of a group of 22 Year 6 participants and provided findings that contribute to a greater understanding of how final primary Year 6 students imagine their future high school spaces.

#### **6.6.1.1 New understandings**

The study throws new light on a significant problem related to student wellbeing when transitioning to high school. It is timely given the implementation of the *Flying Start* policy (Queensland Government, 2012) in 2015 which led to the relocation of Year 7 to secondary schools in Queensland. This educational reform provided the context for exploring the design of learning spaces to accommodate an extra year level and a younger cohort at high school. The findings partially address a gap identified by the literature review with regard to limited understanding about how middle years students imagine their future high school learning spaces.

The case study with a group of Year 6 students from an independent state school on the northside of Brisbane, Queensland revealed five major findings. The participating middle years students imagined high schools spaces as:

1. *Natural* rather than built spaces;
2. *Open*, low density spaces;
3. *Active* and playful spaces;
4. *Sustaining* spaces, that provide healthy environmental features and
5. *Autonomous* spaces, supported by technology and peer interaction and encouraging the development of independence in learning, whether at a desk or in a completely natural setting.



The study also shows that imagination is a powerful thinking tool and a useful construct for encouraging student involvement in research. These Year 6 students used their imagination to create and critique learning spaces, providing insights into how they perceive their experience and conceive their expectations of learning spaces. The Year 6 students responded to the task of imagining across a spectrum of Bland's (2006) typology of imagination from those being quite restrained to others dabbling in fantasy. Each image provided a unique insight into the imaginings of Year 6 students concerning their future spaces, and promoted a greater understanding of what Year 6 students expect and value in high school learning spaces. Many of the student responses reiterated the major themes that Bland (2009; 2009; 2012; Bland et al., 2013) uncovered in research regarding the importance of nature, colour and welcoming places. However the added understanding from this case study is the extent to which outside, natural areas were desired by young people.

#### **6.6.1.2. Application of Lefebvre's Spatial Triad**

This study used Lefebvre's Spatial Triad (1991) as a theoretical and conceptual framework. The Spatial Triad has been used in the design of prior educational research (Comber et al., 2006) and prompted me to think beyond the physical nature and experience of space. Through the course of this research I came to realise that I originally had separated out the three aspects of the Spatial Triad, when they were intended to be balanced and interconnected. Using the Spatial Triad allowed me to see the dynamic nature of space, the vibrant nature and energy of space which challenged my notions of static and defined spaces. Lefebvre's conception of the production of space crystallised the encompassing and simultaneous relationships of the social, physical and conceived views of space as expressed by the Year 6 students in this case study. Thus Lefebvre's (1991) triad provided a suitable framework for this study and has wider applicability for similar research about school learning spaces.

#### **6.6.2 Recommendations**

In addition to the contributions mentioned above, this case study has featured a methodological process that was useful in engaging and stimulating verbal and visual responses from Year 6 participants. The methodology was closely aligned to the premise of valuing student perspectives. The Year 6 students' perspectives provided insights into the spatial concerns of middle years students. These insights have been aligned with the Middle Years Schooling Association (2012) policy on

Practices and Places to recommend design for learning spaces that will support Year 6 students' transition to high school. These three areas will be discussed in relation to recommendations for future research approaches.

#### **6.6.2.1 Methodology**

Three methodological practices employed in this case study are recommended when using children's visual images as a data source. The first regards utilising an 'Atelierista' to provide students with artistic support and guidance regarding the use of artistic equipment and methods. This was especially useful as I am not artistically trained. The visual depiction of the range of ideas within the images were enhanced through the art teacher's involvement. The second practice impacting the creation of visual images was allowing student choice over how they would produce their visual image. By giving students choices about how they could depict their image, student autonomy was honoured. Providing a variety of artistic tools engaged the students' participation. A third methodological practice that was beneficial was interviewing each of the students after they had created their images to confirm their meaning and to further value student voice. The individual interviews elicited clearer understanding of the physical and social interrelationships imagined in the student's image.

#### **6.6.2.2 Student Perspectives**

A recommendation emerging from this case study is for educators and designers to consult with young people about their perspectives on learning spaces, to ascertain both where and how they believe they learn best. This mirrors the recommendation of researchers working with students regarding the design and use of learning spaces (Bland et al., 2013; Rudduck & Flutter, 2004). This case study sought to highlight Year 6 students' imaginings of high school as a valid source of insightful commentary regarding spatial practices and representations. The students revealed a desire to learn outside their classrooms in open, natural and active spaces that provide opportunity to think clearly and also spaces that allow greater autonomy with friends. These findings would not have been uncovered without asking students for their unique Year 6 perspectives.

#### **6.6.2.3 Middle Years practices and places**

This study with Year 6 students has specific implications for those interested in teaching middle years students. The Australian Middle Years Schooling

Association (MYSA), now renamed Adolescent Success ([www.adolescentsuccess.org.au](http://www.adolescentsuccess.org.au)) has established a position paper (MYSA, 2012) that offers a set of guiding principles for supporting young adolescents in the middle years of schooling. It responds to the Melbourne Declaration (MCEETYA, 2008) in recommending practices, people and places for appropriately engaging middle years students.

The practices set forward by MYSA (2012) for educators include pedagogical, curriculum, assessment and pastoral responses that are designed to enhance learning experiences for middle years students. With regard to *places*, MYSA emphasise schooling as “an important part of life” where students have a sense of “belonging, self-belief and community”. The Year 6 students in this study made reference to physical and social aspects of learning spaces that appear to connect with pedagogy, curriculum and student wellbeing. In their imaginings the social, physical and mental affordances of the spaces were intertwined with how they felt. For example, many students imagined spaces that would help them feel calm and would allow them to concentrate and focus on their learning. This reflects Arndt’s (2012) review of the impact of peaceful and calm spaces on the wellbeing and cognitive development of young people.

Extending beyond the MYSA guidelines, this study’s findings indicate a need for middle years educators to also attend to the design and purposeful use of learning spaces. Learning spaces are an important educational response to encourage middle years students’ engagement and academic achievement

The MYSA (2012) principles provide a relevant practice-based framework for presenting the study’s learning space design recommendations, given the middle years context of this study and its focus on supporting students’ transition to high school. Therefore, the following Table 6.1 compares the material and social spatial features that Year 6 students imagined with the practices and places MYSA propose for educators. The ‘people’ aspect of the MYSA paper, and the guidelines for middle years teacher training and systems have not been included in the table as they are outside the scope of this study’s findings. However, it is noteworthy that the students’ imaginings generally gave teachers a peripheral, supportive role in their learning spaces while the MYSA focuses on teachers as central to teaching and reaching young adolescents.

In the following table, Column 1 outlines MYSA’s (2012) advocacy targets for middle years educators with regards to Practices and Places. Columns 2 and 3 align recommendations arising from the study’s findings with the MYSA targets. These latter two columns focus on physical and social aspects of high school learning space design to support Year 6 students’ transition to high school. (Note: No distinction is intended between MYSA’s use of the term ‘place’ and this study’s theoretical understanding of ‘space’).

*Table 6.1 Recommendations for designing high school spaces aligned with MYSA (2012) targets for practices and places*

<b>Targets for Middle Years Practices and Places (MYSA, 2012)</b>	<b>Recommendations for designing high school spaces that support Year 6 students’ transition (arising from this study)</b>	
<b>Practices: Enhancement of the quality of teaching in the middle years through a range of intentional pedagogical, pastoral, assessment &amp; curriculum strategies</b>	<b>Physical aspects of space – Learning space integrates:</b>	<b>Social aspects of space – Learning space enables:</b>
Feature pedagogies recognised as signifying practices of middle schooling	Flexible classroom layout with easily moveable desks Informal, outdoor spaces used for learning	Collaborative and cooperative learning Learner centred learning Peer learning ICT supported learning
Implement pastoral practices that facilitate independence, efficacy & resilience	Group and individual spaces Connections with nature Ample room to stretch out Large windows with natural views	Being with friends Retreat and privacy Freedom, calm, relaxation Personalisation and choices of spaces Embodied learning practices
Develop curriculum and assessment that is challenging, integrated, negotiated & exploratory	Spaces created to encourage active learning Multiple curriculum areas taught in outdoor spaces	Engaging and playful spaces to develop curriculum knowledge Connections with nature
<b>Places: Positioning schooling as an important part of life: belonging, self-belief &amp; community</b>	<b>Physical aspects of space – Learning space integrates:</b>	<b>Social aspects of space – Learning space enables:</b>
Operate in democratic classrooms	Less density, freedom to move Alternatives to confinement Variety of spaces	Choices in spaces for varied intra- and interpersonal learning styles Student agency and autonomy Exploration of different learning spaces
Have a shared vision	Design through consultation with students	Realisation of shared design ideas
Create small learning environments	Informal, natural spaces Meeting spaces	Learning outside in small groups or alone

Create positive school and classroom climate	Student-enticing aesthetic Appealing colour scheme Sensory experience Fun and interactive spaces	Social interactions and friendship
Provide a safe environment	Fresh air Temperature control Safe and easy movement between classes Appropriate noise levels Well lit	Acoustic design Socially safe interactions Supportive supervision
Create a sense of community and of pastoral support	Various communal spaces, eg. Sports fields Easy access to teachers and support staff	Teachers and coaches supporting student learning Collaborative learning experiences

### 6.6.3 Limitations

This is a small scale study, limited to one class of students. Consequently, while the findings provide rich insights about a particular group of students, they are not generalisable to other students or schools. In addition, further clarity over what these students believed constituted learning would have added greater understanding of the impact of the learning spaces.

A further limitation that became apparent through the visual data collection was that the methodology privileged the physical, perceived elements of learning spaces. The primary school photographs focussed on the physical space where they preferred to learn. Due to ethical reasons the Year 6 students could not include faces or identifying features of their peers in their photographs of their preferred primary school spaces. This restriction may have impacted the full social elements of the chosen space from being disclosed by the Year 6 students. Similarly, their visual images also privileged the physicality of the imagined high school spaces. The social aspect of space only became clear through students' annotations or interview responses. Moreover, one boy mentioned that it was harder to draw people, hence in the created images the physical may have been emphasised over the social use of space.

### 6.6.4 Opportunities for further research

More research exploring student views regarding their spatial practices and preferred use of learning spaces is recommended to increase student engagement in high school learning spaces. In particular, it would be beneficial to more fully consider affective dimensions of students' learning space experience and how these

might influence their transition and ongoing wellbeing at high school. It would be worthwhile to repeat this research focus with Year 6 students in the same school as well as in a number of primary schools to see if the same findings emerge as representative of this age group of students. I am conscious that the findings of this study are based on research with a small number of Year 6 students and am interested to explore the imaginings of middle years students across a wider population. Comparing the findings between students in a colder climate and those of the Year 6 students in sub-tropical South East Queensland would also be interesting.

Another potential area for research is to ask Year 7 students where they prefer to learn, to see if the imaginings of the Year 6 students are of importance for students who have physically transitioned into their high school learning spaces.

There is potential for collaborative research between the specialist art teacher, classroom teacher and researcher exploring spatial design through visual images. The *atelierista*, classroom teacher and myself as the researcher all had different reactions to the data collection exercise that required students to visually represent their imaginings. The *atelierista* was disappointed by the conceptualisation revealed in the images, whereas the classroom teacher was excited to see students going through the process of learning how to create a visual image with specialist advice. I benefitted from being an observer during this process, noting the students' engagement in the task and the ideas they were generating. It would be interesting to further explore the varying responses to the visual image creation from these different adult perspectives in light of the research design.

## 6.7 CONCLUSION

This chapter has concluded the thesis by discussing the study's findings and their significance. In response to the research question, Year 6 students imagine their future high school spaces as: open and spacious; allowing for active and social learning; connected with nature; sustaining with regard to air quality and noise; and responsive to their development as young adolescents by providing greater autonomy and connections with peers. These findings suggest that spatial elements impact student engagement and support their academic learning within high school.

This study confirms five key findings which are similar to those of previous research. However, notable differences emerged regarding the *extent* of student focus on nature and their desire to work in open and informal spaces with fresh air. The

Year 6 students' prioritising of natural, outdoor spaces enhanced by environmental factors such as fresh air has added to an understanding of the importance of the natural world, and non-built spaces within schools for students. Year 6 students also imagined active and engaging spaces that would provide social opportunities to be with peers and to learn in more autonomous ways and spaces. Students spoke confidently of their preferences for learning. What students understood 'learning' to mean within their depiction of learning spaces is a potential focus for future similar research. While the student responses in this qualitative case study cannot be considered representative of all students, they provide valuable understanding of the ways that Year 6 students imagine their future high school spaces. These insights have the potential to inform the design of spaces that better support student transition to high school. The research design provides a foundation for further much needed research that will enhance middle years students' wellbeing at a critical juncture of their schooling.





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