



# SCHOOLSCAPES

## LEARNING BETWEEN CLASSROOMS

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# ABSTRACT

This project outlines the design proposal for an alternative public high school in Toronto, Ontario. For this project the school is re-imagined as a Community Learning Centre.

The goal of the Community Centre model is to foster life-long learning in young people which can occur when space emphasizes social interaction, citizenship, and life long learning.

The design of the Community Learning Centre is an attempt to align educational priorities with design, to create learning environments that best suit the needs of the users.

The focus of the project, is on places between the classrooms where there is opportunity for informal learning to take place.

The term *schoolscapes* is use to describe these spaces. They include all of the places between classrooms and are a way of reimagining the corridors as active, lively and engaging spaces.

To support and expand on the idea of *schoolscapes*, how the environment impacts

people and learning, the shifting values in education, and how public space can be related to school interiors, have been investigated.

The work of Prakash Nair, Annalise Gehling and Herman Hertzberger, on school design and its correlation to public space have been extremely influential for this project, as has the work of Jan Ghel on lively city spaces.

Jan Ghel identifies key features of good public space that can provide the foundation for the design of informal learning spaces. The writing of Nair, Gehling and Hertzberger will be used to support how these characteristics can be applied to the learning environment.

The design of the Community Learning Centre explores how the ideals imbedded in public space can be carried over to the interior of a learning environment.

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INTRODUCTION  
AND  
PROJECT  
DESCRIPTION



# TOPIC OVERVIEW

This practicum examines the role that environments play in the socialization and education of young people in the city and in learning environments. It places emphasis on the importance and role of informal learning in the educational process and utilizes public space as a model for how to engage people in society and encourage informal learning in space.

The project outlines a proposal for the design of an alternative public high school, re-imagined as a Community Learning Centre, in Toronto, Ontario. The school for this project has been re-conceptualized as a Community Learning Centre to facilitate new educational priorities. The design focuses on spaces where informal learning takes place, spaces that place emphasis on: social interaction, citizenship, life long learning and engagement. The Community Learning Centre establishes an environment that fosters collective responsibility, involvement in decision-making processes, independence, and through these - empowerment.

The project is site specific because it draws from the existing community and neighborhood, serving

as an example of how to integrated learning into the landscape of the city and provide new types of spaces for learning within the school.

The design philosophy for the project is guided by the following:

“Every educational building calls for a spatial order that works as a structure of streets and squares together forming a small city where everything is geared to the greatest possibly number of social contacts, confrontations, meetings, adventures and discoveries.”

(Hertzberger, 2008, 123)

Space is undeniably intertwined with the experience of people. It has an impact on behaviour, attitudes, social interactions and the way we perceive the world. It also has been shown to impact the way in which people learn. (Kopec, 2006, 191). Part of its influence is achieved through semiotics and the transmission of societal and cultural beliefs and norms. The other component fo space that impacts learning

is the physical structure, the way in which space dictates what activities may occur, and how it confines or enables movement, use and activity. (Kopec, 2006, 23). The messages that space communicates to users indicates social values and structures, expectations and beliefs. They contribute to individual identity formation and influence our understanding of the world around us. Informal learning is all learning that takes place outside of the classroom and encompasses lessons taught by space.

It can be argued that the school is primarily a social institution. The informal learning that occurs in the learning environment is equally if not greater in importance to the outcome of students experience than formal, classroom learning. (Coffield, 2000, p. 1). It is what prepares them for life in society.

If the environment has an impact on people and learning, it can then be used as an integrated part of the learning process. The concept of the building as a three-dimensional textbook has been used in educational buildings to enhance the quality of space, building elements are used to maximize learning opportunities, to incite curiosity

and inquisition, and encourage social interaction. When the educational environment is conceived in this way it can be used to convey meaning, attitudes, expectations and information to students. It becomes an important component of informal learning and provides the opportunity for informal learning to take place. The environment is seen as a facilitator in the educational process.

Lively public space is a good example of social space that teaches about society and the world. A public square, for example can be a site of exchange, debate, and can act as a mirror of public discourse. Public space is a site of daily activities, exchanges, and informal learning. Lively city space, as defined by Jan Gehl, is used as a precedent for how to design learning spaces because it is public, informal, open, and accepting, it stimulates interaction and engagement between people, community, culture and history, the city is a site for informal learning. The city also has aspects of the three-dimensional textbook, (Taylor, 1991) conveying information through semiotics and through its spatial quality, the city can be utilized as a learning tool.

The Community Learning Centre (Nair, Gehling, 2008) is a place where students and community are encouraged to collaborate, it encourages partnerships between school and community. This model for education focuses on learning for all people involved and the sharing of knowledge. Students are treated as responsible citizens, and the space reflects a value and respect for students, community and staff as equals. The concept of the Community Learning Centre coincides with a value for informal learning; it places emphasis on informal interactions between different groups of people and suggests that the learning environment be extended beyond the classroom, to multiple locations in the city. The city and school as three-dimensional textbooks are a complement to the Community Learning Centre model. The learning environment and public space as three-dimensional textbooks are places where there can be exchange of knowledge people from diverse backgrounds and experiences can interact, explore, and learn in a collective way. Combining priorities of informal learning, the environment as a three-dimensional textbook and public spaces as sites of engagement strengthens the notion of the Community Learning Centre.

The proposed design will combine elements of the city with the interior of the Community Learning Centre to create lively spaces for informal learning, impromptu meeting, gathering and opportunity for social interaction. Elements of the city including streets and squares will become important design elements. The qualities of lively city spaces; meeting place, marketplace and moving place will be incorporated into the programming and design of the learning environment. The design will attempt to engage the neighborhood and community, to extend learning beyond the school and utilize the city as three-dimensional textbook.

The design of the school will attempt to prepare students for real life experiences and for a smooth transition out of school, into 'adult society' and postsecondary education or the workforce. The spaces being designed are the 'public space' of the school because this is where citizenship is cultivated, and informal learning, which encompasses citizenship formation, takes place.

The learning objectives of the project are to: first, understand the role that informal learning plays in education and how that can be facilitated

through the design of an educational centre. Second, to determine how the built environment can be used to foster informal learning. And third, to investigate the idea of lively public space and how it can inform the design of communal spaces in an educational setting.

The client for the project is the Toronto District School Board. A profile of their values and priorities is provided later in this section. The site, The St. Lawrence North Building, was carefully selected to provide a rich context for learning in the city and directly from the neighborhood. It allows the Community Learning Centre to establish connections with existing spaces and programs and build on the sense of community in the area.

The users for the project are as follows; Primary users are the students, grades 9-12, ages 14-18. Secondary users are the educators and other employees. And the tertiary users are the general public and community, market vendors, parents, family and other student support systems, as well as part time staff. The user groups will also be further explained later in this section.

MOTIVATION  
+  
PURPOSE



The interiors of learning environments affect the people who use them, supporting and enhancing learning, or alternatively, hindering learning. Because the school buildings play an important role in education, many of the problems in education as a whole can be traced back to the fact that school buildings have changed very little since the time they were built. (Yelland, 1990, p. 2). Some schools in use today were in operation over one hundred years ago. The changes in educational values and purpose have shifted substantially. The idea of what it means to be knowledgeable has altered and is now more to do with critical thinking and application of information than memorization of information. Over twenty years ago many critics identified this issue as posing a serious problem. Some schools, most frequently in inner cities, have been in use since the 1890's. Richard Yelland, the head of the Education Management and Infrastructure Division in the OECD (Organization for Economic Co-operation and Development) Directorate for Education, argues simply, "a building may last for centuries while the activities that go on inside it change frequently this poses particular problems for those responsible for the planning and design

of educational buildings." (Yelland, 1990, p. 2). Educational environments are an integral part of education as a whole. The environment must support the type of learning occurring within it. New approaches to education such as learner-center education value the importance of providing contexts or space in which students can generate new knowledge through inquiry. Although the problem with educational facilities have been identified, very little has been done to make any significant changes to the way we conceptualize educational buildings.

The state of our educational facilities across North America is comparable. A study done in 2008 revealed that over the past century the overall age of Canadian schools infrastructure has increased. "In 2008, the nation's education infrastructure was an estimated 20.1 years old on average . . . education buildings were at their youngest in 1969, (Gaudreault, Overton, Trstenjak, 2009, p. 1). In 1991, Taylor reported that that 75% of the schools in New York had been built before 1900, and in 1990, 61% of American schools had been constructed in the 1950's and 60's, as construction during this time was rapid and

cheap. (Taylor, 1991, p. 1). Taylor also found that 61% of American schools needed major repairs, 43% were considered to be obsolete, 42% had environmental hazards, 25% were overcrowded, and 13% were structurally unsound. (Taylor, 1991, p. 1). The construction of educational buildings in the United States and Canada was completed primarily in the 1950's and 60's. At this time architecture was based on modernist values of form and function, and the humanistic aspects of school design were lost. Design of schools was guided by specifications for creating standardized classrooms, hallways, gymnasiums, cafeterias and administrative offices. The schoolyard was also treated as standard and often an afterthought despite the economic value of the land. "Instead of being used as a landscape design for learning, it was a barren patch of ground encompassed by a chain link fence." (Taylor, 1991, p. 2). This approach to design neglects how learning takes place and provides only boxes to house school furniture. New schools however are often built around the same standards and principals, rows of desks facing forward to a chalkboard, and learning based out of textbooks. Computers should have changed even this basic classroom setting

long ago however they are often an add-on to learning and are found down the hall in another room. (Taylor, 1991, p. 2).

This form of design is reflective of the factory model of education, also referred to as the industrial model that was prevalent in the early twentieth century when school buildings were mass-produced. This model prioritizes functionalism over wellbeing and mirrors priorities of the industrial age with its focus on producing good factory workers.

“The quest for learning is universal but the industrial model is prevalent. The acquisition of information and factoids, divorced from meaningful learning, is the norm.” (Nair, 2002, p. 4). Paulo Freire refers to this as the ‘banking’ concept of education, where students are considered to be empty vessels awaiting to be filled with information. In this form of education knowledge is something to be acquired through the recording, memorization and regurgitation of facts. It divorces learning from inquiry and critical thought. “it [the banking concept] transforms students into receiving objects. It attempts to control thinking and action, leads men and women to adjust to the world, and inhibits

their creative power” (Freire, 1970, p. 77).

As a society we have moved away from the values of the industrial age to the knowledge, or information age where emphasis is placed on an individual’s ability to be creative, innovative and transformative. The industrial model and the banking concept do not equip students with the ability to do so. Despite Freire’s and others arguments for change educational buildings and practice remain based on models from the industrial age. “The Industrial Age model of pedagogy is so embedded in everyday practice in [North American] schools that truly changing it will take time.” (Tapscott, 2009, p.128) There has been a societal shift in what is valued as knowledge, and this has implications for learner needs. Young adults need to be educated in a way that prepares them to succeed in the work force or further education. There is a need for educational facilities that stress collaboration, community, and recognize that education is not static, and will need to adapt to future changes. “The industrial model of schooling should have died when the information and communication revolution began decades ago.”(Nair, 2002, p. 8).

Despite these changes most educational buildings were built mid century, under the influence of the industrial age, modernism and functionalism, and have undergone very little change. The educational system itself has also failed to adapt, it “...remains structured around bodies of facts that need to be known and regurgitated periodically and thus is failing the next generation in serious and fundamental ways.”(Yelland, 2007, p. 7-8). Because educational environments can communicate cultural values, societal beliefs and norms it is important to understand what school buildings are saying to young people. Current architecture is reminiscent of prisons; it exerts control, and surveillance without providing freedom to learn through experience. (Taylor, 1993, p. 1). These messages are not in alignment with educational values such as citizenship formation and informal learning. The Design of the Community Learning Centre is an attempt to align educational priorities with design to create learning environments that best suit the needs of the users.



CONTEXT

# VALUES

Each and EVERY STUDENT. INNOVATION.  
a strong PUBLIC EQUALITY. education system. The UNIQUENESS and  
The COMMITMENT and SKILL of our staff. DIVERSITY of our students and our  
a PARTNERSHIP of students. community. ACCOUNTABILITY and  
Schools, family and Learning ACCESSIBILITY.  
COMMUNITY. environments  
that are SAFE,  
NURTURING,  
POSITIVE and RESPECTFUL.

# CLIENT PROFILE: TORONTO DISTRICT SCHOOL BOARD

“The Toronto District School Board is the largest School Board in Canada and the fourth largest in North America.” (Toronto District School Board, 2011a). With close to 600 schools it serves more than 250,000 students a year.

The regular school year runs from September to June. During the remaining months the TDSB offers summer school and other programming in most facilities. In 2011, the TDSB has implemented a ‘Focus on Youth’ program that allows community groups the opportunity to use school space free of charge for youth programming. (Toronto District School Board, 2011b).

The TDSB is concerned with not only student achievement but also citizenship formation and life long learning. Their mission statement is “... to enable all students to reach high levels of achievement and to acquire the knowledge, skills, and values they need to become responsible members of a democratic society.” (Toronto District School Board, 2011c)

Although school enrollment throughout Toronto has decreased over the past few years the TDSB

is dedicated to improving public school and has mandated a ‘Better Schools Brighter Futures’ initiative, which is the first step in the long-term plan ‘Vision of Hope’. The goal of this initiative is to rebuild a school system that provides choices and opportunities, where the focus is on teaching and learning and schools are community driven. The three key priorities guiding their vision are: student achievement, parent and community engagement and financial stability. (Toronto District School Board, 2011d). ‘Better Schools Brighter Futures’ includes plans for: additions, program enhancements, sustainable measures, building renewals, and information technologies (Toronto District School Board, 2011d). The TDSB recognizes that “many of [their] schools are aging . . . Better Schools Brighter Futures will recreate, rebuild and redevelop our current education system to meet the needs of the 21st century student” (Toronto District School Board, 2011d). revitalizing school environments and hopefully rejuvenating enrollment. The goal is for spaces to enhance educators and learners experiences as well as provide crucial community meeting spaces in a sustainable way. (Toronto District School Board, 2011d).

There are a number of schools in the St. Lawrence neighborhood however the majority of them are junior schools and specialty or private schools. The closest public high school is Jarvis CI, located at Jarvis St and Wellesley St East.

The Community Learning Centre proposal for this site will provide greater choice to students who desire a different environment for learning. Through the Community Learning Centre a different type of education and public space becomes accessible to all students. By making the space open to the public it creates a unique learning environment. Because the centre will be publically funded and its location is easily accessible by public transportation students from a wide demographic will have the opportunity to attend. The Community Learning Centre proposed in this thesis will also respond to the initiatives of ‘Better Schools Brighter Futures’. By focusing the design on changing learner needs and technologies, as well as sustainable measures, it can set a precedent for future renewal.

# THE COMMUNITY LEARNING CENTRE MODEL

LEARNING CENTRE, COMMUNITY CENTRE +  
COMMUNITY AS SCHOOL MODELS

A Community Learning Centre is a model for education that not only influences pedagogical perspectives and organizational values of the school but also the planning approach to the design of the facility. It differs from a Community School in that it not only provides community facilities but it also partners with community members and organizations to build mutually beneficial education processes. In this model the focus is on learning for all involved, the school is renamed the learning centre to imply this sharing of knowledge. (Nair, 2006, p. 2).

The Community Centre Model is a way of thinking about school space as integrated with community and has physical implications for the design and function of school space. The design is based around the concept of the learning center.

The building functions to facilitate community involvement and allows students to "autonomously construct community and school-based learning opportunities." (Nair, Gehling, 2008, p. 17). This model supports education that is learner-centered

and project based while still allowing for instruction based education.

Design based on the Community Centre model allows for passive supervision, monitoring of students is done in a hands off way. Instructors work collaboratively with one another in shared spaces to supervise students and because of this they are able to provide more personal attention when students need it. (Nair, Gehling, 2008, p. 17)

In contrast to other school models “the Community Center Model’s hidden curriculum, that is the “rules, routines, and regulations - which structure life in classrooms” (Hemmings, 2000, p. 1.), has an expectation of self-control. Respect for rights and responsibilities are built into the space: respect for students means that they are welcomed into the space as responsible citizens.” (Nair, Gehling, 2008, p. 17-18). This inherent respect for students helps to foster a sense of independence, accountability and preparation for life long learning. (Nair, Gehling, 2008).

In 2006, Prakash Nair and Annalise Gehling introduced concept for The Community as School Model, a complement to the Community Centre

Model. It suggests that local partnerships be created and utilized to their full potential, limiting overlap in resources and provides students with unique learning opportunities (Nair, Gehling, 2008, p. 18). When pairing this model with the Community Centre Model it is most successful because community based learning opportunities are then introduced into the school itself where meeting, planning, and project work can take place together with all parties. Because the Community Centre Model facilitates teaching autonomy, taking advantage of community based learning opportunities is smooth and straightforward. (Nair, Gehling, 2008, p. 18). School buildings designed with these principals in mind encourage students to learn and reach their full potential without constricting the way in which they get there. Schools that follow these models “. . . truly embody the notion of preparation for lifelong learning. Students are free to socialize and work in the same spaces and, surprisingly, when given the chance, they choose to work more often than not.” (Nair, Gehling, 2008, p. 19).

The concept of the learning centre has a number of slightly different definitions. It can refer to the entire school or a central space within the school.

The concept of the Community Learning Centre for this project is defined as the entire school, and this will be the way the term learning centre is used throughout the project. However the notion of a learning centre as a central space or hub within the school will also be investigated in this project but will be referred to as part of the *schoolscapes* or as a ‘public square’.

The ‘public square’ within the school can be defined as a multipurpose space that is designed as the central hub or meeting place in the school or campus, and is used for social and academic purposes. It is an amalgamation of multiple spaces within the school that are traditionally separate and distinct, for example the cafeteria and auditorium. Because learning involves a multitude of activities, personal behaviors and learning styles the learning centre becomes a fusion of spaces used for a wide variety of purposes. (JISC, 2006, p. 22). *Schoolscapes* refer to the informal learning spaces within the school, including circulation areas and public squares. These spaces offer students freedom and control by providing varied environments, and function as public spaces for multiple activities.

# THEORETICAL FRAMEWORK





# INTRODUCTION

This chapter explores how the proposal for the Community Learning Centre can be enhanced by first, understanding how the environment can contribute to learning, and how this can be applied through the concept of the learning environment as a three-dimensional text book. Second, considering the importance of informal learning and the role that informal learning plays in education. And lastly, how the qualities of good public space and the design elements associated with them can be implemented in the Community Learning Centre to enhance its democratic quality and character.

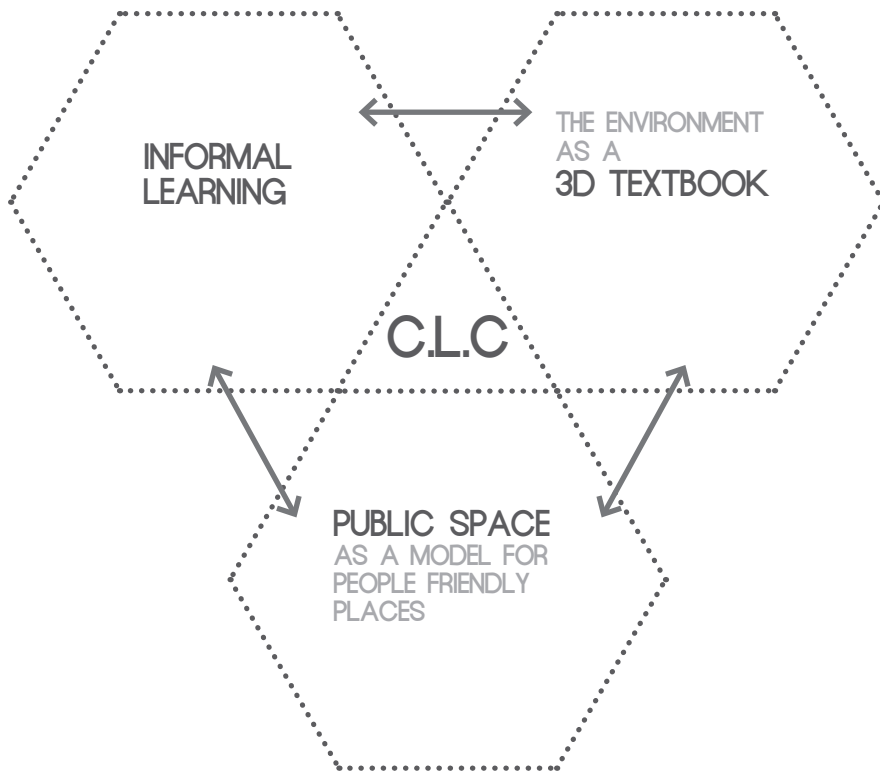


Figure 2

# THE ENVIRONMENTS IMPACT ON PEOPLE

“An organism does not live  
in an environment; it lives by  
means of an environment.”

(Dewey, 1959, p. 34).

People and the environment have a mutual relationship, where people shape the environment in which they inhabit and, in turn, that environment impacts behaviour, mood, actions, productivity and even health. This relationship is considered by some to be symbiotic. “We humans are inextricably woven into the fabric of our environments, and we effect those environments just as they effect us.” (Kopec, 2006, p. 2). This relationship will be discussed here with a focus on how interior environments can impact people.

*Environmental Psychology for Design* (2006), by DAK Kopec, is a significant text for this project, because it bridges the gap between the study of environmental psychology and design practice. Kopec is an environmental psychologist, with a Ph.D. in Environmental Psychology, and a

master's degree in Architecture and Community Psychology, allowing him to make connections between environmental psychology and the built environment. He does this in architectural terms, and provides insight into designing environments that support people's psychological needs.

Buildings affect both our physical and emotional state. They can be uplifting and support the activities that occur within them or they can be uninspiring and decrease personal wellbeing and mood. (Heerwagen, 2008, p. 8). People spend a great majority of their time indoors, in buildings. Factors such as air quality, exposure to daylight, and noise levels can play a huge role in how people feel both physically and emotionally. If, for example, people do not get the required exposure to daylight they can experience low energy and mood, as well as feeling grumpy and lethargic. These are all symptoms of SAD, Seasonal Affective Disorder caused by a lack of exposure to daylight. In more serious cases people may suffer from depression if they do not receive enough daylight. (Gallagher, 1999, p. 75). These health affects demonstrate that there are psychological side effects from the physical

qualities of buildings. The way in which daylight impacts human behavior, however, is only one of the ways in which space affects people's thoughts, emotions, and actions. There have been studies in a wide range of disciplines that document the value of good spaces in relation to how people work and learn, interact with strangers and recover from illnesses, these will be outlined in the following sections as a way of understanding all of the factors affecting how learning environments impact people. (Gallagher, 1999, p. 77).

## HEALTH

Our health and productivity are dependent upon the environment's sensitivity to the physical, psychological and behavioral needs of people. (Weiss, Williams, Heerwagen, 2004, p. 40). Research has shown that some building elements reduce stress and improve mental functioning including creative problem solving. Visual access to the outdoors and nature, daylight and occupant control over space are some of the elements key to these positive outcomes. Other examples of building elements that contribute to wellbeing include enclosures, refuges and

overhangs that provide occupants with a sense of protection, and feeling of safety, which positively impacts wellbeing and mood, in turn impacting productivity and mental functioning. Changes in elevation are another, they allow for passive surveillance, and the opportunity for unplanned social encounters which contribute to wellbeing and a sense of independence. And finally, occupants ability to work in quiet spaces with little to no interruption affect stress levels, mental functioning and wellbeing. (Weiss, Williams, Heerwagen, 2004, p. 40). Buildings that are designed with these features, as well as occupant wellbeing in mind support healthier activities and lifestyle.

In some cases buildings have the potential to make people sick. SAD has already been discussed as one of the ways buildings can contribute to personal health and wellbeing, another physical consequence of poor building design in 'sick building syndrome' (SBS). "A sick building is a structure that has become contaminated with any number of harmful agents." (Goldstein, 2011, p. ix). The main causes of SBS are air pollutants. Some of the health concerns

caused by SBS include headaches, nausea, coughing, dizziness, fatigue, and eye, ear, nose, and throat irritations. For a building to be deemed sick, twenty to thirty percent of the occupants must exhibit symptoms of SBS. The World Health Organization estimates that potentially 30% of all buildings are sick. (USA Today Magazine, 1992, p. 1). SBS is especially high in buildings that were constructed as sealed structures, meaning they have little occupant control, fewer windows and air is re-circulated through the building. If we look at the architecture of schools from the 1950's and 60's they exhibit many of the features associated with SBS. Based on the average age of school buildings in Canada these are the buildings that are dominant in the public education sector. SBS poses a threat to the health and wellbeing of students and school employees. The Health risks are apparent, however they also may lead to other psychological affects including how people feel about their personal space for learning or working. (USA Today Magazine, 1992, p. 1). In a learning environment that is attempting to create a healthy environment that students engage with and desire to be in, it is imperative that SBS not be a risk.

## BEHAVIOUR

Understanding people's behaviour in relation to space is challenging because there are a number of complex systems that contribute. Both distal and proximal cues exist in space and effect behaviour. Distal cues are the physical elements of the space, and proximal cues are the subjective impressions space makes on the individual. (Kopec, 2006, p. 27). Both of these have different effects on how people behave in space and also how they use and move through space.

Patterns of behaviour generally can be linked to place, and, certain behaviours are considered socially to be acceptable in some places but not others. Behaviour settings are circumstances in which we react to places based on our personal experiences, what we have learned about those spaces and the associations we make with them. ". . . Behaviour settings are small scale social systems composed of people and objects arranged in a way to carry out routine actions within a specific time and place."(Kopec, 2006, p. 22). These expectations of social behaviours, cued by proximal elements in space, are learned through conditioning. Young people and children are exposed to environments and then receive positive or negative reinforcement for their behaviour, which teaches them normative accepted behaviour appropriate for that specific setting, for example a learning environment (Kopec, 2006, p. 22). Behaviour settings are usually public spaces and consist of physical properties, social components, and the environmental setting, (Kopec, 2006, p. 22) which all work together to convey expectations. Research has shown that behaviours can be activated by the environment even without conscious thought (Kopec, 2006, p. 23), indicating that these expectations become so normalized or engrained that we do not recognize they exist.

We thus understand what is expected of us in spaces through social practices. One of the most predominant examples of how social practices operate in space is through power relationships. David Harvey understands that power operates through social practices and processes, and that space plays a distinctive role in production and patterning of social relationships. "It has attached to it distinctive ideologies . . . and therefore has a certain autonomous function in fashioning the way

of life of a people."(Harvey, 2009, p. 307). Spaces are reflective of society and can constrain, enable and alter those social practices and processes.. Spaces that assert power over people have negative impacts on wellbeing. Studies done on the ageing population found that personal wellbeing was directly related to how well the environment provided the subjects with control and autonomy. (Gallagher, 1999, p. 79). When people are occupying a space where they are monitored by others, such as a retirement home or a school, their control and autonomy are jeopardized. "People feel best in settings that, like parks and cars, foster a sense of control, impose few constraints, and offer multiple options."(Gallagher, 1999, p. 77). The visual elements of space can also contribute to how people negotiate their behaviour, and consequently have an affect on individual wellbeing.

## WELLBEING + MOOD

Stephen Boyden is a human ecologist who understands human wellbeing in the context of science and evolution. He believes that there is a disconnect between the natural environment in which humans were meant to live, and the industrialized society we live in today. He believes this is problematic because the current conditions we live in do not support wellbeing and survival, or the basic needs humans innately have. (Heerwagen, 2008, p. 2). Our basic needs include factors such as food, shelter and water. Wellbeing needs, on the other hand, are more difficult to define because they encompass less concrete aspects of health, including the psychological, mental and social concerns.

This becomes more complex because some factors effecting wellbeing and mood are

individual and based on preference and personality. The amount of stimulus people prefer in space, for example, varies. People with very active minds prefer environments that have minimal stimuli, the opposite is true for those who seek stimuli and require more to maintain a sense of wellbeing. (Gallagher, 1999, p. 79). As inappropriate levels of stimuli in space can lead to stress, (Kopec, 2006, p. 25-26) the designer's job is to provide microenvironments that suit each preference, reducing the risk of creating stressful spaces. There are however, general factors that affect all people in space. Sound for example is one element that can be detrimental to all if at an inappropriate level. In spaces that require concentration, such as a library or classroom, it can both distract and restrict, which leads to decreased sociability,

concentration and performance. (Gallagher, 1999, p. 77).

Exposure to nature is one way that buildings can attempt to create a more positive and natural environment for people. Nature has been proven to be mood altering and stabilizing for people as well as a remedy for 'mental fatigue' (Gallagher, 1999, p. 81). "Research shows that even small doses of nature have salubrious effects on behaviour . . . increased feelings of mastery, pride, and sociability are matched by decreased incidence of vandalism."(Gallagher, 1999, p. 81). All of which are desirable outcomes of school building design. Views that allow people to see their surroundings, people and nature, even through windows are beneficial because they can

substitute for contact, promoting positive moods and reducing stress. (Heerwagen, 2008, p. 5). Providing views from points of refuge also have psychological benefits, as people enjoy feeling safe, protected and comfortable but want to feel connected to the outside world and to one another. (Heerwagen, 2008, p. 5). Providing an opportunity for people to take short mental breaks to connect with nature, may also impact a person's ability to concentrate, which in turn increases productivity. (Heerwagen, 2008, p. 5).

## DESIGN IMPLICATIONS

	HEALTH (ENVIRONMENT)	WELLBEING (NEEDS)	MOOD	BEHAVIOUR
DESIGN RECOMMENDATIONS	<p>Provide maximum access to natural daylight and views to the outdoors</p> <p>Provide superior ventilation</p> <p>Control sources of indoor air contamination</p> <p>Prevent unwanted moisture accumulation</p> <p>Enhance the psychological and social aspects of space</p>	<p>Provide opportunity to engage in spontaneous social encounters</p> <p>Provide opportunity for relaxation and psychological restoration</p> <p>Provide opportunity for privacy and for movement between interaction and solitude, as desired</p> <p>Provide opportunity for learning and information sharing</p> <p>Provide opportunity for connection to the natural environment</p> <p>Provide opportunity for regular exercise</p> <p>Insure sound levels are not much above or below that of nature.</p> <p>Create meaningful change and sensory variability in spaces</p> <p>Provide an interesting visual environment with aesthetic integrity.</p> <p>Provide a sense of social equity and respect</p> <p>Ensure users ability to maintain and control personal comfort</p>	<p>Provide visual access to the outdoors and nature,</p> <p>Allow for occupant control over space,</p> <p>Provide multiple enclosures and refuges,</p> <p>Include overhangs to give a sense of protection</p> <p>Provide changes in elevation allowing for passive surveillance,</p> <p>Provide opportunity for unplanned social encounters</p> <p>Allow for users ability to work in spaces with little to no interruption.</p>	<p>Isidor Chein suggests:</p> <p>Create a global environment; the general characteristics of the environment should be universally accepting</p> <p>Provide Instigators; stimuli triggered behaviour,</p> <p>Provide goal objects and noxious; situations that cause satisfaction</p> <p>Provide supports and limit constraints; design elements of the environment that allow or impede behaviour</p> <p>Provide clear directors; design elements that communicate what to do and where to go</p>

Table 1 Design Recommendations from 'The Environments Impact on People' (Heerwagen, 2008, p.2) (Weiss, Williams, Heerwagen, 2004, p. 40) (Kopec, 2006, p. 20). 19

# THE ENVIRONMENTS IMPACT ON LEARNING

When designing learning environments it is important to consider how design decisions may affect the people using the space over a period of time because there are physical and psychological implications of the design of learning environments. "A learning environment is a system of complex relationships that exist among the physical structure, a teacher, and a student." (Kopec, 2006, 189). All three elements work together to communicate and produce information. Therefore, the building and interiors are part of what establishes the way in which students will learn.

It may seem to go without saying that the main function of learning environments is to support all of the learning occurring within them, but historically, this point has been overlooked when building and designing new schools. Schools have been built around the same principals for over a hundred years without consideration to changes in the way people learn. The three main modes of learning that should be considered in design are, visual, auditory and kinesthetic learning. According to DAK Kopec visual learners process information from what they see and think in terms of pictures

and images. Auditory learners process information from what they hear, by listening and reasoning and through discussion, while kinesthetic learners process information through experience, and they are more likely to test ideas. (Kopec, 2006, p. 190). Most people utilize all modes of learning with a preference for one over the other. By understanding how and what people learn in conjunction with how space influences people, one can generate guidelines for making design decisions for learning environments.

As previously stated, by understanding how space impacts people in a general sense we can further explore learning environments, and the impact they may have on students and learning. School-aged people are in the formative years of their lives. The buildings in which they spend a significant portion of their time contribute to their personal development and learning. (Kopec, 2006, 191).

The quote; "We shape our buildings and thereafter our buildings shape us" (Dudley, 1994, p. 8), and variations of, continuously pop up in literature regarding the relationship between people and space. To understand one, you must understand

the other and their existence is interdependent. If we believe this to be true then the environment in which people learn must contribute to the learning experience.

Children and young people receive a wide range of information in great quantities while in educational environments, information about social behaviour, society, power, as well as information from the school curriculum, "... how they interpret and aggregate this information will affect their learning and subsequent behaviours.". (Kopec, 2006, 189). It is generally accepted that "... a significant part of children's development depends on the physical environment. Learning environments therefore need to support development by providing a variety of stimuli, accommodating many activities, and furnishing ample opportunities for privacy." (Kopec, 2006, 189). Despite this fact, educational buildings continually resort to minimum standards when designing for education and neglect their significance in the learning process. School buildings are reproduced with solid walls and roofs, basic mechanical systems, and minimum dimensions. "We [designers] are being presented with an opportunity to design the next generation



of [North] America's schools, and yet we have not given enough thought to how architecture could be used as an effective medium for enhancing teaching and learning."(Upitis, 2004, 33-34).

"Progressive educationalists see learning in its wildest sense as a job for the school. But regrettably school buildings with their minimal spatial programs are not designed for this purpose."

(Hertzberger, 2008, 68).

Some theorists even believe that educational reform cannot occur in educational buildings as they exist now, and that designers and educators must work together to construct new natural and built environments that can accommodate current and future educational philosophy. (Upitis 2004, p. 33-34). Richard Yelland suggests that the quality and effectiveness of education, and the built environment of the school, are interrelated. Therefore the responsiveness of school buildings to the educational process is integral in school design. (Yelland, 1990, p. 1). If the physical environment of the school is related to the success of education then there are negative implications for students coming out of the current system. The school system is failing future generations. Through design we have the ability to either enhance or hinder learning. Learning environments are able to simulate interest and provide motivation. However, to do this, the space needs to be considerate of human factors and the way in which people learn to "...create a sense of place, community, presence, comfort, security, aesthetics, performance and privacy." (Rydeen, 2005, p. 1). "Researchers confirm that the design of physical environments will affect children's perception, learning, and behaviour." (Kopeck, 2006, p. 189).

## SPACE AS AN ACADEMIC TEACHING TOOL

Many alternative educational models for education place great emphasis on the learning environment. Waldorf schools, Froebel kindergartens, and Reggio Emilia pre-primary schools are models for education that cater to preschool and primary schools with a focus on physical space and value the how buildings shape and teach students. Early childhood education generally places more of an emphasis on the building as an educational resource than secondary schools. In many Reggio Emilia preprimary schools for example there are two teachers, and educators commonly use the term 'third educator' to describe the school building itself as a teacher. This value on the learning environment in most North American schools however is gradually devalued, as students get older. (Upitis, 2004, p. 22-23). This is reflected in the interiors of the majority of high school buildings. The Montessori school system also places great emphasis on the learning environment. In the Montessori approach "the environment is perceived as the medium through which the teacher helps the child to engage attention and concentrate."(Dyck, 2002, p. 1). It employs a 'prepared environment' that uses materials, activities and design to facilitate optimal learning experiences. A prepared environment is one that considers the following spatial attributes; aesthetics, light, acoustics and noise, color and temperature. (Dyck, 2002, p. 1). These elements will be discussed in more detail later in their ability to impact learning.

Anne Taylor is an architect, educator and academic who uses the concept of the 'school as a three-dimensional textbook' to design school environments that positively aid in education. Similar to Taylor, Prakash Nair is an author, planner,

architect, and the president and founding partner of Fielding Nair International (FNI), a planning and architectural design firm specializing in education. His writing and design focuses on grounding school design in educational research. His collaborations with Annalise Ghelling, a teacher, geographer and planner who is also an Educational Planning Consultant at FNI, are important for this project because they connect Taylor's concept of the environment as a three dimensional textbook and Jan Gehl's concepts of lively public space in the city to the interior design of school buildings.

Nair and Ghelling understand people's interrelationship with their surroundings and how they can be used to impact learning. Nair and Ghelling suggest that schools are able to use 'the city as a living textbook' (Nair, Gehling, 2010, p. 32) if there are well designed public spaces that allow students to engage with the city to learn. Nair, Ghelling and Taylor all suggest that our surroundings can be used as teaching aids to supplement learning in the classroom.

If we think of the space as a three-dimensional textbook, one of the ways in which it can communicate information is through its structure, which can teach physics, concepts of tension, compression, force, load cantilevering, fenestration patterns, the awareness of solids and voids, and massing as a basis for descriptive geometry. (Taylor, 1991, p. 3). Another way in which the environment can teach is through exposure and creativity, for example a kitchen. Through cooking, students are exposed to science and math, cultural uses of food, and the creativity of edible art. (Taylor, 1991, p. 3).

The building exterior and outdoor environment can also be part of the three dimensional textbook,

whether it is a natural or urban landscape there are implications for learning, the landscape and the city are part of a broader definition of a learning environment. "Hills, valleys, deciduous trees, non-deciduous trees, gardens, and graphics, can all become learning tools."(Taylor, 1991, p. 3). A garden is a prime example of how the outdoor environment can be used as a teaching tool. In the planning phase for example construction, and building skills are gained. While maintaining it, there is opportunity to learn about planting, horticulture, and the natural cycle of growth. A garden allows students to experience new tastes and smells through hands on discovery and see direct results and benefits of productive work. (Stine, 1997, p. 92).

In *The Ecology of The Learning Environment* (1991), Taylor describes how "... the architecture of the school classroom, museum exhibits, and the landscape [can be used] as a means of demonstrating how the built and natural environments demonstrate the ideas, laws and principles that we at present are trying to teach children from textbooks." She uses the example of a solar greenhouse to illustrate how young people can learn to appreciate "... life outside themselves, understand botany, and begin to learn about alternative energy systems." (Taylor, 1991, p. 3).

Reggio Emilia school settings, inside and out, provide physical environments that are meant to convey a message about the students, the design, and the teachers' beliefs and values in regards to everyday learning. They stress their belief that "... children and youth need the outside as a place where they can build, explore, relax, socialize, discover and dream."(Stine, 1997, p. 94). The guiding principal for these schools is that

" the environment is an essential part of the educational approach and must reflect people and their interactions."

(Stine, 1997, p. 94).

The building itself is designed with the intent of conveying meaning to its occupants. The lesson here is that the school environment can be more than just a safe and useful place, it can be part of the learning experience, a space that reflects the culture and values of that institution. "Deficiencies in the physical environment can have a negative effect on students' task orientations, class cohesiveness, and feelings of support and autonomy." (Kopec, 2006, p. 196). Design is an issue of comfort, safety and learning.

#### SOCIALIZING FUNCTIONS OF SPACE

If we accept that the physical spaces of learning environments have an impact on student learning, it is not hard to see how the environment could also affect people psychologically. "The physical aspects of a learning environment can have a direct influence on learning, behaviour and productivity."(Kopec, 2006, p. 189) Whereas the ambient features in environments, like colour noise, lighting, temperature and other non-visual elements, influence psychological wellbeing such as mood, emotions, behaviour and learning capabilities. Other factors affecting the psychology of users in learning environments are crowding, density and personal space. Crowding and density have been linked to lower performance, poor memory and feeling anxious and withdrawn (Kopec, 2006, p. 190), and can result in people being less likely to form relationships, "social withdrawal may reflect coping with too much unwanted social interaction." (Evans, 2006, p.429). Other

side-effects of crowding include diminished cooperation, elevation in blood-pressure and aggression. (Evans, 2006, p.430, 433). These design elements and realities of learning spaces are what psychologically impact people and they can have the most significant long-term impacts. (Kopec, 2006, p. 189).

Some of the most important psychological factors when designing for young people are stress, both internal and external, injury and illness, issues of space, place and privacy, the importance of play and housing and green space. (Kopec, 2006, p. 145). In a successful and sustainable building all of these factors should be considered. Sustainable building designs entail that they put people first. This requires that the physical and psychological needs of people be met. (Weiss, Williams, Heerwagen, 2004, p. 39-40).

There is a general idea among designers that "we also think that the space has to be a sort of aquarium that mirrors the ideas, values, attitudes, and cultures of the people who live within it." (Malaguzzi in Stine, 1997, p. xii). If buildings communicate to users, then, in a learning environment it is imperative that the building design is in alignment with the values of the organization as well as the students. Daniel Duke, the Director of the Thomas Jefferson Center for Educational Design, suggests that "a learning environment represents the physical, social and cultural context in which learning occurs."(Dyke, 2002, p. 2). What is taught is more than simply information about subjects, but also information about society.

#### DESIGN ELEMENTS THAT AFFECT STUDENT LEARNING AND EXPERIENCE

For Kopec "the learning environments physical structure includes the arrangement of space and

furniture as well as materials used in it and is vital to its effectiveness.”(Kopec, 2006, p. 190). He discusses factors affecting people in their environment emphasizing, light, colour, acoustics and noise, temperature, humidity and ventilation. James Dyke is another author who talks about attributes of space that have an impact on learning and wellbeing of people in space. He has identified six main contributors; aesthetic, spatial, lighting, color, thermal, and acoustical attributes. As you can see Dyke and Kopec’s ideas are parallel, and many people agree these are the key factors to consider. The following is a discussion of these design elements, how they affect people in space and how they can be manipulated in design to create optimal learning space.

## LIGHT

Lighting is not limited to its visual affects on people; it also affects them in a biological or physiological way. “The kind of light that we are exposed to – during the day or night, both natural and electric – interacts with, and affects, some of the most fundamental biological processes of our body.” (Ander, 2003, p. 26). Our bodies rely on light to understand time, and as a cue for peoples ‘internal clocks’, or circadian rhythms. Light contributes to the production of vitamin D and melanin in the skin, and therefore health. Research even suggests that other parts of the body, besides the skin, receive and respond to light. (Ander, 2003, p. 26-27). “Daylighting is a tremendously important component of living, profoundly affecting human life and health.” (Ander, 2003, p. 26). Light also has the ability to affect behaviour, mood and productivity. Work efficiency and morale are increased when adequate and appropriate lighting is provided. Occupant Control of lighting and access to daylight are also factors that can enhance people’s wellbeing in

space. (Ander, 2003, p. 28).

“Because children spend a significant portion of their days inside school buildings, it is important to expose them to high-quality, full-spectrum lighting as a means of enhancing their general wellbeing and to counter symptoms related to light deprivation.”(Kopec, 2006, p. 191). Research shows that there are benefits for student comfort, wellbeing and performance in school when they are exposed to natural light and an appropriate interior climate. (Evans, 2006, p. 438). Students who are exposed to full-spectrum lighting have better attendance records, higher achievement scores, and greater physical and cognitive growth and development and lower cases of hyperactivity. (Kopec, 2006, p. 191).

## COLOUR

There is no argument that perceptions of colour are subjective and can be related to personal experience, emotions, age, gender and cultural background. (Datta, 2008, p. 4). That being said color has been proven to dramatically affect moods, feelings and emotions. It can be used as a means of communication. (Kopec, 2006, p. 87). It is a variable that contributes to the ambient quality of space and can be used to signal action, alter mood, and can cause physiological reactions. (Datta , 2008, p. 4).

Colour coding allows us to navigate and understand our spaces, and can signify cues, such as red to signal the act of stopping. (Kopec, 2006, p. 87). Colours have been shown to raise blood pressure, increase metabolism and cause eyestrain. Theorists and researchers agree that colour has an impact on the body as well as the mind. “Physiological changes occur when we are exposed to certain colours due to a phenomenon

called chromodynamics.” (Kopec, 2006, p. 88). It has been found for example that psychological and psychical responses to warm colours with longer wavelengths, like red and yellow, were consistent in their provocation of anxiety and raised physical arousal, where as cool colours, with shorter wavelengths, caused less of an arousal and were less commonly linked to anxiety and displeasure. (Kopec, 2006, p. 88).

While the use of colours in space may seem superficial, the use of appropriate colours is important for protecting eyesight, creating environments conducive to task work, and in the promotion and maintenance of physical and mental health. “Many cases of nervousness, irritability, lack of interest, and behavioral problems can be attributed to incorrect environmental conditions involving poorly planned light and colour.” (Datta, 2008, p. 5-6)

As stated above, the colour of a space has been linked to physiological as well as emotional reactions in people.

“The use of colour within schools and other learning environments has been shown to influence students’ attitudes, behaviors’, and learning comprehension by affecting their attention spans and the teachers’ perception of time.”

(Kopec, 2006, p. 191).

One of the physical affects colour has on people is the release of hormones, which in turn affects psychological factors including mood, mental clarity, and energy levels, as well as respiratory rate and blood pressure. (Kopec, 2006, p. 192). Warm colours and higher light levels, in addition to raising physical arousal, have been shown to

stimulate the nervous system and brain, increasing brain activity and heightening bodily response. The opposite is true for spaces with low light levels and cool colours. "Interestingly, white and off-white decrease human efficiency by an average of 25 percent." (Kopec, 2006, p. 192). Colour in learning environments has the ability to "... significantly affect students' perceptions of the environment. It can transform a dull drab environment into one that is pleasing, exciting, and stimulating, which has implications in the reduction of absenteeism and promotion of greater school affiliation."(Kopec, 2006, p. 191). Colour is a key tool in creating spaces that students and staff will feel comfortable in and have a connection to.

## ACOUSTICS AND NOISE

Excess noise in interior environments, especially educational environments, where focused mental activity take place, can be a distraction and annoyance. In situations where listening is important, this is especially true for those with hearing impairments, English as a second language or other disabilities, the affects of noise can be detrimental. (Dockrell, Shield, 2006, p. 1).

The main concerns with acoustics are noise and reverberation. Noise in buildings can be grouped into external and internal noises. External noise occurs outside the building and includes; construction and vehicular and pedestrian traffic. Internal noises include; noise from building services, heating, lighting, ventilation systems and the people themselves. Reverberation is affected by materials of the interior, their reflectivity and hardness of surfaces. (Dockrell, Shield, 2006, p. 2). All of these factors affecting acoustics should be considered when designing buildings and interiors, and how noise will impact the activities occurring inside them.

There is however some controversy over how sound and noise impact people in learning spaces. Some believe that it can be distracting while others argue that it is dependent upon other variables such as age, gender and academic ability. "Researchers seem to agree, however, that learning is compromised when students can't hear clearly." (Kopec, 2006, p. 192). Some of the consequences of long-term noise exposure include negative affects on long-term memory and retention of verbal material, poor attention spans, and elevation of blood pressure levels (Evans, 2006, p. 426, 427, ). "Noise exposure is a well established irritant, producing annoyance and interference ... noise reliably suppresses altruistic behavior and can accentuate aggression" (Evans, 2006, p. 427). Acoustic consideration is especially important in the context of a high-school because "children in higher grades are more adversely impacted by ambient noise exposure." (Evans, 2006, p.426). Acoustics in schools, especially open plan schools, is a key design consideration that can be detrimental to design. Insuring people can concentrate and work in the school should be a main priority.

## TEMPERATURE AND VENTILATION

Temperature fluctuations have an impact of students as well as teachers. It has been linked to mental efficiency in relation to student's recognition and response. Air conditioning has been shown to reduce cases of classroom annoyances and attitudes, performance and student behaviour improved. (Kopec, 2006, p. 194). When air conditioning is not present, and the ambient temperature is high, student performance drops and students are reported to be more lethargic and less diligent. (Evans, 2006, p. 438). Drastic changes in indoor temperature and

humidity, and inadequate or poorly maintained ventilation systems can also have harmful effects on health. Some of which including increased respiration, and heighten the risk of spreading disease. It also has effects on moods, because temperature contributes to the ambient setting of the space.

Beginning with school reform in the 1950's and lasting until the 1970s school buildings were constructed to promote health through improved circulation and natural light. However by the 1970's these reforms were widely rejected in favor of more standardized, functionalist architecture. Windows for example were seen as being distracting for students and so windowless classrooms became popular. The benefits of natural lighting and fresh air circulation in learning centers, especially in secondary schools were almost completely abandoned. (Kopec, 2006, p. 196). "Research spanning almost one century shows that schools should provide sufficient access to green spaces, fresh air, natural light and that classrooms should minimize noise, provide optimum levels of stimulation for learning, and contain attention-restoration attributes."(Kopec, 2006, p. 196). So why then are schools continually being built around strictly functionalist principals?

Designing with the user wellbeing in mind is ultimately the most important priority of designers. Bryan Lawson explains the importance of a humane approach to the design of built environment. He says:

“ . . . the success of education depends so much on the quality of the pupil/teacher relationship. This then requires an architect who is sensitive to human relationships and aware of how to promote and foster [them] through the built environment.”

(Datta, 2008 p. 2)

How the space will impact users and how they will also use the space should be the priority. “Bad school houses are silent killers of teaching and student learning”. (Tanner, 2000, p. 4).

## DESIGN IMPLICATIONS

	PHYSICAL WELLBEING	PSYCHOLOGICAL WELLBEING
LIGHT	<p>Consider reflectivity of materials</p> <p>Glazing and windows be appropriate for all times of year</p> <p>Implement retractable awnings, ie. Adjustable blinds or tinting</p> <p>Provide artificial lighting to supplement daylighting when necessary</p>	Views for orientation
COLOUR	<p>Floors and walls should use colours to minimize glare</p> <p>Contrast should be used between different spaces to indicate function as well as hierarchy (focal points)</p>	<p>Cool colours</p> <p>Hallways should exhibit a wide range of colours</p> <p>Moving places should have a variety of colours to enhance stimulation</p>
ACOUSTICS + NOISE	<p>Sound absorbing material - Acoustical ceilings</p> <p>Soft floor material</p> <p>Angling walls at least 5 degrees from their parallel plane can reduce reverberation</p>	Low frequency sound masking
TEMPERATURE + VENTILATION	Operable windows	Occupant control

Table 2. Design Recommendations from ‘The Environments Impact on Learning’; shows implications of the identified design elements of space that effect different needs of people in learning environments. (Kopec, 2006, p. 191-192).

# SHIFTING VALUES IN EDUCATION

The public education system is constantly attempting to make improvements, through school reform and new policies and mandates; education is often at the forefront of political discussion. One of the factors affecting education that is generally overlooked and undermined however is the role that the facility plays in educating young people. If new policies and practices are to be successfully implemented, the learning environments must be in alignment with the changes.

## OUTDATED STRUCTURES AND CORRESPONDING TEACHING PRINCIPLES

As previously stated school buildings typically undergo very little change in their lifespan. Some schools in use today operated over one hundred years ago and unfortunately new buildings are frequently built around the same principles of the factory model of education, despite the substantial changes in educational values and purposes. The idea of what it means to be knowledgeable in the 20th century is radically different; it is more concerned with critical thinking and application of information, rather than memorization of information. Educational

environments are an integral part of education as a whole. The environment must support the type of learning occurring within it.

Don Tapscott is an author, theorist and entrepreneur. He is chairman of the Moxie Insight, a research group, and an adjunct professor of Management at the University of Toronto. One of his publications is *Grown Up Digital* in which he discusses the Net Generation, their learning needs, and emphasizes young people's relationship with technology.

Tapscott recognizes that one of the most significant changes for education in the knowledge age is technology and that the factory model of education has become irrelevant. "The teachers are no longer the fountains of knowledge; the Internet is" (Tapscott, 2009, p. 126). There is an endless supply of accessible information being updated and expanded upon, learning cannot be a linear act. "Net Gens need to learn how to look for information, analyze and synthesize it, and critically evaluate the information they find." (Tapscott, 2009, p. 134). These are the skills that will prepare them for the future. The memorization

of information is no longer the most valuable skill, the acquisition of information is. "It's not what you know the counts anymore; it's what you can learn." (Tapscott, 2009, p. 127).

Looking forward Tapscott believes that 'broadcasting learning', learning from lectures, and other forms of one-way delivery of information, needs to be replaced with 'interactive learning'. (Tapscott, 2009, p. 133). To accomplish this he makes four suggestions for how to improve the learning process to suit the demands of the net generation. First, the education system should focus on the student as opposed to the teacher, meaning that the teacher may need to alter his or her process to suit the students, and abandon his or her broadcasting style. Second, the teacher should interact with students, to encourage them to discover things for themselves and apply critical thinking. Third, teachers must accommodate for different people's learning styles, education should be customized not standardized. And fourth, teachers and students should be encouraged to collaborate with others within the school and outside. (Tapscott, 2009, p. 122, 130).

These suggested methods prove to be successful in practice; “research has found collaborative learning to be more effective in increasing academic performance than individual or competitive learning.”(Tapscott, 2009, p. 137). And when you compare students in ‘interactive’ courses to those taught in a traditional way they “generally achieve higher scores on summary examinations, learn their lessons in less time, like their classes more, and develop more positive attitudes towards the subject matter they’re learning.”(Tapscott, 2009, p. 133).

Because of the societal shift in what is valued as knowledgeable, young adults need to be educated in a way that prepares them to succeed in work or further education. New approaches to education, including Tapscott’s notion of interactive learning is a learner-centered educational approach and values the importance of providing contexts or space in which students can generate new knowledge through inquiry. There is a need and opportunity for educational facilities to stress collaboration, community, and recognize that education is not static, and will need to adapt to future changes.

## TEACHING AND LEARNING: REVISITING NOT SO NEW IDEAS

John Dewey (1859 – 1952) was a philosopher, psychologist and educational theorist. His ideas regarding democracy and education have, and continue to be extremely influential in progressive education and help to form the foundation for the educational philosophy guiding this project.

Dewey’s chief early work on the theory and practice of education; *Democracy and Education: An Introduction to the Philosophy of Education* (1916) was among the first to point

out how flawed the educational system was in its attempt to teach students pertinent information for the ‘current’ world. (Dewey, 1916). He understood education as a process of learning not only factual information but also about social practices. He believed that social practices and beliefs are conveyed by means of the environment, which provoke responses in people. (Dewey, 1916, p. 12-13). Learning that occurs through the environment can be planned but is often subconscious and reflective of society as a whole. “This ‘unconscious influence of the environment’ is so subtle and pervasive that it affects every fiber of character and mind.”(Dewey, 1916, p. 21). And thus a key component of education is the environment in which learning occurs. Dewey even went so far as to say that “the only way that adults consciously control the kind of education which the immature [young people] get is by controlling the environment in which they act, and hence think and feel. We never educate directly, but indirectly by means of the environment. Whether we permit chance environments for the purpose makes a great difference.”(Dewey, 1916, p. 22).

Dewey also felt that education had a social responsibility and purpose that was to equip students with the tools to become effective members of a democratic society.

“Dewey argued that the one-way delivery style of authoritarian schooling does not provide a good model for life in democratic society. Instead, students need educational experiences which enable them to become valued, equal, and responsible members of society.”

(Neill, 2005, p. 1)

Priorities in education have been altered since

Dewey started writing. Current priorities echo his notions of citizenship, lifelong learning, preparation for the future and living in a democratic society. Additionally, these priorities value informal learning in assisting to teach these priorities, as demonstrated for example by the Toronto District School Board’s mission statement (which can be found on page 9). However as much as this may be the ethos of educational theory, in practice it may not be as successful as it could be with the help of the learning environment.

For those who share Dewey’s opinion, the school is primarily a social institution, used to instill young people with values and social practices in accordance with societies. “Education being a social process, the school is simply that form of community life in which all those agencies are concentrated that will be most effective in bringing the child to share in the inherited resources of the [human] race and to use his own powers for social ends.” (Dewey, 1897, p. 78-79). The social teaching of schools, or of any space for that matter, is linked to human experience. How people interact with one another and their environment creates social networks and people generate meaning through experiences and relationships. Dewey recognized the environments significance in education when he stated that above all, educators “should know how to utilize the surroundings, physical and social, that exist so as to extract from them all that they have to contribute to building up experiences that are worth while.” (Dewey, 1938, p. 40). The building in which young people learn contributes to their social development and life experiences. Dewey understands sound educational experience as being comprised of continuity and interaction, occurring between learner and what is learned. (Dewey, 1938, p. 10). Continuity is how people are affected by and build upon experience.

"The principal of continuity of experience means that every experience both takes up something from those which have gone before and modifies in some way the quality of those which come after." (Dewey, 1938, p. 35). People understand and adapt to survive in the world through learning and experience. "In humans, education is critical for providing people with the skills to live in society . . . we learn something from every experience, whether positive or negative and ones accumulated learned experience influences the nature of one's future experiences." (Neill, 2005, p. 1). Interaction takes these ideas further to help understand how people create their own experiences by building on past experience and present situations. This process is individual and varies between people because past experience is varied which is important to consider in an educational setting. The outcome of past and present situations interacting can result for example in on person 'loving' school and another 'hating' school. "Whilst they [schools and educators] can't control students' past experiences, they can try to understand those past experiences so that better educational situations can be presented to the students. Ultimately, all a teacher [or designer] has control over is the design of the present situation." (Neill, 2005, p. 1).

One of the dangers of perpetuating functionalist standardized architecture is that it " . . . creates the potential for them to disengage from meaningful involvement within and beyond the school." (Tupper, 2008, p. 1076). Because active and responsible citizenship is cultivated through a wide variety of experiences and interactions it is fair to be concerned that functionalist architecture and interiors of learning environments will discourage students from asserting influence over their immediate environment, and to accept things as they are. This is a significant concern because of

the wider social implications of people accepting the status quo. A disengaged student is more likely to become a disengaged citizen.

**"If students perceive they have minimal influence over their surroundings, perhaps they will feel much less empowered to address conditions of oppression that operate in society: to work toward a more socially and environmentally just world."**

(Tupper, 2008, p. 1076).

Paulo Freire (1921 - 1997) was a Brazilian educator and theorist. He made significant contributions to educational pedagogy and practice, particularly in the areas of informal education and popular education. Freire believed education to be the representation of a political agenda. He argues that in traditional forms of teaching, where students are treated as empty vessels waiting to be filled with knowledge, (which he refers to as the 'banking' concept of education) students become oppressed, and that teachers as well as students should be made aware of the politics that surround education.

Oppression can be understood as overwhelming control. "it transforms students into receiving objects. It attempts to control thinking and action, leads women and men to adjust to the world, and inhibits their creative power." (Freire, 2000, p. 77).

Like Dewey, Freire believed that education could be a mechanism for social change. He strongly opposes the teacher-student dichotomy, arguing that student should play an active role in their own education. He felt however that they were not given the opportunity to do so. He believed

that 'banking education' mirrored society, treated students as the oppressed and that in this practice "the educator's role is to regulate the way the world 'enters into' the students." (Freire, 2000, p. 76). Communicating information with an agenda, prepared students to accept things as they are and to accept their role as the oppressed in society. "Education as the exercise of domination stimulates the credulity of students, with the ideological intent (often not perceived by educators) of indoctrinating them to adapt to the world of oppression." (Freire, 2000, p. 78). This suggests that banking education created passive, disengaged citizens.

For education to be successful he believed that what was needed was communication and critical thought, or consciousness. "Those truly committed to liberation must reject the banking concept in its entirety, adopting instead a concept of women and men as conscious beings, and consciousness as consciousness intent upon the world." (Freire, 2000, p. 79). His solution was much like Dewey's, with an emphasis on experience and dialogue between parties. He felt

**"Education must begin with the solution of the teacher-student contradiction, by reconciling the poles of the contradiction so that the both are simultaneously teachers and students."**

(Freire, 2000, p. 72).

When teacher and student become mutually responsible and engaged the concept of authority is blurred and the dichotomy of banking education is broken. "The students - no longer docile listeners - are now critical co-investigators in dialogue with the teacher." (Freire, 2000, p. 81).



In other words they become prepared, active citizens.

#### ALIGNING THE BUILDING AND INTERIORS WITH EDUCATIONAL OUTCOMES IN MIND

“Great learning environments exhibit similar characteristics as great cities and great landscapes. Some of the characteristics of great educational spaces are timeless, like a mature forest, and others change rapidly, like Times Square in New York City.” (Fielding, 2006, p. 2). Yet the buildings we most commonly see have stayed stagnant for years, and do not adapt to the needs of their users.

In *Life Between Classrooms* (2010), Nair and Gehling advocate that schools be designed to prioritize the users. They believe that modernist ideas implemented in the city are also present in schools, for example corridors resembling freeways and other dehumanizing architecture (Nair, Gehling, 2010, p. 4). Because corridors are the main spaces between classrooms in current schools they argue that they have some qualities of marketplace, places where people come together for exchange, and moving-places, but not meeting place, where people are encouraged to stay. They suggest that spaces be designed as ‘learning commons’ with all three; marketplace, moving-place and meeting place functions, and that schools should offer a range of formal and informal learning environments beyond the classroom. (Nair, Gehling, 2010, p. 5).

Current educational reform is demanding the architecture and interiors of learning environments are completely re-imagined to facilitate new teaching and learning styles. Interdisciplinary and team teaching require different types of spaces. Learning environments like these require computers,

learning landscapes, and interior systems that are designed to meet the needs of all types of students, including those with disabilities. (Taylor, 1993, p. 1). New programs in schools will also require different types of spaces, and the minimum standards will not be sufficient for arts programs, special education and science labs, to name a few. Spaces cannot exist as simply boxes or containers for furniture and activities, but should be designed with intent. Learning spaces must also begin to foster lifelong learning. Young people learn more efficiently in stimulating and varied physical environments that meet our basic human needs. (Taylor, 1991, p. 2). The learning spaces that are prevalent however do not reflect this. They are standardized and leave little room for self-expression and sense of ownership or involvement for students. There is a disconnect here, because there “cannot be separation between the learning process and the physical environment - they are integral parts of each other.” (Taylor, 1991, p. 2). Educational environments must start to value the building as part of what affects student learning, achievement and psychological needs.

#### EDUCATION FOR CITIZENSHIP AND LIFE LONG LEARNING

Education for citizenship, life long learning, the community center model and Informal learning are four priorities that have been briefly introduced as important for the future of education. These are also guiding principles for this project, each are important factors when considering the school as a social institution where experience is a key component of the learning process and the potential outcomes of students are considered in relation to their contributions to a democratic society.

“It is often claimed that the purpose of education

is to prepare people for life.”(Yelland, 2007, p. 7). Because the world is changing and societal values are shifting towards valuing knowledge, less structured worker styles, and greater impact of technology; the way education prepares people for the future also needs to adapt.

Learner-centered approaches to education stress the importance of education in “providing contexts in which students are able to acquire and practice skills in ways that help them utilize existing ideas to generate new knowledge.” (Yelland, 2007, p. 8). Students are encouraged to take concepts and their own knowledge and apply it in new ways. It is argued that this will create meaningful learning experiences for students, encouraging critical thinking skills that are vital in the knowledge age and for active participation in society. In an educational environment where experience is a priority the learning environment becomes crucial.

If the purpose of education is to teach students about society, and how to be contributing adults it is important to “ . . . provide rich settings for exploration, and for discovering things that are unanticipated by student and teacher alike . . . these are the very things that drive meaningful and romantic learning at all levels—from the early years through to the pursuits that adults engage in throughout their lives.”(Uptis, 2004. p. 25-26). Informal, unplanned learning experiences, facilitated by the environment in which students are exposed to are the types of learning experiences that people encounter throughout their lives. Teaching young people in this way establishes their ability to learn from these informal everyday experiences, equipping them with the skills they need to be engaged, life-long learners.

## THE COMMUNITY LEARNING CENTRE

The concept of the community learning centre has been introduced as a learning environment that incorporates ideas from the community centre model, learning centre, community center and community as school models. It is essentially a learning environment that is integrated into community, where all users are both learners and teachers. "The school becomes an educational broker in arranging, facilitating, guiding and monitoring learning activities beyond its walls. . . school doors swing both ways." (Jennings, 2011, p. 3) The goal of this model for education is fostering life-long learning in young people. This type of environment encourages that schools be used for multiple purposes by surrounding communities and incorporates resources for their use. "The many educative influences virtually, boundless resources in the community are orchestrated and tapped" (Jennings, 2011, p. 3) some of which include recreation centers, computer labs and libraries. Some communities have formed databases that catalogue all resources and events so that they are easily accessible to other community members. (Jennings, 2011, p. 3). This helps schools to achieve a diverse group of users and to better utilize their facilities and contributes to a broader education of all people involved. (Horwitz, 2006, p. 4). The community learning centre combines aspects of learner-centered schools and, according to Stephen Heppell, a professor at Bournemouth University in New Media Environments, are progressive, ambitious, built on community, and have the learners' voice at heart. They embrace challenges; mix ages, and value children as teachers. The buildings in which education occurs should ideally have an open architecture that supports the curriculum. (Heppell, 2010, p. 1). In these scenarios the

traditional model of education is replaced with one that acknowledges students as not just empty vessels awaiting information but as contributors to building knowledge. "The teacher's role changes from information giver to facilitator of learning experiences, clearing obstacles and barriers to learning, suggesting possibilities, helping students with personal goals, and being a friendly guide." (Jennings, 2011, p. 4).

Herman Hertzberger is a Dutch architect, author and former professor. Hertzberger has taught at universities around the world, in countries such as Denmark, Switzerland, Brazil, Israel, Japan and the United States. His work focuses on the relationship between architecture and education, and how they can simultaneously influence one another. His design philosophy is to understand and demonstrate how space can stimulate learning. He also draws parallels between the city and school and for these reasons has been informative for this project. Hertzberger believes that by forming partnerships with local facilities, the school becomes extended and begins to resemble a micro city. (Hertzberger, 2008, p. 70). The learning centre is designed in a way that allows all people to work together to learn. Teacher workstations or help desks replace classrooms and resources are more accessible, they are available for everyone. "The new school is organized more as a city, a city of learning." (Hertzberger, 2008, p. 72). There is a more fluid understanding of students as producers and consumers of information, which is impacting educational practice. (Wellner, Stein. 2000, p. 6). In this forum for education students are taught to discover information for themselves and thus prepares them for future learning opportunities in life.

## INFORMAL LEARNING

Informal learning is an important function of the school. It is important because of the socializing aspects of the school and for young people to learn about society. Frank Coffield is an author and Emeritus Professor of Education at the Institute of Education, and visiting professor at the University of Sunderland. Coffield's most recent writing critically examines learning styles and suggests that teaching and learning to be central to education. His work has had a significant impact on educational research and thinking, as well as on educators themselves. Coffield uses the analogy of an iceberg to illustrate its significance in schools. The tip of the iceberg "... above the surface of the water would be sufficient to cover formal learning, but the submerged two thirds of the structure would be needed to convey the much greater importance of informal learning." (Coffield 2000, p. 1). He illustrates here that

"... formal education and training represent only a small part of all the learning that goes on in schools."

(Coffield 2000, p. 1)

The other two thirds of learning that occurs in the school can be understood by defining informal learning, or the process of informal education.

Cezar Birzea is a professor at the University of Bucharest, in the faculty of philosophy, and holds a masters degree in education. He serves on the Education Committee of the Council of Europe, and is the President of the Council of Europe project *Education for Democratic Citizenship*. According to Birzea informal learning is "the unplanned learning that goes on in daily life and

can be received from daily experience, such as from family, friends, peer groups, the media and other influences in a person's environment" (Birz ea, 2000, p. 35). It encompasses "any ordinary event that takes place in the school environment. . ." (Birz ea, 2000, p. 45). Some examples of these events could include; situations of communication and collaboration, power struggle, confronting authority, or situations of injustice. (Birz ea, 2000, p. 45). Dohmen believes that this unplanned, frequently unconscious, informal learning is a vital part of citizenship learning. (Birz ea, 2000, p. 35). Therefore, when designing with these outcomes in mind informal learning can be useful to reinforce the schools goals and values such as life-long learning and citizenship formation. Another use could be to teach students about controversial issues including violence or cultural and religious differences. (Birz ea, 2000, p. 45).

Informal learning in the school takes place mainly in the public spaces of the school outside of the classroom, such as hallways, cafeterias, courtyards, and outdoor space. (Skiba, 2006, p. 1). By providing students with good public space in the school that have characteristics of marketplace, meeting place and moving-place it provides opportunity for social interaction, facilitating informal learning. (Nair, Gehling, 2010, p. 29). In *Life Between Classrooms*, (2010) Nair and Gehling advocate for 'learning commons' suggesting that ideally "the spaces between formal learning areas are designed specifically for the purpose of informal learning: learning from peers, learning by application, and learning a range of highly sought-after 'soft' skills that are increasingly demanded". (Nair, Gehling, 2010, p. 29). When school faculty is asked to define learning spaces they most often refer to formal learning spaces in the school, classrooms or labs for example.

However when people from Generation Z (depending on the source, born as early as 1991 or as late as 2001). (Posnick-Goodwin, 2010), the next generation of students, are asked the same question their definition is much broader, encompassing all spaces where learning can take place. (Skiba, 2006, p. 1). This is because of their relationship with technology and how it allows freedom of movement and flexibility of learning spaces. For effective learning environments to exist these distinctly different definitions need to come together so that there is a mutual understanding of learning between students and faculty, by appealing to the way in which future generations view learning the learning environment can become a better utilized space.

#### SOCIAL SPACES FOR INFORMAL LEARNING

Socializing plays an important role in psychological and social development. Informal learning encompasses social activities and the lessons that people learn from those activities. One of the schools main functions is a social institution, therefore providing spaces for social activity and development is important.

When designing for the Net generation it is important to consider their close relationship with technology. " . . . as digital natives, this generation views learning as a social and constructive activity that must be experiential, engaging, interactive, and collaborative."(Skiba, 2006, p. 1). For this group, "immediacy, connectivity, and communication are all important components of learning." (Skiba, 2006, p. 1). To support digital learning and socialization, spaces must be equipped with support for laptops, handheld PDAs, cell phones, and iPods or other personal devices to support the connection between

students to their peers and resources (Skiba, 2006, p. 1).

Because computers and digital space have become so prevalent and students spend an enormous amount of time immersed in the virtual world, the surrounding physical context can become even more important, especially social spaces. Hertzberger states that " . . . if we are able to counterbalance the in-depth individual attention on screen, the space of the surroundings has become all the more relevant, particularly as social space, if only to keep alive the reality of community." (Hertzberger, 2008, p. 69). The physical presence of others in space is one way in which community is formed; students are reliant on one another for numerous reasons, such as sources for inspiration or to act as project partners. The school should be designed for these social functions along with the curriculum. (Hertzberger, 2008, p. 70).

#### DESIGNING ENVIRONMENTS THAT REFLECT UNDERLYING ISSUES

For a different mode of learning and a new model for learning environments, "what is needed is an environment that stimulates and incites learning by asking questions, a climate that provokes exchange and confrontation, intellectuality, culturally and politically." (Hertzberger, 2008, p. 70). If the school is able to create a climate that fosters open discussion, debate and acceptance, students will be able to explore their social nature, become critical thinkers, and will likely become participating members of society.

"The main thing [in learning environments] is to make the greatest imaginable number of workspaces and make them as differentiated as possible. That

will give you a building equipped throughout for education, that is, in the wider sense of learning.” (Hertzberger, 2008, p. 42). This includes informal learning spaces and social spaces of the school, to create the opportunity for a well-rounded experience in the school. Spaces that have, in the past, been considered ‘leftover’ or unwanted, such as nooks and corners, become important opportunities for providing affordances, or the spatial conditions for these opportunities. To maintain a balance between formal and informal space in the school it “... calls for an articulated space where all opposition between net [formal learning space], useful and additional, servant space dissolves and the notion of circulation space is irrelevant.” (Hertzberger, 2008, 79).

“When study goes beyond the limits of so-called compulsory subject matter to become more, if not all-embracing, learning is no longer restricted by the classroom walls but will claim the entire space of the building.”

(Hertzberger, 2008, p. 70)

I would argue that this also allows learning to go beyond the school building, to the exterior space, landscape, community and the city.

Herman Hertzberger advocates for a ‘de-schooling’ of the learning environment as a way of de-institutionalizing schools. To Hertzberger, this implies that the environments are responsive to people and students, allowing students to make choices about how to use the space. . “As time goes by, we see the school building changing from an educational institute to a house of learning and, at the same time, a Learning City.” (Hertzberger, 2008, p. 72). In this case the

designer must consider flexibility for how people will use and adapt the space over time, and allow for them to play a role in making decisions over what the spaces are used for or how they are used. People ultimately decide what will happen over time in space as they use it, much the same as how people adapt and appropriate space of the city. (Hertzberger, 2008, p. 72). This new form of learning environment has both domestic and urban qualities in the interiors.

I have begun to allude to the fact the city can be seen as a model for how the learning centre can embed citizenship formation, life long learning and informal learning into the design of the learning environment. The next section will explore the city as a model or precedent for the design of the school.

“We shall have to abandon the traditional school building and take our inspiration for the city, as this too consists, if at a greater scale, of a changing pattern of qualities and variety of places more or less separated physically but without forfeiting their connections.”

(Hertzberger, 2008, 81)

The city is a model for how it communicates and encourages democratic activities, is stimulating and can contribute to personal wellbeing.

# DESIGN IMPLICATIONS

CONCEPT	THEORIST	OVERVIEW	DESIGN CONSIDERATIONS
SHIFT IN EDUCATIONAL VALUES	John Dewey	Education should be a social and participatory activity	<p>Provide contexts that allow for social interactions and activities</p> <p>The learning environment should have both timeless characteristics as well as new and changing ones</p>
	Anne Taylor	Environments should be designed to directly correspond to the activities taking place within them	<p>Provide rich and stimulating settings for exploration and discovery</p> <p>look to educational priorities and values to create spaces for learning</p> <p>Allow for control or manipulation over the environment to encourage student empowerment</p> <p>Provide the necessary resources in space for interdisciplinary and team teaching</p> <p>Provide stimulating and varied physical environments that meet our basic human needs</p>
	Parkish Nair, Annalise Gehling	The learning environment should be designed with educational values in mind	<p>User needs should be the priority, design for human scale</p> <p>Corridors should be designed as 'learning commons' and have qualities of marketplace, places, moving-places, and meeting place</p> <p>Provide a range of formal and informal learning environments beyond the classroom</p>

Table 3. Design Recommendations from 'Shifting Values in Education'

# PUBLIC SPACE + PEOPLE FRIENDLY PLACES

Public spaces are often city spaces in which social connections are made; they are forums for civic activity and in theory open to all. Good city spaces are inviting, encourage people to stay and allow for a variety of activity to occur. If public spaces support the activity of people, by appealing to the human dimension and sensitivity to human nature, as well as individuals physical and psychological needs then people will become engaged with that place and feel a connection to it.

Public space is the physical domain of the public realm. The public realm can be understood as the arena for public action, debate, deliberation and interaction. Public space of the city is meant to encourage democratic action. It is a venue for people to interact and socialize, and where community is formed. Public space can be defined as “the common ground where people carry out the functional and ritual activities that bind a community . . . public space should be supportive, democratic and meaningful” (Carr, 1991, p. xi). Public space can therefore be seen as essential to communities and social activity.

“the sphere of public action essential to democratic citizenship. It is the realm in which citizens engage in collective deliberation and in joint action on behalf of the public good.”

(Goodsell, 2003, p. 361)

The concept of the public realm is necessary for open discussion and providing an impartial, accepting, and democratic space, all of which are goals for the learning environment.

The concept of public space and the public realm give the impression that public spaces are inherently open. Some examples in an urban context include public squares, parks and plazas, places that act as natural meeting grounds for citizens. They are arenas for democratic action. Karen Malone draws a distinction between ‘open’ and ‘enclosed’ spaces, which is interesting to consider when discussing how viable public space can be created within a school. She feels that ‘open space’ makes young people feel comfortable because it is accepting of diversity where as ‘enclosed space’ can make them feel out of place because of conformity and regulation. (Abbott-Chapman, Robertson, 2009, p. 421). This distinction suggests that open public spaces – public squares, or even fluid spaces – public streets, are important to youth and should be present in a school environment. The founding principle of democracy, in its most simplified form is equality. Democracy is founded on the idea that all people belong to a collective society where no one is privileged over another. Good public space is not only inclusive but also encourages freedom of thought and expression while promoting citizenship among people.

Frederick Law Olmsted, (1822-1903) was a writer, social critic, engineer and landscape architect. Olmsted is considered the pioneer of Landscape Architecture and designed many notable projects including; the U.S. Capitol grounds, Central Park, the Buffalo and Boston park systems and the Columbian Exposition fair grounds. He advocated for outdoor space and parks by drawing attention to their moral importance both politically and philosophically. Supporting his assertions with the impacts outdoor spaces make on health, and the social and civic implications of democratic outdoor space. For Olmsted, public parks represent these ideas, he believes that parks should “include democratic ideals, good citizenship, [and] civic responsibilities . . .” (Banerjee, 2001, p. 10.). In short public places should act as democratic spaces. Idealized visions of democratic society suggest that these are the primary functions of public space however this may not be the reality in many places.

Although public space has the ability to perform these positive social and civic functions, this is not always the case. The private sphere has claimed many public spaces, creating pseudo public space and constricting their intended uses.

Margaret Crawford, a Professor of Architecture at The University of California, Berkeley for the College of Environmental Design specializes in the history of architecture and urbanism, as well as urban theory and design. Her research focuses on the progression, uses, and meanings of urban public space. Crawford uses the term ‘narrative of loss’ to describe “an overall decline of the public realm and public space” (Banerjee, 2001, p. 12.). It encompasses a loss of public space and public life as well as civil society. This ‘narrative of loss’ can in part be attributed to the privatization

of public life. It suggests that public spaces no longer embody the freedom associated with them. Privatization has caused pseudo-public spaces to emerge; these are spaces that appear to be public but are actually vested with private interests. (Banerjee, 2001, p. 12). These spaces are problematic because of the confusion created by them. People are lead to believe that some of the ‘anti-democratic’ characteristics of psudo-public spaces are actually democratic. These spaces compromise the position of public space as part of the public realm. This is significant for educational spaces because information conveyed to students thought the building can influence their conceptions of democracy, equality and public realm. Pseudo public spaces convey social processes and practices that are politically driven and are not representative of the democratic principals schools are attempting to teach students.

Despite the privatization of the public realm there are valuable lessons to be learned from good city spaces that are open and impartial. The following section looks at pubic spaces in more detail to understand their qualities, and to see how the ideals imbedded in public space can be carried over to the interior of a learning environment.

# STREETLIFE AND SOCIAL FUNCTIONS OF THE CITY

If public space supports human needs, both physically and psychologically, then people are content and likely to stay. Lively city spaces are spaces that people want to be and that bring people together by supporting our human needs. Arguably the main function of public space is to provide opportunities for meeting people and being with others. Street life is the activity and interaction of people in public, it is the activity of people interacting with one another, mainly for social purposes. City space, or public space's main function is as a social space, good city space facilitates social activities and therefore street life is present. Street life, is a key term for this project, it can be understood as the activity that occurs in the public space of the city, or as the activity between buildings.

Jan Gehl is an Architect, an author and a Professor of Urban Design at the School of Architecture in Copenhagen who has been extremely influential for this project. His approach to design is humanistic and prioritizes people, their experience in space and lastly the buildings that house them. He "believ[e]s passionately in the importance of citizenship and the liveliness and humanity it

stimulates" (Rogers, 2000, p.6). Some of his most significant publications include; *Life Between Buildings*, *Cities for People*, and *New City Spaces*, all of which have guided ideas for this project.

In the book *Life Between Buildings: Using Public Space* (2010), Gehl provides insight to the factors affecting street life, or as he calls it, the 'life between buildings'. The most significant attribute of the spaces in which street life occurs is the interdependence of space and the people using it. The idea of street life is used for this project as a bridge between the city and the school, and informs the design of the schools, which are essentially the streets or public spaces of the school. These become important places in the learning environment because according to Rob White the street "represents for many young people a place to express themselves without close parental or 'adult' control . . . It is also a sphere or domain where things happen, where there are people to see and where one can be seen by others. In short, for many young people the street is an important site for social activity." (Malone, 2002, p. 162). Because of this it is also an area for informal learning. The concept of

*schools* will be discussed in more detail later.

"The city is a network of links between people and organizations of an unparalleled intensity, a brain as it were with a collective memory and with a singularity and a personality of its own whose qualities are strengthened over time."

(Hertzberger, 2008, 205)

The school has the same qualities on a smaller scale. One of the main parallels between the city and the school is their social character, the connections made between people in public spaces are an important part of what defines that space. To understand how the city establishes and maintains this network and the links between people so that the same concepts can be applied to the school it is important to analyze the all activity. Public spaces rely on people to activate them, they can be defined by three sets of major activities that take place within in them; (1) necessary activities, (2) optional



activities and (3) social activities. (Gehl, 2010a, p. 9). The Necessary activities will occur year round regardless of the condition of street life. An example of this would be traveling to school. Optional activities however are dependant on environment, they take place when the space lends itself to them and the conditions are favorable, these activities are typically recreational, (Gehl, 2010a, p. 11) an example would be sitting and reading. Social activities are also dependant on the surrounding environment, but more importantly, the presence of people, which in turn is dependant on environment. Social activities occur spontaneously, when you are able to see and hear others (Gehl, 2010a, p. 12) and include playing, conversation and communal activities. It is these optional and social activities that create lively street life and in the context of the school maximum opportunity for informal learning to take place. Jan Gehl believes that all forms of interaction and activities interweave to form a communal network. The life between buildings, or street life, is not just pedestrian traffic, or recreational activities occurring in a space, it is the culmination of all activities intersecting that from meaningful and attractive public space. (Gehl, 2010a, p. 14) He emphasizes the interrelationship between street quality and street activity, and recognizes the significance of social activities on the quality of public space, and the presence of street life. (Gehl, 2010a, p. 34) All of which are enhanced over time, as spaces are adapted to best suit their purpose.

For Gehl, space is simply the facilitator for social interaction. If space is inviting and designed with people in mind then street life will occur. He believes that to do this best there must be layers of contact between people. There are different interactions that occur between close friends for example and acquaintances. These

different relationships require different levels of contact. The presence of others and the feeling of contact, however close or distant, is part of what creates vibrant space where people feel connected. Varying levels of contact are important, for example, low levels of contact, that you would experience with strangers are important because it creates opportunity for unpredictable, spontaneous situations that can lead to greater contact or interaction. (Gehl, 2010a, p.19). Where activity between buildings is not present, the lower levels of contact between people disappears, "the varied transitional forms between being alone and being together have disappeared. The boundaries between isolation and contact become sharper – people are either alone or else with others on a relatively demanding and exacting level."(Gehl, 2010a, p.17). In a school environment this is undesirable because a combination of low and high levels of contact can allow for supervision and sense of community to be casually maintained, contact between students and teachers can occur in a natural way. "The possibility of meeting neighbors and co-workers often in connection with daily comings and goings implies a valuable opportunity to establish and later maintain acquaintances in a relaxed and undemanding way."(Gehl, 2010a, p.19). In the school this could mean creating a relaxed atmosphere where people are treated equally with respect, and there is less of a dichotomy between students and teachers.

The ability to simply see and hear others in public or in buildings offers " valuable information, about the surrounding social environment in general and about the people one lives or works with in particular."(Gehl, 2010a, p. 21). The ability to see and hear others contributes to safety, the feeling of community and for the social development of children and young people, it

is important because much of their development is based on observations of their surrounding social environment. (Gehl, 2010a, p.21.). Spatial communication can teach young people about social norms, expectations and behaviours. The environment also communicates values of the institution or city, and should therefore embody the meaning it wishes to instill in students and community.

Allowing people contact with their surroundings and other people also encourages interaction and engagement, people tend to prefer being with others, or in proximity of others. "Whenever there are people – in buildings, in neighborhoods, in city centers, in recreational areas, and so on – it is generally true that people and human activity attract other people. They gather with and move about with others and seek to place themselves near others. New activities begin in the vicinity of events that are already in progress."(Gehl, 2010a, p. 23). The space alone cannot make social interaction happen, only provide contexts in which it may occur. The design or building is seen as a facilitator.

"We are inspired by seeing others in action. Children, for example, see other children at play and get the urge to join in, or they get ideas for new games by watching other children or adults."

(Gehl, 2010a, p.21)

If the environment is stimulating and students see other students engaged in working for example, they might be inclined to join, or to do the same. When people are circulating around one another the environment is ever-changing as is the stimuli in that space. Changing environments and dynamic

lively spaces in cities provide opportunity for engagement and interaction, the same could be done in the school, lively environments are rich because they are always stimulating.

Schools are typically designed for only necessary activities, with function and efficiency as the primary concern as illustrated by the factory model of education and school design that corresponds to it. The goal of this project is to reevaluate this method of design and integrate space that encourages social and optional activities. "[W]e expect schools to prepare children for living in a democratic society, yet we provide a learning environment that resembles a police state, hard, overly durable architecture, giant chain-link fences . . . [s]uch architecture fails to encourage a sense of ownership, participation, or responsibility." (Taylor, 1993, p. 37). By designing for all three; necessary activities, optional activities and social activities, the school can function for a number of social activities rarely supported within the school building or grounds. This is also an important consideration when designing for informal learning, which requires space to provide opportunity for spontaneous activity and social interaction, encouraging positive associations with the school and allowing students to take a more active role in their school experience and diversify their learning experiences.

## MAKEUP OF THE CITY – MARKETPLACE, MEETING PLACE, MOVING-PLACE

The way in which good public space is formed, that is, lively public space that encourages social interaction, is through its diversity and the intersection of people, activities and functions.

"High quality public space, the 'space between buildings', is extremely important for encouraging positive social behaviours, and this is increasingly recognized in the designs of towns and cities. School campuses need to also consider their own public space – indoor and outdoor – and work to ensure it is productive, safe and inviting." (Nair, Gehling, 2010, p. 32). Jan Gehl identifies marketplace, meeting place and moving-place as the key traditional elements that are present in all great public spaces of the city that are essential to street life. (Gehl, Gemzøe, 2000, p. 10). They contribute to the social functions of space, the traffic function of space and also provide prospect for spontaneous uses. With a combination of these elements spaces foster all three necessary, optional and social activities.

As meeting places, public spaces facilitate the exchange of information, social interaction and a venue for events. Public space in the city acts as a marketplace where the exchange of goods and services take place. And lastly, public spaces function as a thoroughfare, giving people access to the marketplace and meeting places, and providing connection to the different parts of the city. (Gehl, Gemzøe, 2000, p. 10 -13). In a learning environment they provide "useful indicators of a space's effectiveness at supporting a wide range of formal and informal learning activities for teachers and students, and indeed supporting life between classrooms." (Nair, Gehling, 2010, p. 32). These features of lively public space will guide the design of the public spaces of the learning environments, the schoolsapes, they will assist in understanding the main functions, and how they might intersect or interact in the school.

## PRIVATIZATION OF PUBLIC SPACE

It is important to understand that while the positive aspects of public space are being focused on for this project, there are factors that negatively affect the role that public space plays in society, and these have not been overlooked. Privatization of the public realm has significantly impacted the notion of freedom within public spaces. Privatization brings with it a number of other issues including, alienation, exclusion, power and economics to name a few. Particularly in newer city spaces there has been a tendency to overlook human factors within the city. "The sphere of private life ought to be enclosed, and have a finite, or finished, aspect. Public space, by contrast, ought to be an opening outwards. What we see happening is just the opposite." (Lefebvre, 1991, p. 147). The privatization of public spaces has led to the decline of the public realm and public space has consequently been invaded and eroded.

## EXCLUSION OF YOUNG PEOPLE IN PUBLIC SPACE

Young adults experience and use of space is often contested by private ownership. Someone or some organization owns most places, even the public space of the city. The notion of private space limits young adults uses of it, they constantly inhabit places of others. Ownership of space inhibits young adults from 'legitimately' staking claim to spaces and places. Young adults could even be considered modern nomads, both mobile and transient in the city. (Karsten, Pel, 2000, p.338) (Childress, 2004, p.195-96).

“Urban public space is contested within ‘geographies of power,’ in which youth values and culture are seen as a problem that has to be regulated.”

(Abbott-Chapam, Robertson, 2009, p. 421)

Young adults are regulated and subject to surveillance in the city, home and school. They are often excluded from spaces and positioned by society as intruders, “young people’s use of streets as a space for expressing their own culture is misunderstood by many adults.” (Malone, 2002, p. 157). Mistaken instead for destructive threatening or inappropriate behaviour. The places they appropriate in the city allow them some reprieve from this control. “Young people being refused access to commercial premises on the basis that they are likely to behave irresponsibly and be disruptive.” In some places police have gone to extreme measures to regulate young people by implementing curfews. This is an example of “discriminatory practices and an infringement of children’s civil rights.” (Malone, 2002, p. 164). When public space exerts power over young people and is regulated it is no longer has an open character, where young people can participate in street life and define how they will interact with it. (Malone, 2002, p. 162).

Public space and the street are important sites for constructing youth culture and social identity. (Malone, 2002, p. 157-158). Young people are able to construct social identity in relation to their peers and community as a whole. The city allows young people to explore and occupy spaces that are not the spaces of ‘others’, parents, teachers, and business owners for example. Youth have very few places that allow them to be in control. Informal public space, therefore, is important for

young people, by using the city as a precedent for the school the goal is to provide students with places of their own within the school and for them to be able to exert some control over that space and construct their own culture and identity. Spaces where informal learning can take place without strict regulation and control are important. How young adults define their own places and identities in the city may be used to inform spaces in the school that the students have control over and can transform to meet their needs. Providing a sense of belonging and ownership.

#### SEGREGATION THROUGH YOUTH SPECIFIC SPACES

One of the ways in which society has attempted to mediate youth experience in space is through the design of ‘youth specific’ spaces. Youth specific spaces are often found on the periphery of cities and in less attractive places of the city. One of the problems with this is that they become undesirable places for some groups of young people, especially young women. (Malone, 2002, p. 165). Other issues with these out of the way places are, the lack of transportation, issues related to safety and security, and feelings of exclusion. “Many conflicts arise over the ownership and the competing interests of groups of young people in these generic “youth” sites. Who owns the space? Who makes up the rules? In summary, youth-specific spaces tend not to provide the positive physical and social qualities that young people are looking for in public space, that is, social integration, safety and freedom of movement.” (Malone, 2002, p. 165). Youth look for the same qualities of space that all people desire, lively city spaces where street life occurs. They desire connection to their surroundings and to others in space, and the opportunity for social interaction.

“The use of youth-specific spaces [however,] reinforces the position of youth as a problematic group, and justifies the need for them to be dealt with separately from other members of society.”

(Malone, 2002, 165)

An attempt to place young people in spaces out of sight, and out of mind, fails to address the need for young people to be engaged in public space. These spaces do not provide them with the opportunity to participate in a broader shared community, youth in this case continue to be marginalized and excluded from the ‘life between buildings’ in their cities. “The vibrancy of community public space provides young people with a variety of important elements, including an opportunity to observe and engage in the development of the social and cultural capital of their communities, to learn skills of social negotiation and conflict resolution, to try out new social identities and for there to be the safety and security necessary to do all these things.” (Malone, 2002, p. 165).

True public space needs to exist in the city; youth space is not an appropriate solution to the exclusion of youth in the city. Creating a Community Learning Centre is a way of achieving this. Students have the opportunity to engage in community and form meaningful relationships and experiences in an open, nonthreatening environment. This is beneficial not only for the young people but also for the other members of society they interact with.

## THE LEARNING CITY

For a city to become a positive part of the learning landscape, that is, part of the environment that contributes to learning, it must have attributes of street life, of the lively city, and should be open and public in the truest sense.

The concept of the Learning City was developed by Herman Hertzberger, and is a city that is suitable for children and young people, a space that allows them freedom of movement, safety and security and is inclusive. If the city is unsuitable for children and young people it brings into question if the city is suitable for anyone.

**“The learning city makes no distinction between children [young people] and grown-ups.”**

(Hertzberger, 2008, p. 235)

The learning city is also one in which the environment is engaging and provides opportunity for diverse experiences that contribute to learning. “If we want a city that opens our eyes and contributes to developing and activating people instead of staking everything on meek, smooth-running, settled life we had better take young people and their needs as a yardstick for public space. The city for children is a better departure-point for the city for everyone.”(Hertzberger, 2008, p. 235).

“ It [The learning city] is not just about purchasing power and consumer activity, but more the contribution public space makes to our development and to an understanding of the world and of each others motives and actions.” (Hertzberger, 2008, p. 235-236). It is a contributor to informal learning, how young people develop

an understanding of the world around them, and how social relationships are understood and formed are inseparable from the city. The Learning City stimulates learning by providing rich contexts in which informal learning takes place.

**“A city is a Learning City when it arouses our curiosity, draws us in, a place where discoveries are to be made, that invites associations, stimulates thinking.”**

(Hertzberger, 2008, p. 235)

The city is also the place where all people have the ability to continue to learn throughout their lives. All people, not just young people, learn from experience and interaction. Learning for life, or life long learning “dislodges learning from the limitations of a fixed school curriculum for a particular age group. This elevates mental development to a universal theme, the daily practice we all deal with constantly, regardless of age.” (Hertzberger, 2008, p. 236). By creating a Learning City or Learning Landscape that extends out from the school it invites different forms of learning to occur, and prepares for life long learning in the future.

The Learning City is part of what is encompassed by Taylor and Nair’s notions of the city and school as a three-dimensional textbook, or an environment that can be used to aid in learning. They suggest that physical features of the environment can illustrate concepts and teach people in a hands-on manner, problem solving skills and other ‘hard’ skills. The implications of how space affects learning also suggest that the environment can teach about society and convey meaning. Spaces convey meaning through culturally recognized and accepted signs and symbols, the architecture of the city contributes to the way in which people

perceive society and in turn affects how they behave, interact and respond to space. The Learning City therefore conveys information about public space and society to the people who use it, spatial communication is an important aspect of informal learning.

The environment is especially important to young peoples experience and learning because they absorb so much information. Hertzberger compares learning to drinking and eating, we all do it only children and young people are often greedy, they take in more, to develop their understanding of the world. (Hertzberger, 2008, p. 235). This requires a varied, stimulating environment.

Hertzberger believes that a city and street become instructive when they have a connection to their past, to their current situation and highlights its positive features. “We can regard the city as a large school in which is embedded all the knowledge and understanding that has made a community . . .” (Hertzberger, 2008, p. 236). He believes anyone “should be able to read its [a site or spaces] history past and present and the achievements and values that obtain there now or have done in the past, nothing their presence, becoming aware of them, familiarizing yourself with them. It concerns the widest imaginable range of potentials, experiences, associations and social contacts”. (Hertzberger, 2008, p. 237). For the chosen site the history and tradition are essential to the character of the neighborhood. The notion of the Community Learning Centre embodies current practice and values in education and the Learning Centre’s flexibility, connection to community and the city communicate the intentions for the future.



# PUBLIC SPACE IN SCHOOLS

## FUNCTIONALISM + MODERNISM

Unfortunately many city spaces are not representative of the learning city and the school buildings in use are equally poor in their ability to support people. It has been discussed that the majority of school buildings in use today are outdated and built in the 1950's and 1960's. At this time the factory model of teaching delivery was prevalent, and the architecture of the city and schools from this period is generally representative of the modernist movement and of functionalist principals. The values of this period are expressed though both the factory model for teaching and functionalist architecture.

Traditionally cities emerged because there were people present and where they came together for meeting, moving and exchange or marketplace functions the city formed. Perhaps the most important aspect of their formation was pedestrian traffic. (Gehl, Gemzoe, 2001, p. 117). Cities developed in relation to people. "The scale of these cities, the dimensions of the streets, the distribution of uses along streets and squares, the scale and detail of buildings are in

harmony with human proportions and opportunities for movement, and they support the comings and goings of pedestrians very directly." (Gehl, Gemzoe, 2001, p. 117-118). In North America and other industrialized nations, the 20th century marked a change in the development of cities. City planning particularly after the Second World War was informed by modernism, the advent of the car, and a priority of efficiency and functionalism altered the city; it began to embody new societal priorities and values. "New patterns of traffic, trade and communication were so radical that they interrupted centuries of tradition as to how people used the city." (Gehl, Gemzoe, 2001, p. 116). The use of city space was drastically altered; the marketplace and meeting place functions of the city were almost completely eradicated. The marketplace function of the city became privatized and "quite literally, the market was taken from the public arena and moved to the private sphere." (Gehl, Gemzoe, 2001, p. 116). Long city blocks, blank facades and large scale of buildings created streets and city spaces unfit for lively street life and human activity to occur. The traditional functions of the street were privatized and brought inside, drive-in stores, the 'underground city', and

shopping arcades, are all examples of how the life in public space was privatized and removed from context. (Gehl, Gemzoe, 2001, p. 119).

"The politicization of the streets as a key component of the 'experience of modernity', as the public domain became subject to increasing regulation and control."

(Malone, 2002, p. 159)

The language of the city was altered, as was the experience of the city. Modernist ideas transformed what the city meant to people, and how it was to be used. Public space reflected a broader shift in societal values and no longer exuded a feeling of openness, freedom and sites for social interaction.

It has been stated that the main function of the learning environment is to support the learning going on within it, but what this means is dependant on what model of teaching and learning is valued. The school may be considered "A: a place to learn how well everything works so that you can later join in and help it along: [or] B: a place to learn to think for yourself so that you can

form your own opinion of society". (Hertzberger, 2008, p. 203). The first definition is supported by the factory model for education and functionalism, where norms and standards are upheld, the second however, implies a school that encourages thoughtful and critical thinking and is in alignment with the Community Learning Centre values.

In the context of the learning environment modernism and functionalism's reduction of people to simply producers and consumers, translated to the notion that students were 'empty vessels' awaiting information. Delivery of information was direct and concerned only with factual content retention. "It was a factory model, in much the same way as the modernists saw the city as one big money-making factory." (Nair, Gehling, 2010, p. 27). Another parallel between the modernist city and the factory model school is the treatment of circulation space and emphasis on efficiency. In the same way modernist city planners tended to build with cars in mind, instead of people, school design built with functionalism as the priority are built around classroom activity and not individuals needs. Corridors were used as the connection between classrooms, designed for maximum efficiency and minimal social interaction. In the same way the modernist city discouraged people from walking and socializing on the streets, the corridors of the modernist school exuded a no loitering policy and discouraged any activity beyond traveling from place to place. The 'cells and bells' model for school design minimizes any other functions of the learning environment other than formal learning and circulation. It disregards students individual needs in space and assumes all students will be engaged in the same activity at all times and require the same resources. (Nair, Gehling, 2010, p. 27 ).

"Good public space can be understood as

social space, the space of the street in the city, public space without the social function can be deemed 'public void' without any meaningful purpose." (Hertzberger, 2008, p. 206). The public voids unfortunately are the spaces that are prevalent in the modernized city and school. "At school the emphasis [should be] on social space, an open and clearly organized system where all the attributes of learning and thinking are readily accessible. So the school could well be illustrative of another type of public space than those of today's cities, eroded as they are by feelings of aloofness and inhospitality." (Hertzberger, 2008, p. 128). Modernist cities, and functionalist schools are lacking because they are devoid of good public space, despite the fact that people inherently seek it out, and require it for a positive experience. (Hertzberger, 2008, p. 206).

"The good news is that in the same way that cities are now being designed to enhance and build social capital, schools are also being designed around these acknowledgements of our human nature."

(Nair, Gehling, 2010, p. 28)

## MARKETPLACE, MEETING PLACE, MOVING-PLACE PUBLIC SPACES' PRESENCE IN THE SCHOOL

As previously mentioned Jan Ghel has identified three features of good public space that can provide the foundation for the design of the informal learning spaces in the learning centre; marketplace, meeting place and moving-place. To avoid recreating strictly functionalist spaces in the Learning Centre, the concept of marketplace,

meeting place and moving place in the city will be used as a guide to creating lively spaces between classrooms, or *schoolscapes*, within the Community Learning Centre.

Marketplace has been defined as space where people, ideas and perspectives intersect. Spaces where people come together for multiple purposes, where transactions or performance might occur. In a learning environment this might be conceived as learning studios, lecture theatres, libraries, cafes or specialist facilities. For this project the marketplace is used to inform the learning centre; a central space that acts as a home base for students and community members, a space for multiple activities and interactions.

A meeting place has been defined simply as a place where people come together. In the city meeting places are formed when the spaces encourage people to sit and stay, where social and optional activities are encouraged. Public spaces encourage these activities by providing sheltered spaces and soft edges, with furnishings and other elements to lean on or gather around. In the Community learning Centre this requires a variety of spaces, contexts and seating for people to interact with one another. Soft edges in the learning environment could be created through the implementation of window seats, booths, floor cushions, ledges or steps. The resource centre in this project has been informed by the notion of a meeting place.

Moving places are just that, places where people are encouraged to move and circulate. In the city moving places have destinations at both ends, as well as along routes to maintain movement. In the Community Learning Centre the moving places are interpreted as the *schoolscapes*, or learning streets. They provide access to a number

of different spaces and act as circulation routes thought the interior of the building. (Nair, Gehling, 2010, p.27). The *schoolscapes* however are more than simply moving places; they combine elements of meeting place and marketplace to enrich their character and use. With this approach circulation routes can be used as a starting point to build up other marketplaces and meeting places around. (Nair, Gehling, 2010, p. 30)

## SCHOOLSCAPES AND LEARNING STREETS

Walking, moving and circulating are necessary activities, in the city and in the learning environment. They also can be seen as social activities, seeing people, objects and spaces are all part of the experience of walking, and it can lead to other social activities such as sitting, standing, talking, or even dancing. "It is important to note that most of the attractive recreational and social activities associated with walking, [are] is depending on a good quality of the physical environment . . . Walking is the key to city quality." (Gehl, Gemzoe, 2001, p. abstract).

Walking is the means by which students move through spaces in the school. How they experience moving places will depend on their actions and interactions in those spaces and walking is key to the quality of the learning environment. The concept of *schoolscapes* implies that moving places are designed to encourage a multitude of activities and experiences. The concept of *schoolscapes* is derived from the notion of streetscapes, which have been discussed as lively public space, and combines these ideas with those behind learning streets. In learning streets "what were once straightforward circulation passages are transformed into a true learning

area where you can walk as well as work and where passers-by my get drawn to the workers without disturbing them. It is the spatial qualities more than anything else that determine whether you feel at home or lost and whether you are encouraged to further the world you find yourself in." (Hertzberger, 2008, p. 114). Essentially learning streets are enhanced moving spaces where learning is extended beyond the classroom and into all areas of the building. The circulation space acts as a multipurpose space that can be utilized for many different forms of teaching and learning as well as social interactions. Within the school learning streets translate into moving spaces that encourage learning to occur in an informal way. The concept of learning streets address the importance of walking as social activity and recognizes the role of informal learning, which is supported by the environments ability to impact learning and its role in encouraging activity on the street. "In the learning street [or *schoolscapes*] there is room for exhibitions, presentations, performances, computer stations, corners for playing chess and draughts, table tennis tables, places for video instruction, pets care and observation posts, retail facilities. In fact all enterprises where the whole school is to be involved take place in the central area beyond the classrooms." (Hertzberger, 2008, p. 124-126). The learning streets are where all elements of the learning centre come together and intersect. They also encompass the idea of the public square, where the streets meet there is a centralized hub of activity, this is referred to as the 'learning centre' for this project, where communal activities take place and students and community come together. "Schools need both streets and squares. There has to be a square like space where all pupils and teachers and often parents can gather for special events, but there must also be street-like 'intersections' where all daily activities that are to be visible to everyone at all times are

to be located." (Hertzberger, 2008, p. 132). The learning centre, like the public square is something you make your way into, via 'streets', where people converge and meet. The market space is a key component of the learning centre and public square in the Community Learning Centre.

One of the main functions of the *schoolscapes* is providing connection between parts of the Community Learning Centre. It creates cohesion and makes sense of the building and spaces as an entire unit. The Community Learning Centre is comprised of many unique smaller components. Because of this it is essential that the *schoolscapes* act as a link between spaces and allows all of the parts to come together. "[S]o that they are experienced as a coherent whole, comparable with neighborhoods and urban quarters tied together by arterial roads and constituting an entity accessible to all." (Hertzberger, 2008, p. 123). The space needs to be connected, physically and visually to avoid disconnect in the design and create spaces that are easy to navigate. The street is what brings elements of the Community Learning Centre together; it is what creates the connection and the cohesion between different parts with different character. Some of the suggested ways of achieving this through design are; tying building levels together visually for continuity between space, maximizing daylight and creating more street-like spaces. Visual connection also limits horizontal separation of the building. Creating volumes that punctuate through the building to create a network of spaces through the circulation. And lastly by making mobility visible, movement of people becomes a focal point. (Hertzberger, 2008, p. 124).

Through this design approach the central elements of the learning environment become the public squares and streets, the classroom space almost



become secondary to the circulation, and they are secondary to the informal learning space. "If classrooms are relatively static as home bases, the space beyond them has developed from the traditional corridor into something like an educational shopping street, and environment for learning in the widest sense of the world – a learning street." (Hertzberger, 2008, p. 124). By providing visual, connection between people and enhancing the feeling of being with others, and forming different level of contact between all members of the school, ideas taken from aspects of good city spaces, the *schoolscapes* play an important role in defining and conveying the character of the learning environment and also define the social relations occurring within.

"Every educational building calls for a spatial order that works as a structure of streets and squares together forming a small city where everything is geared to the greatest possible number of social contacts, confrontations, meetings, adventures and discoveries."

(Hertzberger, 2008, 123)

With these priorities in mind space not only articulates where functions happen, but is more concerned with how to strengthen and stimulate social relationships through spatial contexts. The *schoolscapes* act as places for interaction between people, like in the cities public spaces; the *schoolscapes* are where the social character of the community is formed. The messages conveyed to students in the *schoolscapes* are those of acceptance, tolerance and freedom. Unlike classrooms that traditionally have a predetermined mode of teaching, activities and corresponding behaviours, and corridors that heard students from place to place again

dictating movement, activities and behaviours, the *schoolscapes* provide "subtle cues offering an invitation to learn, each of them contributing to its marketplace/thoroughfare/meeting place qualities" (Nair, Gehling, 2010, p. 29). They allow students to explore and engage with one another, forming social relationships, and allowing them to discover about themselves and others in an informal way.

The 'learning street' is a new paradigm in education that has been discussed in relationship to the learning city and the environment as a three dimensional textbook. Where the city provides an additional setting for informal learning to take place. This stream of thought broadens the learning environment to encompass spaces of the city, "the territory of the school extends to local facilities and the neighborhood." (Hertzberger, 2008, p. 204). The learning city teaches people about society and social aspects of life. The *schoolscapes* are social, informal spaces that provide some of the same functions as the learning city, allowing for exploration, socializing and interaction with community. The design of buildings acts as "... a catalyst for contact and exchange. Architecture influences the way we deal with each other, and the design of a school can therefore influence relational skills." (Hertzberger, 2008, p. 118).

It has been argued that "the very act of designing a school requires renouncing the aesthetic we are familiar with and forces architects to shift the emphasis to another aesthetic, such as that of the city, where there always seems to be room for deviation, change and the unexpected. Indeed, variety in input is seen as a positive quality in a city and serves to confirm its spatial structure." (Hertzberger, 2008, p. 72). The *schoolscapes* provide opportunity for spontaneous use. They allow for flexibility in community use and teaching

styles. They allow the learning environment to adapt to the inevitable changes in student, community and teaching needs, and technology. Just like the city the school interior is never static, it cannot be designed as a fine art form never to be interacted with. People impact the space and appropriate it for their own uses.

# DESIGN IMPLICATIONS

CONCEPT	THEORIST	IDEA	OVERVIEW	DESIGN CONSIDERATIONS
THE CITY AS A MODEL FOR THE COMMUNITY LEARNING CENTRE	Prakash Nair and Annalise Gehling	Marketplace meeting place and moving place in the school	School designs importance in education, the environments contribution to learning (3D textbook) and design informed by the city and streets	<p>Provide a positive platform that allows young people to engage with the wider community</p> <p>Identify main circulation and build up 'marketplace' and 'meeting place' functions around them</p> <p>Address individual needs simultaneously by providing multiple contexts for learning</p> <p>Use physical features of the environment as teaching tools to illustrate concepts and teach in a hands-on manner</p>
	Herman Hertzberger	The Learning City, Learning Streets, <i>Schoolscapes</i>	Schools act as micro cities. And schools can use the city as a macro school	<p>Provide many unique areas for different types of work and activity</p> <p>Space must be more than a moving place. It should enhance social activity and interaction</p> <p>Provide rich contexts and varied stimulating environments for layers of activity in space</p> <p>Provide visual connection between levels</p> <p>Create projections through the building</p> <p>Make mobility visible</p> <p><i>Schoolscapes</i> should act as the unifying feature of the building</p> <p>Maintain a connection to the past, current situation and highlight positive features of the space</p>
	Jan Gehl	Good public space results in happy people	Street life is dependant on people and social activity. The Space is a facilitator for interaction. Street life is essential to creating lively activated <i>Schoolscapes</i> .	<p>Provide opportunity to see and hear others</p> <p>Provide visual connection between people and their surroundings, inside and outside the building</p> <p>Design for varying levels of contact</p> <p>Lively space should have elements of all; marketplace, meeting place, and moving place</p> <p>Provide opportunity to see and hear other people</p> <p>Create spaces that support all three necessary, optional and social activities</p> <p>Prioritize human proportions</p> <p>The environment should act as a backdrop or facilitator for social interaction</p>

# SUMMARY OF THEORETICAL FRAMEWORK

The following chart summarizes the main concepts derived from each sub-section of the theoretical investigation. The over arching considerations guiding the design are highlighted and will be used to focus the design and insure that it meets its primary goals.

Those goals are to provide environments that support users wellbeing, informal learning, and user engagement, with the space and with one another. The design also aims to provide interiors that act as three-dimensional textbooks, with multiple contexts for learning and spaces that are lively.

	ENVIRONMENTS IMPACT ON PEOPLE (environmental psychology)	ENVIRONMENTS IMPACT ON LEARNING	SHIFTING VALUES IN EDUCATION	THE SPACE BETWEEN CLASSROOMS <i>SCHOOLSAPES</i>	THE LEARNING CITY	MEETING PLACE, MARKETPLACE, MOVING PLACE
KEY CONCEPTS	Light colour, acoustics and ventilation have impacts of the physical and psychological wellbeing of users	The environment should be integrated into teaching	Education and educational environments should be social and participatory	Marketplace, meeting place and moving place create streetlife and are key elements of <i>Schoolscapes</i>	The learning city - the city becomes part of the learning experience	Social activity as key to great places, varied levels of contact
GUIDING PRINCIPAL FOR DESIGN	Wellbeing	3D Textbook	Informal Learning	Engagement	Multiple Contexts	Lively Space

Table 5. Summary of Design Implications from the Literature Review

# ANALYSIS OF EXISTING





# INTRODUCTION - SPATIAL COMMUNICATION

As discussed in previous sections, the built and natural environments undoubtedly have an impact on people. The production of space is interdependent on people and activities. Space is both produced by people and in turn the space embodies and communicates the social practices and processes of people to one another. Spaces are loaded with meaning; they can convey rules, norms and expectations. The language or symbolism in space can have a direct effect on people's actions and behavior.

"Activity in space is restricted by that space; space 'decides' what activities may occur . . . it implies a certain order . . . space commands bodies, prescribing or proscribing gestures, routes and distance to be covered." (Lefebvre, 1991, p. 143).

The spatial communication is what the design produces and communicates to users. However there are social meanings inscribed on space through signs, the more discrete messages that may be unintended.

The idea that space is inscribed with meaning is derived from semiotics. Space communicates via signs and symbols that convey meaning and transmit information. There are three processes that allow for the transmission of information through signs; first, the sign itself, the visual image or object. Second, the signifier, the identifier of an idea or discourse. And third, the signified, the underlying meaning or message being communicated. (de Saussure, 1959, p. 67).

The way in which semiotics operates in space

can be understood by referring to Lefebvre who differentiates between space that is physically and visually marked, to space that is marked abstractly. Space can be marked physically, through visual or auditory cues proscribing activities as noted above, or it can be ". . . marked abstractly, by means of discourse, by means of signs." (Lefebvre, 1991, p. 141). In the last case, space has the ability to obtain symbolic value and communicate social practices and discourse.

Semiotics is concerned with representation and the production of culture. Symbolic meanings are culturally specific and the notion of visual communication is complex because space and culture are not static. Dependent on individual experience, information can be interpreted in multiple ways; signs can have plural meaning. Dominant ideology or discourse typically permits members of a society or culture to decode their environments because history and culture produce shared meanings and concepts, from which signs are constructed. (Budd, Raber, 2003, p. 4)

Space may be produced with a meaning in mind, or meanings may be a by-product of the values and norms of designers, architects or institutions. Meaning is consistently reproduced and is often representative of power relations. Public space for example is routinely transcribed with power in that it prohibits actions, behaviours or entry to space. (Lefebvre, 1991, p. 142). The same may be said for schools that are frequently compared to prisons in the way in which they are organized, their aesthetics, but most importantly in what they communicate (power) to users. By investigating the site through the lens of semiotics it will provide

design implications that should prevent the school from reproducing undesired meaning.

The theory that a space can be 'read' is rooted in semiotics, and 'reading space' means that the messages and spatial language can be decoded. If space can in fact be read, then the practice of design could be seen as the reading and writing of space. It is then important as a designer to understand the implications of design decisions. In the same way that an interior can communicate through semiotics "the space of the city is said to embody a discourse, a language." (Lefebvre, 1991, p. 142).

The spatial practice of a society, or how people use space, is established slowly and conspicuously. Space is gradually appropriated by its users and ". . . the spatial practice of a society is revealed through the deciphering of its space." (Lefebvre, 1991, p. 38). Therefore the decoding of space can tell a great deal about a society.

This chapter uses semiotics as a lens for analyzing the existing precedents, location, history and context for the design.

"That space signifies is incontestable"

Lefebvre, 1991, p. 142

# PRECEDENT STUDIES

Lefebvre suggests that social space, or abstract space is theoretically linked to form, structure and function, therefore when decoding space these three elements can be used to form a methodology. This provides an avenue for decoding spatial attributes and their meanings; "any social space may be subjected to formal, structural or functional analysis. Each of these provides a code and a method for deciphering what at first may seem impenetrable."(Lefebvre, 1974/1991, p. 147). Precedents will be analyzed based of these elements, their interrelationship, and underlying meanings, and cannot be understood in isolation from one another. (Lefebvre, 1974/1991, p. 148).



# BASKETBAR

MARKET  
PLACE  
LEARNING  
CENTRE

LOCATION - Utrecht, Netherlands, The  
Utrecht University Campus  
DESIGNERS - NL Architects  
COMPLETED - 2003  
SQUARE FOOTAGE - 4,000





Figure 4

## DESCRIPTION

Basketbar is located on the Utrecht University Campus, and is a place where people come together for a variety of purposes; it is a meeting place for everyone on campus. The facility consists of a basketball court, outdoor seating area for dining, meeting or studying, a bookstore, bar and a public entrance space that provides additional sitting and area for meeting.

The campus is undergoing a major design overhaul, the goal of which is to form a campus that resembles a city. The goal is to create a denser landscape with lively places for students and staff.

This precedent was chosen

for its design innovation and programmatic features, in terms of how to combine multiple functions to create a school hub, maximize the site and provide a connection to the surrounding context.

## ANALYSIS

This precedent provides an example of how a learning space can take many different forms. Learning can take place in the café, bar, outdoor space or on the basketball court. Basketballbar is an example of an effective marketplace because it brings together a diverse range of activities and fosters unique and diverse experiences. It provides opportunity for spontaneous activity and the intersection of different people and ideas in a



Figure 5

causal way. Because of these features it acts as a hub for the entire campus. The Learning Centre can be informed by this precedent in how it combines elements of marketplace, meeting place and moving place to form a widely used central space for the campus.

## ELEMENTS AND PURPOSE

### MEETING PLACE + MARKETPLACE

The café and bar function of the space are one of the ways Basketballbar became a meeting place and marketplace, it provides students with space for socializing.

The Café was intended to serve as the informal center of the campus. It provides students,

professors and researchers a meeting place that is convenient and relaxed.

Designed as an extension of the bookstore it entices more people to engage with the site and ensures there is a stream of activity, contributing to the lively atmosphere. A 'bookbar' or reading table, is provided that creates a connection and point of exchange between the bar and bookstore.

There are also places on the exterior of the building that act as marketplaces, the outdoor lounge, surrounded by greenery provides a place for social and academic activities as well as a visual connection to the surroundings, the basketball court and activity on the interior of the building. The 'orange pool' or sunken space combines a

terrace, small amphitheater and the access for people with disabilities. This environment generates opportunity for a unique mixture of people to interact. The design is a creative solution for multiple functions that allow for the intersection of diverse people. This is something that can should be done in the Community Learning Centre because engaging different user groups is a priority.

The basketball court itself is a pivotal aspect of the space, it allows visual connection to and from street level and interior 'skylights' allow for connection from the interior of the bar as well. This feature enhances the marketplace and meeting place functions because people enjoy the feeling of connection to one another. It is an example of how design implications from the literature, suggesting visual connection within the learning environment, can be applied.

### THE CAMPUS AS A CITY

One of the goals of the project was to create a space that enhances the campus's similarities to the city. To do this the design combines a variety of programmatic features and a stimulating and varied environment. The site acts much like a public square in the city, as a place that brings people

and activities together, qualities that are desirable for this project as well.

### SPATIAL COMMUNICATION

The design seamlessly integrates accessibility and uses ramps as an opportunity to create a place for skateboarders and others on the site. This communicates a respect for those with disabilities and communicates that all people are welcome to use the space and will have an equally positive and exciting experience. Creating democratic space such as this is a priority for the design of the Community Learning Centre to create an open, accepting environment for students and the community.

### MATERIALS + TEXTURE + COLOUR

Views and connection to the surrounding environment were important for the project. Large windows with unobstructed views maximize the impact. The bar/café is sunk into the ground so that the windows are slightly raised and in clear view at all times. The design of the interior attempts to combine a feeling of intimacy with an extensive view of the surroundings.

Providing visual connection while maintaining a human scale is also important in the design of the Community Learning Centre because it reflects the language of good city space.

The intimate feeling is enhanced through a combination of warm colours, daylight and natural elements such as wood and concrete that create a warm and inviting space.

### IMPLICATIONS FOR DESIGN

Provide spaces with multiple functions to enhance the marketplace quality of space

Marketplace spaces should be located in proximity to other lively spaces to draw people in and maintain the connection to others and lively environment desired

Implement barrier free design that is seamlessly integrated

Use materials and daylighting to enhance the open and inviting quality of space

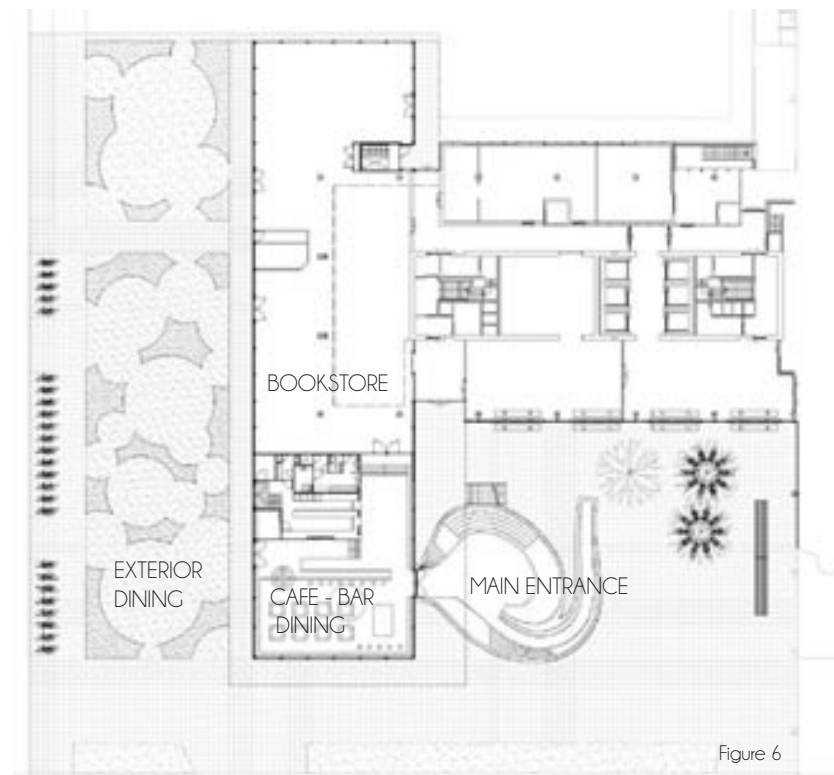


Figure 6

MEETING  
PLACE  
RESOURCE  
CENTRE

OPEN  
AIR  
LIBRARY



Figure 7

LOCATION - Magdeburg, Germany  
DESIGNERS - KARO Architekten, Antje Heuer, Stefan Rettich, Bert Hafermalz, Leipzig, Architektur+Netzwerk, Sabine Eling-Saalmann, Magdeburg  
COMPLETED - 2004-2009  
SQUARE FOOTAGE - 1,600



Figure 9



Figure 10



## DESCRIPTION

The Open Air Library was conceived as part of an urban planning experiment called 'City in Trial'. The goal of this experiment was to design a social sculpture, to reinforce the social networks and engage community in Salbke, an abandoned district in Magdeburg, East Germany, suffering from urban decay.

A post-industrial landscape and high unemployment characterize the area. The library was built in a participatory process, on the site of a district library that had been demolished.

This precedent was chosen for its programmatic features, and because the objectives of the project, which prioritized

community, creating an urban public space, and placing emphasis on sharing, trust and sustainability, are in alignment with some of the objectives for this project. It was also chosen for its spatial attributes, the use of public space as a learning landscape, incorporating the city in to a space for learning, interaction and exchange, which corresponds to the literature from Herman Hertzberger and others I have referenced. The Open Air Library reincorporates aspects of lively city spaces into an industrialized city space.

## ANALYSIS

This precedent provides insight into how to design a community learning space that is seamlessly integrated into

the urban landscape. Analysis of the spatial communication will provide insight into how to design space that is open, public and democratic. The Open Air Library can be analyzed to understand how marketplace, meeting place and moving place can combine to create great informal learning spaces. And lastly it can be investigated to understand how design can be used to bring people and community together.

## ELEMENTS AND PURPOSE

### TRUST, OWNERSHIP + ACCOUNTABILITY

Many users refer to the Open Air Library a 'library of confidence'. The community is responsible independently for their accountability and use of the space and its resources. There is no registration, books can be borrowed any time and are brought back voluntarily. The community manages the library themselves. This system places responsibility on citizens and respect for one another allows the library to be maintained and continually operating. Despite the neighborhood conditions there has been minimal vandalism and the library has thrived as a community meeting pace.

## COMMUNITY

One of the main outcomes of the design and design program of the Open Air Library is the communal spirit of sharing it fosters. The purpose of the library is to serve as a community resource and meeting pace. The sense of community in the neighborhood is strengthened by the connections formed between people using and borrowing from the library. People come together for shared interests and experiences. The Open Air Library creates a cultural center. The site now is a venue for communal activity and gathering. The design incorporates a stage that is used for elementary school plays, public readings, concerts of local bands and may other cultural and communal events. The green space also acts as a meeting place for community, offering a reading café and natural elements uncommon in the industrial area. The sense of community in the area is strengthened by the incorporation of a public space that engages all ages of people through marketplace, meeting place and moving place functions. Passersby can enjoy seeing others and the visual elements of the space. People can use the library as a meeting place

for social activities and the library acts as a marketplace where community members exchange books, ideas and information. By combining bold design elements and varied programming as they have done here, the Community Learning Centre can become a cultural and communal space embraced by the public.

## LIVLEY CITY SPACE AND LIFE BETWEEN BUILDINGS

This project reclaimed vacant city space making it a usable space for the community. The programming facilitated the marketplace, meeting place and moving places elements of the project and design elements were used to enhance these qualities. Benches, nooks and ledges are provided for people to sit and stay. The structure provides shelter and protection for the elements. The design allows for people to see their surroundings and provides





Figure 12

views, increasing the feeling of safety and comfort. These are all elements of lively city space identified by Jan Gehl that will be used in the design of the Community Learning Centre as well. The library also sparks curiosity and draws people in because it is visibly located in a central space in the neighborhood, the site for this project also provides opportunity to do this. If people are drawn to be with others, this space encourages people to come together in the community.

### LIFE LONG LEARNING

There is an underlying motivation for this project. Not only does it inspire community and begin to rejuvenate the neighborhood it also inspires life long learning, by creating a venue for people to interact

with one another, and by making reading accessible and enjoyable. This is the foundation of the Community Centre Model.

### SPATIAL COMMUNICATION

#### MATERIALS + TEXTURE + COLOUR

Recycled materials, and other inexpensive materials were used to create a bold yet unassuming visual impression. The design is simple and incorporates natural elements to create an open and inviting environment for all members of the community regardless of age. The wood and green space counter balance the more industrial elements such as concrete and salvaged façade.

The industrial elements including the façade pay homage to the city context and history signifying a respect for the past and that this intervention is sensitive to context in which it exists. This is an important consideration for this project as well because of the significant history of the site.

The incorporation of graffiti reflects the fact that the community was involved in the planning phase. Their voices were heard and needs were met. It also reflects an unpretentious attitude towards architecture; this it is not a precious object only to be looked at, but instead a community space that should be used and embraced. The school environment should also be treated in this way.

### VOLUME

The consideration for human scale and needs in terms of seating, resting, stopping etc indicate that this is a public place that encourages people to stay and that all people are welcome - a lively city space.

Volume is used to create a focal point through scale and give presence to the library. Enclosures are created to provide shelter and create

more intimate and private spaces for activates such as reading or meeting in small groups.

### IMPLICATIONS FOR DESIGN

Ensure scale relationships are in alignment with human scale Provide a variety of places to sit and stay, a variety of seating, nooks, benches, a public reading room could be informed by the Open air library

To engage community and diverse users create spaces that attract a large variety of people, implement programming that appeals to a wide range of people, reading and books are an example of this, socializing and games are another as well as eating a food.

Integrate the design with the exterior context and landscape of the city

Use materials that are connected to the site and history but are non-pretentious and approachable

Allow the design to be altered, manipulated or added to by the users, the graffiti here is an added connection the design makes to the neighborhood and community.

# Trias VMBO

MOVING  
PLACE  
*SCHOOLSCAPES*



Figure 13



LOCATION - Krommenie, Netherlands  
DESIGNERS - Atelier PRO Architects, now  
Studio Leon Thier architects  
COMPLETED - 2006  
SQUARE FOOTAGE - 260,490

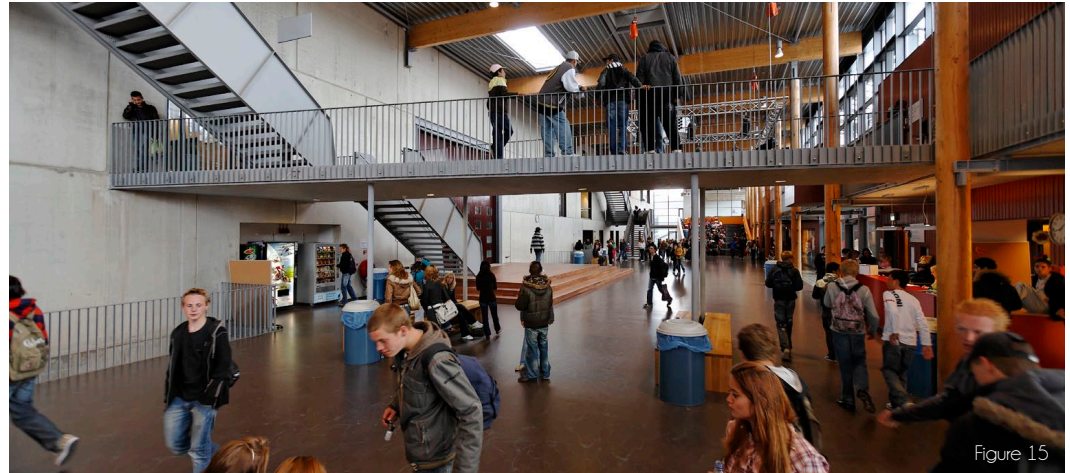


Figure 15



Figure 14

## DESCRIPTION

Trias VMBO is a vocational school offering a diverse range of trades, crafts, and technical disciplines. The school was built around the principal that the building should act as an educational aid, using architecture as a curriculum enhancer.

The underlying educational values of the school are in alignment with life long learning and life beyond compulsory education in the workforce. The school attempts to emulate 'real world' contexts. The educational philosophy is a cohesive integration of learning through the; hands, head and heart. This refers to student's abilities, knowledge and passion and there is an equal emphasis

placed on each.

The goal of the design was to create a building that will astonish and surprise students. This was accomplished by designing a building where the construction, detailing and energy management are seen and therefore understandable and measurable for students. This creates an environment where students are "stimulated to actively join the building of their learning- and living environment." (DesignShare, 2008, p. 1).

This precedent was chosen for its programmatic features, the objectives of the project, which were to utilize the building as an educational aid, or three-dimensional textbook, an objective for this project as well. The building provides a

central space that acts as a unifying feature, showcasing the work going on within the school and reflecting the schools educational philosophy and priorities. It was also chosen for its design elements, the use of different levels within a large volume provides visual connection between parts of the interior and between people. The colour and materiality is durable and simple, it combines natural and industrial elements and incorporates bright colours with the warm, natural elements to create an overall aesthetic is inviting and approachable.

## ANALYSIS

This precedent provides an example of how a learning centre in the school can foster



Figure 16

a sense of community and strengthens school identity and cohesion. It also demonstrates how the environment can be designed as a three-dimensional textbook. Analysis of the spatial communication in the project will be used to understand how design can create an experience in the learning environment that simulates real life situations, and contexts outside of the school. The learning centre, or as they call it in this example the 'village square' can be analyzed to understand how marketplace, meeting place and moving place can combine to create great informal learning spaces.

## ELEMENTS AND PURPOSE

### THE BUILDING AS AN EDUCATIONAL AID

Since Trias VMBO was completed it has been recognized as an architectural symbol and Three-dimensional textbook for the trades. The underlying priority of the design to be an educational aid coincides with Anne Taylor's notion of the environment as a three-dimensional textbook. Trias VMBO used the building to communicate information and ideas to students. As previously stated it was meant to surprise and entice students to reflect and contemplate. The winter gardens and aquarium are two examples of how this was achieved. Hands on projects are another way students are invited to engage with the environment to learn. They have built a garden shed and are in the process of building a house. These projects are meaningful



Figure 17

because they provide a sense of connection and pride to the school. "By letting the pupils [build] their own Winter Gardens, desks and so on, the building becomes the property of the students and they develop a sense of responsibility." (DesignShare, 2008, p. 1).

## A VILLAGE SQUARE

The design of the school is based around a central space that is called the village square. This space acts in much the same way as a public square does in the city. It is a place for informal learning, social interaction a multitude of events and where the community of the school is formed. The project rooms and classrooms are located on the periphery, each trade has their own 'wing' and adjacent to the village square

is a 'shop' representing that trade. The shops open onto the square, which was designed in part to host mock trade fairs and exhibitions. The village square represents a connection to the historical role that trades and craftsman played in society, and in this region specifically.

The village square builds a sense of community in the school by exposing students to all of the trades and to one another. It acts as a marketplace where younger students can see what is 'for sale', or what they may want to take in their later years, and allows them to get a taste of all different disciplines. This fosters interaction between different age groups, encouraging older students to act as mentors and role models for the younger ones.

The village square is not only a marketplace where ideas and the disciplines intersect but it is also a meeting place for students, community and educators. It also serve as a moving place, as the main circulation space in the building and provides connection to every part of the building. Because it is a central space people are forced to move through it and are exposed to the marketplace and meeting place aspects of the square, this is what creates the dynamic, engaging and lively space in the village square. The concept of the village square

is an integral component of the design of the Community Learning Centre.

## SPATIAL COMMUNICATION

The design of the learning environment was meant to simulate real life situations, and contexts outside of the school. The layout and aesthetic resemble streets and they converge on the village square. The shops located on the edges of this square emulate the city street. The environment takes elements of design from the city to portray a marketplace,

meeting place and moving place in the school. This 'city like' design communicates that the school is open and public all people are treated equally. It communicates that student opinions and ideas are valued, through the integration of student-initiated projects. An example of one of these self-driven projects is an art project where students created a more exciting focal point in the common spaces. Students are encouraged to actively participate in constructing their learning environment, through self-directed projects and by producing what is in the 'shops'. This sends positive messages to students about the value of their opinions and initiatives, it communicates respect and freedom of expression, and builds a sense of ownership. The school represents a place that facilitates learning not dictates learning, something The Community Learning Centre should communicate as well.

## MATERIALS + TEXTURE + COLOUR

The materials used are a combination of natural and industrial. There is a connection the industrial history of the site though the materiality. There is a visual connection to the city and site and the form of the village square is designed

much like a factory block. The designers have used tile for the facades that is indigenous to the region.

The materials are durable and hard, but are balanced by the use of warm colours and textures such as the orange and wood elements and perforated metals. The use of lighting warms the atmosphere of the space. Smaller pendants are used for a soft ambient light and daylighting is maximized through large windows.

## IMPLICATIONS FOR DESIGN

Provide areas to showcase student work

Allow students the opportunity to propose projects and potential to make changes to the environment

The central space of the school should act as a meeting place, marketplace and moving place to ensure maximum interaction and exposure

The building should be designed with elements to inspire creativity and further investigation



Figure 18



# READING EXISTING SCHOOLS

Through the 'reading' of the two schools selected, Etobicoke School of the Arts and Jarvis Collegiate Institute, and an overview of literature on how school environments can communicate to users, four themes emerged as most dominant in the schools interior spaces, representations of; power, tradition, oppression and neglect. In my reading of schools it was also apparent that students and teachers were attempting to inscribe a different message on the building, one of diversity, acceptance, a values in difference and a form of ownership and personalization.

## ETOBICOKE SCHOOL OF THE ARTS



Figure 20



Figure 21

Although Etobicoke School of the Arts (ESA) exhibited evidence of a unique environment where students are able, at least to some extent, exercise some freedom over their space the building itself continues to communicate negative societal messages to students. Noam Chomsky recognizes the similarities between almost all schools when he states that "... the basic institutional role and function of the schools, and why they're supported, is to provide an ideological service: there's a real selection for obedience and conformity."(Chomsky, 2002, p. 236) He goes on to explain that schools "... reward discipline and obedience and they punish independence of mind."(Chomsky, 2002, p. 236). In this view the priority of education is socialization, and thus where creative freedom is allowed at ESA it is still restricted by authorities, and the limitations of the

building. The artwork in the school is an attempt to deviate from the language of the school architecture, and was the most prominent and successful appropriation of space I observed, the student artwork shows the vibrancy, diversity and character of students. That being said the appropriation of other school spaces that are not endorsed by the school indicates a desire for further personalization and alternative space in the school. A more personalized interior would communicate student involvement and ownership over space.



Figure 22

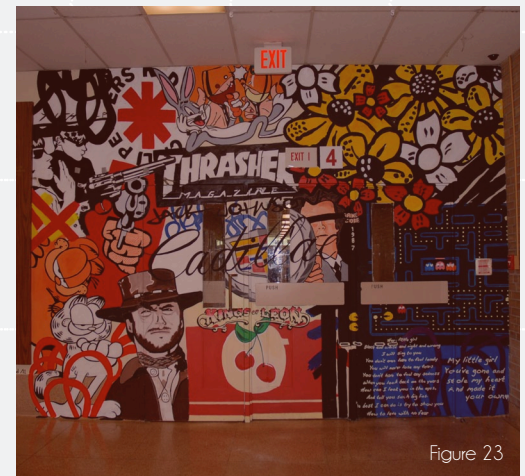


Figure 23

The disrepair of the school interior communicates a low value placed on education and little respect or appreciation for the faculty and students who use it. It also conveys a lack of interest and support on the part of the school board, devaluing personal worth of students and teachers alike.

There are very real consequences of aesthetic disrepair. "The ugliness of a

building in disrepair conveys a very clear message to a child that we don't value that child very highly. . . It's virtually impossible to raise their self-esteem if we place them in a building that tells them that we hold them in very low self-esteem." (Kozol, 1992, p. 39) (Dyck, 2002, p. 4).

To make matter worse it has been found that students who attend well-maintained schools that meet safety standards and

are kept clean are at an academic advantage over students who attend schools in disrepair with problems such as leaking roofs, broken windows and dark classrooms. (Upitis, 2004, p. 21-22).

Although "we tend to understand that the environment must be worthy of respect if we expect the children to respect it" (Dyck, 2002, p. 4). ESA has minimal vandalism despite the fact that the building also shows signs of disrepair signifying neglect. This indicates students have respect for their environment, potentially attributed to the fact that they are able to personalize the space through artwork.

Traditional teaching methods and values in education are conveyed through traditional school spaces, the standard forms, lighting and aesthetics represent standards in education, curriculum, and expectations of students. Interiors that are highly structured, rigid and organized create extremely static spaces. The hallways and classrooms are designed in a formal manner with specific forms of conduct and activities inscribed on the space. Classrooms for example are set up in single rows, communicating that no talking or group work is to be done. There is a clear hierarchy set up with the teacher at the top. The lighting in the space is monotonous and flat, adding to the feeling of standardization and indicating that this is a traditional institution.

Etobicoke School of the Arts was built in



NEGLECT  
Figure 24



Figure 25



Figure 26

“we expect schools to prepare children for living in a democratic society, yet we provide a learning environment that resembles a police state—hard, overly durable architecture, giant chain-link fences, locked gates, guards, and even guard dogs.”(Taylor, 1995, p. 69). We are sending contradictory messages. “Such architecture fails to encourage the sense of ownership, participation, or responsibility required for a democracy.” (Taylor, 1995, p. 69).

1953 and has had very minimal changes made to it since that time. “It has been observed that for nearly two centuries, public schools have been built largely as a reflection of the factory model for learning . . . perpetuate[ing] a linear and predictable image of learning, but it also perpetuates ways of thinking about complex disciplines” (Upitis, 2004, p. 20). The design of the classrooms is a direct reflection of the factory model. This way of thinking and teaching is not representative of changes in education and society as a whole, and does not adequately prepare students for real life experiences. The TDSB mission statement and recent initiatives indicates that this method of teaching is also not in alignment with their values.

Representations of power are hidden throughout the school. Passive surveillance from the main office for example allows

views to both entrances and an authority is able to monitor all comings and goings, sending a message of mistrust and security and safety as high priority.

The circulation space in the school is narrow, directional and made up of hard durable surfaces, it is meant only for students to move through and sends a message that any other activity in the space is not encouraged. Students need to be confined and restricted in their movement and their access to space, reinforces the mistrust. All spaces of the school are strictly programmed for activities, which allow no space for spontaneous activity among students. This tells students that they have no control or influence over their space and schooling, it encourages them to be passive in their education. These are some of the hidden socializing elements typical of school buildings. Taylor recognizes that if

“We tend to understand that the environment must be worthy of respect if we expect the children to respect it”

(Dyck, 2002, p. 4)

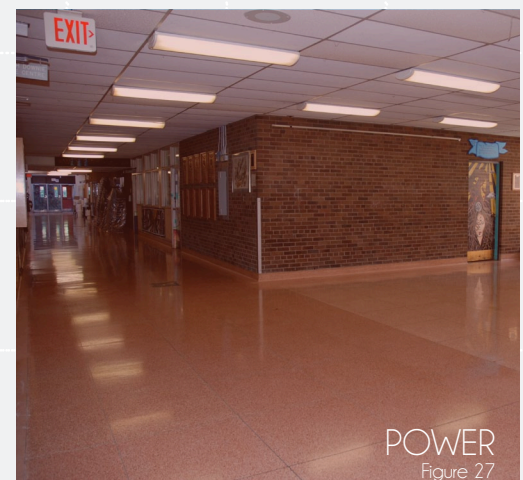


Figure 27

# JARVIS COLLEGIATE INSTITUTE



Figure 28

It has been established that "... whether in the plan and elevation or in the sculpture and ornamentation, the building convey[s] meaning."(Upitis, 2004, p. 21). In this case the school spoke about tradition, power and control. However, much like ESA, Jarvis exhibited evidence that the people who use the school were attempting to counteract some of the messages being sent by the school building itself. In Jarvis it was less overt, however cultural displays and posters indicated the unique quality of this school and students who attend within the limitations of the building. Despite best efforts to alter them, the messages that remain prominent are the ones attached to the spatial environment.



There is evidence of strong cultural pride among students at Jarvis CI. Which is demonstrated through display boards and showcases. However these small-predetermined display areas are the only places in the school there is any markings of students, aside from vandalism. The size and location of these features is also not reflective of their significance. This sends a message that the diversity and character of students is confined and undervalued. "There is nothing new about the idea that much of what we learn from the architecture of our schools—and other public buildings, for that matter—is a reflection of larger cultural values." (Upitis, 2004, p. 21). Even if these messages are unintended on the part of the school board or faculty the way in which the space communicates, perpetuates these expectations regarding young adults behavior, conduct, norms and values.

The lack of accessibility within the school also sends mixed messages to students. There are lifts and an elevator, however, because they are in disrepair and students need assistance from staff to use them it is limiting and strips away not only student mobility but independence.

Furthermore the functionalist architecture of the building "... encourages students to assert minimal influence over their

surroundings, to accept things as they are, a reality with serious implications for broader social issues. If students perceive they have minimal influence over their surroundings, perhaps they will feel much less empowered to address conditions of oppression that operate in society: to work toward a more socially and environmentally just world. (Tupper, Carson, Johnson, Mangat, 2008, p. 1076). This consequence is directly at odds with one of the primary goals of the Toronto District School Board (TDSB) and education in general: teaching students to become active, contributing citizens. If we teach young people that they do not have a voice and are powerless then how can we expect them to feel empowered?



Figure 30



Figure 31

There are two distinctly different components to Jarvis CI, the old section of the building that was built in 1924 and the new additions to the building, the first built in 1955 and a second added in 1971. For the most part the older part of the building is in better condition than the newer but both exhibit neglect and disrepair in different ways. This is problematic because, as previously discussed, a poor environment has impact on occupant well being, state of mind, and even student success.

A study done assessing achievement through standardized tests and scores indicated "the condition of the building made a predictable difference in student achievement." (Dyck, 2002, p. 4). The findings show that students at schools which were classified as being in "... poor condition can be expected to fall 5.5 percentage points below those in schools

in fair condition. [And students] assigned to schools in poor condition can be expected to fall 10.9 percentage points below those in buildings in excellent condition." (Dyck, 2002, p. 4). Through the neglect of the interior, Jarvis sends a message to the students that they are unimportant, lack potential and are undeserving of a rich and stimulating environment to enhance their learning.

Poor environments were also found to decrease vigor and increase fatigue in comparison to 'rich environments' that reduced tension and improved the over all atmosphere, and the physical and psychological environment. (Dyck, 2002, 3). Subsequently it was found that students who attended schools with 'rich environments' held much better attendance records and were less likely to incur disciplinary measures. (Dyck, 2002, p. 3-4).

The two different parts of the school also have distinctly different architectural treatments; first the very old, ornate and grand architecture of the original building, and secondly, the modern, more standardized treatment of the addition. The traditionally grand interior gives an institutional feel. The grandeur of the older portion of the building signifies tradition, authority, and a strong separation between students and teachers, there is a distinct hierarchy.

The standardization of the newer portions of the school can be seen as another form of tradition, the tradition of school buildings construction and design which has remained the same throughout time. The uniformity of the interior sends a message that everyone is treated as part of a mass group. Students should not challenge or stand out from that



group, but behave in the same way. This disregards and devalues differences between students.

The interiors of the school particularly hallways, are dark, have no windows, and even lighting, they are designed strictly for function. These spaces come across as potentially threatening and conjure images of prisons. "Such architecture fails to encourage the sense of ownership, participation, or responsibility required for a democracy. Students are not prisoners who need surveillance, but children who need freedom to grow."(Taylor, 1993, p. 1). The school spaces observed impose discipline and control over students, hindering students ability to think and make decisions for themselves. What these spaces communicate is a hostile environment of conformity and obedience.

Surveillance in the school is another way in which representations of power are illustrated. Supervision of students in the corridors is overt, convex dome mirrors, allow people to see around corners signify that the halls are unsafe, and student behavior in this space is unpredictable. It also reveals power relationships within the school, the people in authority positions are able to supervise from many locations, limiting privacy.

"The condition of the building made a predictable difference in student achievement."

(Dyck, 2002, p. 4)



## OTHER SCHOOLS

One of the most prominent features of public schools not found at either ESA or Jarvis CI that deserve some attention are portables. "... with overcrowding in schools, we are experiencing a new culture of "slum architecture" in public schools - trailers ... "(Tanner, 2000, p. 2). This conveys to students that they are second-class citizens, not worthy of permanent space. The school board and government are creating band-aid solutions for overcrowding and poor conditions. This sends a message that either this is a temporary problem, or that the students using them are not valuable enough to warrant spending the money to adapt our schools to meet even their minimum requirements.



Figure 38

## DESIGN IMPLICATIONS

By investigating the site through the lens of semiotics and spatial communication it has revealed design implications that should prevent the school from reproducing undesired meaning.

- Allow for student personalization and flexibility to encourage ownership and pride
- Provide some loosely programmed or flexible space that allows for spontaneous interaction
- Generate architectural forms that are in alignment with the TDSB values and mission
- Create an interior that can adapt to future changes and needs and withstand time
- Produce an environment that is accessible to all individuals
- Rethink corridors as spaces with possibilities beyond a moving place
- Establish interiors that actively engage students with the learning process, the environment and one another
- Create opportunity for self-expression
- Avoid recreating traditional, formal and grand school design elements
- Avoid invasive methods of surveillance
- Move beyond functionalist architecture to consider psychological aspects of school space
- Individualize schools so they respond to specific needs of the students, faculty and neighborhood, school design should not be standardized
- Create affordances that allow students to interact with the building

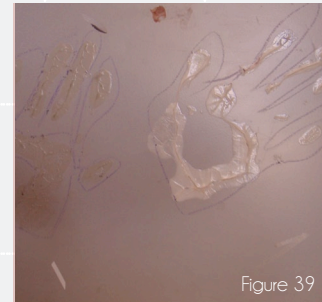


Figure 39

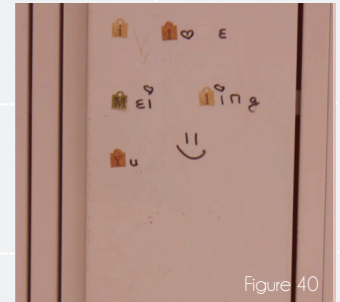


Figure 40



Figure 41



Figure 42



Figure 43



Figure 44

# READING THE SITE



Figure 45

# LOCATION. HISTORY. CONTEXT.

## INTRODUCTION TO THE ST. LAWRENCE NEIGHBOURHOOD

The St. Lawrence neighbourhood is vibrant and diverse. The streets are filled with restaurants, shops, café's and most importantly, people. It is renowned as a local and tourist destination for history, culture and most famously the market.

The St. Lawrence neighborhood has a lively street life that is enabled by mixed use of buildings, parks, pedestrian friendly streets and sidewalks, a café culture, public transportation and the recent addition of Dixie bikes. One of the key reasons this neighborhood thrives is its successful integration of low and mid-rise residential units with commercial and retail uses. Its mixed use combined with the establishment of subsidized residential buildings contributes to the areas unique and diverse quality.

The mix of market and subsidized housing implemented by the city in the late 1970's and 1980's has been recognized for its success in the conversion of industrial land in urban decay, to a vibrant and desirable area. This neighborhood serves as a model for transformative urban design and planning.

The three main buildings used for the St. Lawrence Market are referred to as the Market Complex

This complex consists of the South Market Building, North Market Building and St. Lawrence Hall. The North St. Lawrence Market Building, the site for this project, is located West of Jarvis Street, between King Street East to the North and Front Street to the South. Today it operates as a farmers market on Saturdays and an Antique market on Sundays, throughout the week it is available for rent. The North Market functions as a complement to St. Lawrence Market South: a permanent market selling a wide range of fresh food including meats, cheeses and seafood.

## SITE SELECTION RATIONAL

The St Lawrence Market neighborhood is an excellent example of community, pedestrian activity, marketplace, meeting place and thoroughfare. By situating the school here it takes advantage of all the site has to offer. It would allow students to be integrated into the community and provide unique learning experiences as well as a sense of connection to the community and the surrounding city.

Some of the other main reasons for selecting this site include; proximity to public transit, access to outdoor spaces and parks as well as community resources, a safe environment for students and a diverse population. The integration of the farmers market will also enhance students exposure to

local business, farming, and potentially healthy eating, aiding in students preparation for life after secondary school, and citizenship formation. The following section investigates the site elements and characteristics that contribute to sense of place in the neighborhood. The location is shown in its broader context and the resources and amenities available are also shown in context.



ST LAWRENCE NEIGHBORHOOD BOUNDARIES

As Defined By The BIA

Figure 46. St. Lawrence Neighborhood Boundaries

## DISTRICTS

The site for the project is located centrally in downtown Toronto. It is at the intersection between three districts or neighborhoods, the Garden District, Corktown and St. Lawrence Neighborhood. Despite being located where these areas converge, the site is considered part of the St. Lawrence Neighborhood because of it is part of the market complex, which is central to the character and identity of the area.

Figure # shows the site in relation to the surrounding districts and Waterfront, all of which contribute to the character and diversity of the area.





NEIGHBORHOOD DISTRICTS

● St. Lawrence North Building

Figure 47. St. Lawrence Neighborhood Districts

## DISTRICTS



JARVIS CI BOUNDARIES WITH NEIGHBORHOODS  
Figure 48

The site for the proposed Community Learning Centre falls within the school intake boundaries for Jarvis Colligate, the local public school that currently serves the surrounding area. Figure 48 shows the St. Lawrence neighborhood in relationship to those boundaries and the surrounding districts.

Centrally locating the Community Learning Centre within the city allows for easy accessibility across the city. Figure 49 highlights the St. Lawrence neighborhood, and proposed site, in relationship to the broader context of Toronto.



CITY OF TORONTO  
Municipalities, Jarvis CI Boundaries ST. Lawrence Neighborhood  
Figure 49

## SITE INVENTORY



Figure 50

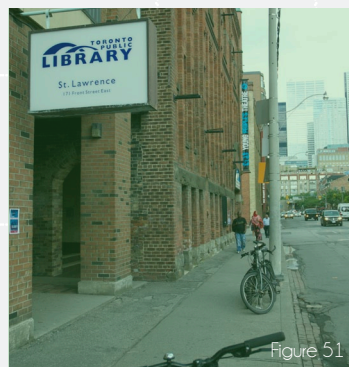


Figure 51

Another advantage to a central location within an urban context is the amenities and resources available to both teachers and students. Figure 52, 53 and 55 highlight some of the resources in the area that could be shared with the Community Learning Centre. There are many opportunities for partnerships, and the opportunity for diverse and unique learning experiences.

Academic resources available are shown in figure 52, and figure 53 shows the relationship to other institutions that could be partnered with. Figure 55 also illustrates the strong presence and value in the community of educational facilities. Figure # shows some of the additional resources and advantages the area has to offer including, public transit stations, historical and cultural sites, and outdoor spaces that could be used as extensions of the learning environment.



### COMMUNITY RESOURCES

- 1 St. Lawrence Community Recreation Centre
- 2 Inner city Angels - Artists in Toronto Priority Schools
- 3 Regent park learning Centre

### LIBRARY

- 4 City Hall Library
- 5 St. Lawrence Library
- 6 Toronto Public Library
- 7 The Law Society of Upper Canada Great Library
- 8 Ryerson University Library



ST. LAWRENCE NORTH BUILDING

Figure 52. Site Inventory - Educational Resources

# SITE INVENTORY

## EDUCATIONAL

JUNIOR SCHOOL  
HIGH SCHOOL  
OTHER

### PUBLIC SCHOOL [TDSB]

- 1 Nelson Mandela Park Public School (K-8)
- 2 Regent Park/Duke Of York Public School (K-6)
- 3 Market Lane Public School (K-8)
- 4 Lord Dufferin Public School (K-8)

### CATHOLIC SCHOOL

- 5 St. Michael Catholic School (K-8)
- 6 St. Paul Catholic School (K-8)

### ALTERNATIVE SCHOOL [TDSB]

- 7 Down Town Alternative School (K-6)
- 8 Afzal Islamic Montessori and Academy (2.5 years +)
- 9 Inglenook Community School (11-12)

### PRIVATE SCHOOL

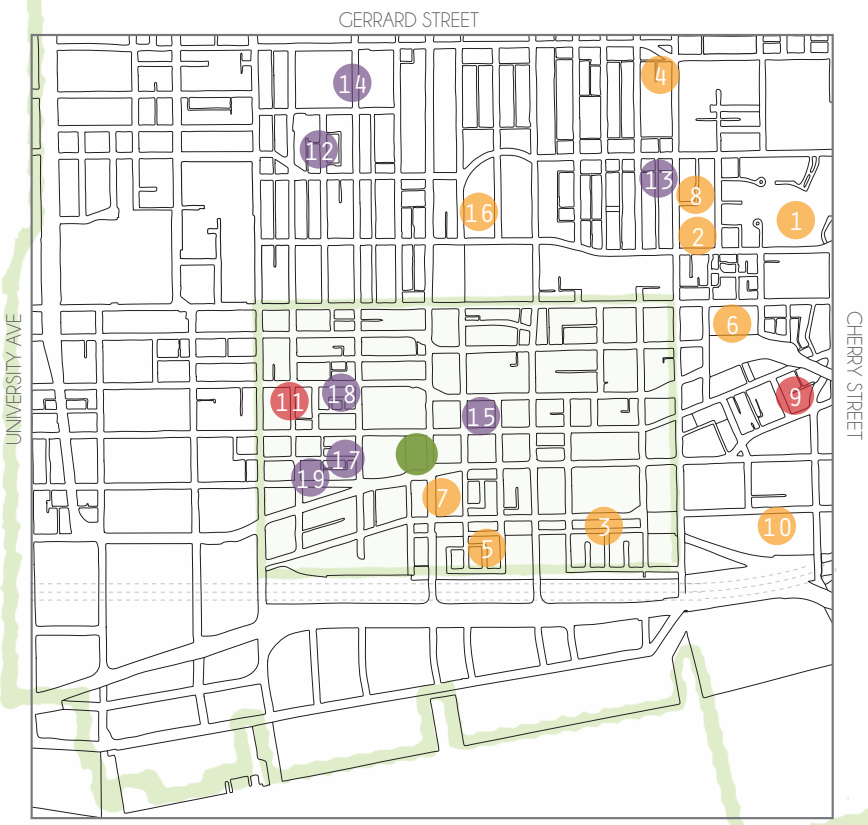
- 10 Voice Intermediate School (4-8)
- 11 Neuchatel Junior College (9-12)
- 12 St. Michael's Choir School (3-12)
- 13 TAIE International Institute (9-?)

### POST SECONDARY SCHOOL

- 14 Ryerson University
- 15 George Brown College

### OTHER

- 16 École Gabrielle-Roy (French immersion)
- 17 GTA Photography
- 18 GEOS Language Academy
- 19 Toronto School of Circus Arts (All Ages)



● ST. LAWRENCE NORTH BUILDING  
 Figure 53. Site Inventory - Educational Facilities

## SITE INVENTORY



### PUBLIC SPACES

- 1 Bay Street Docks
- 2 Dundas Square
- 3 Nathan Phillips Square

### GREEN SPACE

- 4 David Combie Park
- 5 Berczy Park
- 6 St. James Park
- 7 Toronto Sculpture Garden

### CULTURAL CENTRES

- 8 Mackenzie House
- 9 Redpath Sugar Museum
- 10 Hockey Hall of Fame
- 11 Massy Hall
- 12 Canadian Opera Company
- 13 Textile Museum
- 14 Power Plant Contemporary Art Gallery
- 15 Young centre for the Performing Arts

### PUBLIC TRANSIT

- 17 Dundas Subway Stn.
- 18 Queen Subway Stn.
- 19 King Subway Stn.
- 20 Union Station
- 21 St. Andrew Stn.
- 22 Osgoode Stn.
- 23 St. Patrick Stn.

### LANDMARKS

- 24 St. Lawrence Market
- 25 Mill Street Brewery
- 26 Flat Iron Building
- 27 City Hall
- 28 Old City Hall
- 29 Moss Park Armory
- 30 St. Michael's Cathedral
- 31 The Eatons Centre
- 32 Air Canada Centre
- 33 Enoch Turner Schoolhouse
- 34 Osgoode Hall





Figure 56

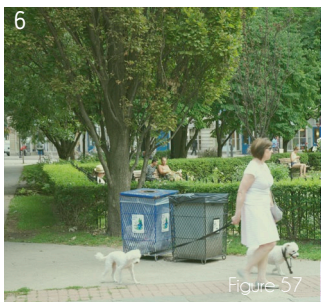


Figure 57



Figure 58



Figure 59



● ST. LAWRENCE NORTH BUILDING  
Figure 55. Site Inventory - Neighborhood Resources



Figure 60

## DENSITY



"The beauty is in the walking. We are betrayed by destinations."

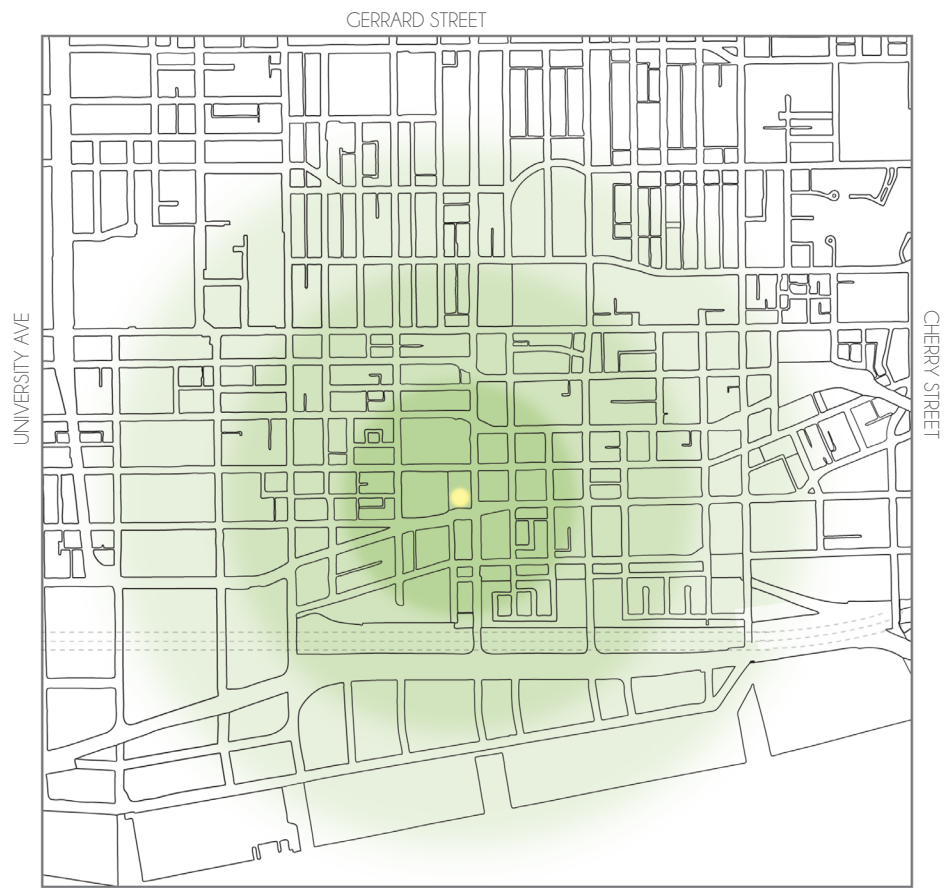
(Stine, 1997, P.95).

The site is located within a dense urban context. The site inventory illustrates that there are an abundance of places that stimulate activity in close proximity to the site. In addition to vehicular travel walking, cycling and public transportation are well practices means of circulation in the area For students to utilize the surrounding context it is important to understand what is accessible to them simply by walking.

## WALKING RADIUS

Determined at a walking  
speed of 60 meters per  
second

- 5 Minutes
- 10 minutes
- 15 minutes



ST. LAWRENCE NORTH BUILDING  
Figure 62. Density - Walking Radius

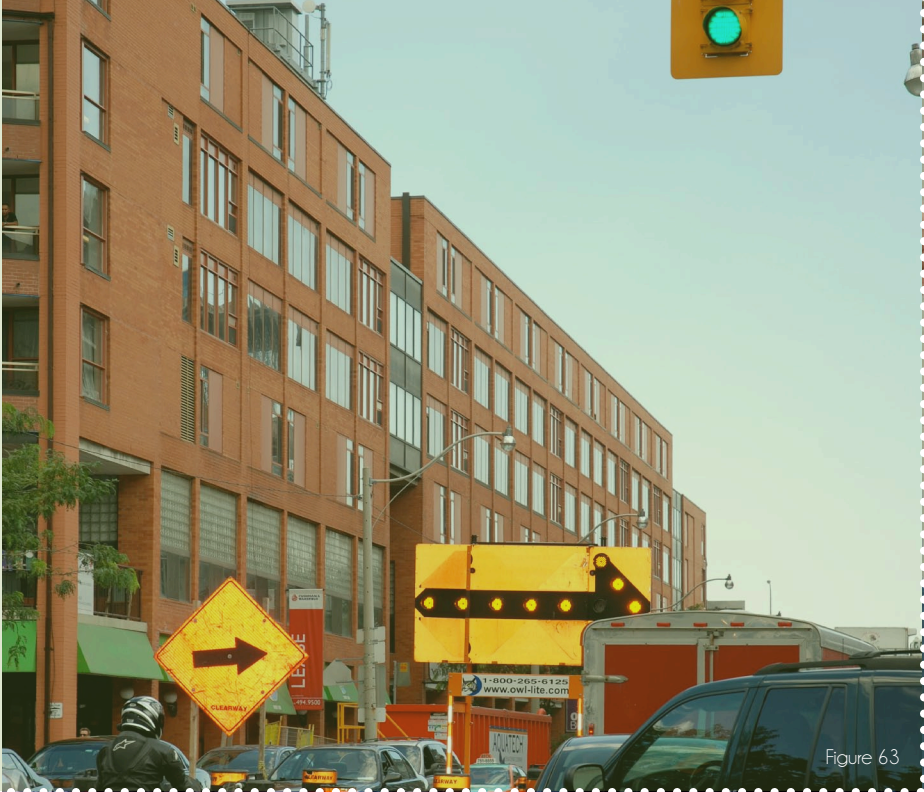


Figure 63



Figure 64












Figure 65



Figure 66

Accessible, convenient and sustainable transportation is an important aspect of the urban fabric. Figure # shows options for students and staff at the proposed Community Learning Centre.

## PUBLIC TRANSPORTATION LEGEND

-  TTC RUSH HOUR ROUTES
-  TTC EXPRESS ROUTES
-  TTC REGULAR ROUTES
-  TTC LIMITED SERVICE
-  GO TRAIN RAIL
-  GO TRAIN BUSES
-  TTC SUBWAY ROUTE
-  1 DUNDAS SUBWAY STATION
-  2 QUEEN SUBWAY STATION



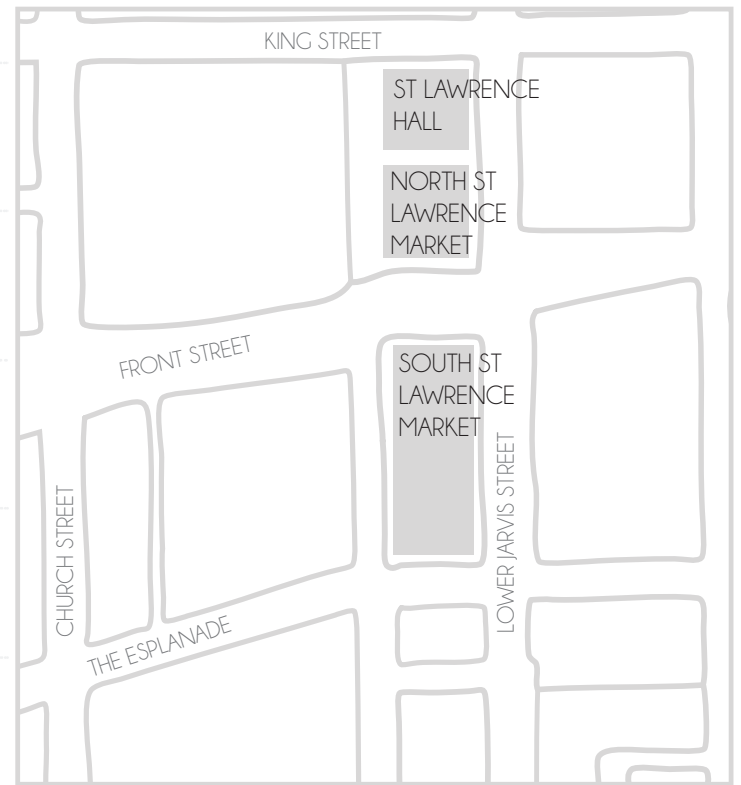
 ST. LAWRENCE NORTH BUILDING  
Figure 67. Density - Circulation and Transportation

DENSITY  
SCALE





Figure 68. Density / Scale



THE ST. LAWRENCE MARKET COMPLEX  
Figure 69



# LOCATION. HISTORY. CONTEXT.

The Market Complex dates back as early as 1803 when Governor Peter Hunter officially proclaimed that the area from King to Front, between Church and Jarvis would be designated 'The Market Block'. (City of Toronto, n.d).

After the Great Fire of 1849 the name of the site was officially changed from the Market Block or Market Complex to the St. Lawrence Buildings. This was done in honour of Canada's patron saint and also paid homage to the political ward of St. Lawrence in which the market block fell.

A surprising part of the history of St. Lawrence Market includes political and government presence, as early as 1834 when the City of York was united to form the City of Toronto. (Searching Toronto, 2011). From 1834-1845 city council members met in a market building at the south-west corner of King Street East and

Jarvis Street. Following which they moved to the South St. Lawrence building and remained there until 1899.



Figure 70

## ST. LAWRENCE HALL

St. Lawrence Hall was designed by William Thomas and was built in 1850 following the great fire, which destroyed its predecessor, the original meeting place of city council. The building is located on the south-west corner of King Street East and Jarvis Street.

St. Lawrence Hall was designed as the city's public meeting place and social centre. The Hall held concerts, lectures, exhibitions and public meetings. Today it is still used for social and business functions, and is a popular site for film and television shoots. The hall has also assembled an impressive historical display that showcases past performers.

The building is a historic site and was restored as the City of Toronto centennial project in 1967.

## SOUTH ST. LAWRENCE MARKET

The South St. Lawrence building was originally built in 1845 after a design competition was issued for a marketplace and Toronto's City Hall. The building designed by Henry Bowyer Lane housed Police Station Number One, jails, the Council of Chambers, the mayor's office and other government offices. It remained as such until 1899 when the 'New' City Hall (now referred to as Old City Hall) at Bay and Queen was completed.

Although there were renovations done between 1899-1901 the original brick building is still visible because the new was built around the old. The architect for the project was John William Siddall and one of the major features of the design was a canopy reaching across Front Street, connecting the south and north markets so pedestrians could walk from King through to South St Lawrence under cover, this canopy however was removed in 1954.

In 1972 there was more discussion of changing the South St Lawrence Market building, however this time proposing its demolition. Local people rallied against this proposal and a group called Time and Place put together a counter proposal to protect the historical building. They suggested renovation as opposed to demolition and that the unused space previously for Council of Chambers be turned into a public display space. (City of Toronto, n.d).

The public effort was successful and renovations began in 1974. The Basement jails were turned into retail space and the main floor was completely restored. In 1977 as recommended by the Time and Place proposal, plans were set in place for a civic gallery. On March 7 "1979, The Market Gallery of the City of Toronto Culture Division opened as the official exhibition centre for the display and storage of the City's art and archival collections."(City of Toronto, n.d).

Today the Market Gallery is still functioning and the market itself is thriving with over

120 specialty vendors, it has been called one of the top 25 markets in the world by Food & Wine Magazine. The market is also home to a cooking school and event space called the Market Kitchen, which was created by the City of Toronto in collaboration with the St. Lawrence Market Tenants' Association.



Figure 7.1

## NORTH ST. LAWRENCE MARKET

The first permanent market was a small simple wooden structure built on the northern portion of the Market Block facing King Street, in the current location of St Lawrence Hall.

In 1831 a large brick building designed by James Cooper replaced it and stretched all the way from King Street to Front Street. This building had shops, offices for rent and a large public courtyard. Unfortunately, the Great Fire of 1849 destroyed this building.

Rebuilding of the market included plans for St Lawrence Hall (1850), and a new North St Lawrence building (1851) located directly south of the St. Lawrence Hall on the north-west corner of Front Street East and Jarvis Street. The buildings main entrance was on Front Street however as discussed previously it could also be accessed through St. Lawrence Hall. The North Market was where you would find Butchers' stalls complementing

the south market which had produce, poultry and cheese.

In 1904, after the renovations of the South Market Building a completely new North Market Building was completed. This building was connected to the South Market Building by the canopy across Front Street.

Again in 1968 the North Market Building was demolished and the current building

designed by , J. G. Sutherland was constructed. As part of the new design Market Lane Park was created as a pedestrian mall. The park has undergone small changes over time however the North Market Building has remained virtually unchanged and is still used as a farmers market every Saturday.



Figure 72

STREET LIFE  
IN THE  
ST. LAWRENCE  
HOOD



# LOCATION. HISTORY. CONTEXT.

The city is the venue and catalyst for activity and interaction. A deep understanding of the uses of public spaces, allow designers to enhance the quality of life in the city. The interdependence between people's use of public space and how the environment shapes interaction and society is what is investigated here, or as Jan Gehl puts it, how "we shape cities, and they shape us." (Gehl, 2010b, p. ix).

Gehl investigates factors affecting human experience in the city that tie into the notion of street life. He understands the 'lively city' as the means for street life where safety, health, sustainability and human experience are prioritized and design carefully considers human dimensions, sense and scale.

A lively city is a welcoming environment that promotes social interaction (Gehl, 2010b, p. 63) and encourages people to walk, bike, and stay in city space. (Gehl,

2010b, p. 6). When a city has these elements of street life, necessary activities, optional activities and social activities all take place, and the city functions as a meeting place. For a lively city, space must be versatile to allow the overlap of many complex activities that intersect in the city.

The St Lawrence neighborhood was selected for the site because it embodies the notion of the lively city. The following is an investigation of the site for the project through Jan Gehl's theory of the lively city. Soft edges, lengthy stays, meeting place and fine scale have been identified as key influential elements of the lively city and will be discussed in more detail, their presence in the St. Lawrence neighborhood is illustrated through accompanying photographs.



SCALE  
AND  
RHYTHM  
Figure 74



SOFT  
EDGES

TRANSPARENCY  
Figure 75



APPEAL  
TO THE  
SENSES  
Figure 76



TEXTURE  
AND  
DETAIL  
Figure 77

The edges of the city, most significantly, where the city and building meet at ground level have an undeniable influence on street life. This is where people enter and exit buildings, where the activity inside buildings interacts with that outdoors. “The edges provide the opportunity for life in the buildings or immediately in front of the buildings to interact with life in the city. This is the [edge] zone where activities inside the building can move out into the common space of the city” (Gehl, 2010b, p. 75). The human scale in relationship to buildings means that our interaction with edges occur at eye level, at street level. Soft edges appeal to our human dimensions, they are transparent with many openings, there are things to see, touch and engage people. (Gehl, 2010b, p. 79).

“City streets with soft edges have a significant influence on activity patterns and attractiveness of city space. The transparent, welcoming and active facades give city space a fine human scale just where it means most: up close at eye level”(Gehl, 2010b, p. 81).

Some of the characteristics of soft edges include, human scale and rhythm to maintain interest for pedestrians at walking speed, transparency for a connection between

inside and outside, an appeal to the senses to activate engagement between people, city and buildings, texture and details at eye level provide interest, mixed functions for varied experience and appeal, and a vertical façade rhythm to decrease the perceived distance and walking time. (Gehl, 2010b, p. 78)

Soft edges have points of interest for looking at, interacting with and shopping, making them desirable places to be. The edge can also provide protection from the elements, for example awnings, umbrellas and overhangs. They allow for people to sit, stand, wait and watch, giving them security because their back is not exposed and they have a clear view of their surroundings. This encourages them to stay longer, another element of a lively city. The consequences of neglecting to design soft edges can be put simply, “if the edge fails, then the space never becomes lively.” (Gehl, 2010b, p. 88).

“Where you enter and leave buildings, where indoor and outdoor life can interact. This is where city meets building.”

Gehl, 2010b, p. 75





GOOD  
SUPPORT  
POINTS

Figure 80



EDGES  
FOR  
SITTING

Figure 81



A  
PLACE  
TO SIT

Figure 82



A  
GOOD  
VANTAGE  
POINT

Figure 83



## LENGTHY STAYS

Lengthy stays indicate a lively street life in cities, and are dependant on quality; the quality of space can encourage or deter people from deciding to stay in that space. "People walk, stand and sit where the quality of space invites them to do so."(Gehl, 2010b, p. 134). Many stationary activities in public space are optional and recreational. The space must appeal to people for these activities to occur, therefore, staying activities, and the presence of people are a good indicator of the quality of space. "A good city is like a good party: guests stay because they are enjoying themselves."(Gehl, 2010b, p. 147).

There is an important distinction between the presence of people moving through space, and those staying in space. If a public space becomes only a moving place then its limited function and lack of dynamism deters from the lively city. (Gehl, 2010b, p.72, 134)

Edges are an important factor affecting peoples desire to stay in place. They provide opportunity to stay longer whether standing or sitting they provide a more comfortable vantage point physically and psychologically. (Gehl, 2010b, p. 137). Spaces that lack edges have undesirable conditions for staying. People often seek out niches, furniture, corners, columns and facades with detail and texture in the edge zone for staying (Gehl, 2010b, p. 139). People desire places to

sit, lean and rest. "Quite simply, good cities for staying have rough facades and good support points."(Gehl, 2010b, p. 139)

People naturally are drawn to places they can sit because standing for long periods of time is uncomfortable. Optimal conditions for sitting include "a pleasant microclimate, good placement preferably at the edge... a good view, an appropriate noise level to allow for conversation, and no pollution."(Gehl, 2010b, p. 140). People also seek a good view of the activity and people surrounding them. Dependant on a person's length of stay, and the demand for seating at different times there are different requirements. A variety of primary and secondary seating is ideal. Furniture with backs and arms mixed with informal seating such as steps stones or fountains. (Gehl, 2010b, p. 142). Another way to achieve a desirable staying space is by providing flexible or movable furniture so the people can take advantage of the site, views and climate. (Gehl, 2010b, p. 144).

Most importantly;

"People stay in a place if it is a beautiful, meaningful and pleasant place to be."

Gehl, 2010b, p. 147



PRIMARY SEATING

Figure 84



SECONDARY SEATING

Figure 85



HEAR  
Figure 86

MEETING  
PLACE



SEE  
Figure 87



TALK  
Figure 88

A city that is conducive to meeting must provide opportunity for seeing, hearing and talking. (Gehl, 2010b, p. 148). These are the three fundamental characteristics of lively and active urban meeting place.

Not being able to see your surroundings in public is problematic; views allow people to take in the context in which they are situated. In public space they are essential because they enhance peoples connection with one another, and reinforce the feeling of being with others, even if there is no contact beyond the visual. They provide pleasure to the viewer if they are architecturally, environmentally or otherwise interesting. Visual contact between inside and outside is important in creating a more dynamic street life. For example shops that create a connection between street and interior allow for a different form of activity to spill over onto the street. (Gehl, 2010b, p. 149).

Seating and other elements in space can maximize and take advantage of the sites views and at the same time enhance meeting places because of their comfort and configuration. City furniture has been discussed in relation to sitting and staying for optional or recreational activities, and one of these possible activities is talking. Talkscapes are created through street furniture and provide areas for conversation and communication. They differ from simple bench seating in that they allow for people to interact with one another. Benches have the effect of facing people away from one another and creating personal 'bubbles' around people, Talkscapes however are specifically designed for meeting. (Gehl, 2010b, p. 155).

Hearing and talking in public spaces can be challenging because of traffic and construction noise. Sound in space is not altogether undesirable, however it is the sound of human activity not machinery that is preferred. (Gehl,

2010b, p. 152). Car free streets, parks and public squares allow for this human dimension to survive in the city.

The city is a public area and acts as a site of meeting for many forms of exchange. Different forms of performances take place including music and cultural, festivals, demonstrations, parades and many other democratic exchanges also take place.





MARKET  
STALLS  
Figure 93



AT  
EYE LEVEL  
Figure 94



COLONNADES  
Figure 95



SMALL  
STREETS  
AND  
SQUARES  
Figure 96

## FINE SCALE

Human proportions and dimensions are crucial to comfort and well being of people in city space. When people and meeting are the primary consideration for design scale must be a consideration. Spatial relationships and scale have a direct effect on our experience of space, specifically our desire to stay, (Gehl, 2010b, p.162) which has been established as imperative to a lively city space. "The size of the spaces is a crucial factor for well-being and for the function of the space as a framework for human activity,"(Gehl, 2010b, p. 163). Small streets and squares in older cities prove to be ideal for pedestrian activity and social interactions in public space. (Gehl, 2010b, p. 163). More modern cities that have larger buildings can be successful in achieving human scale relationships when the ground floor is appropriate to human dimensions. Building treatment at eye level is the most significant part of the design because it has the greatest interaction with people. (Gehl, 2010b, p. 164).

One way of the ways in which designers can make large public spaces more proportionate to the human body is by break up and delineate the space. Using elements such as colonnades, bollards, kiosks, trees, market stalls or archways can achieve this effect. People are then able to move between more intimate spaces while maintaining the view of their surroundings. (Gehl, 2010b, p. 165).

## SPATIAL COMMUNICATION

Lively city space creates an open, accepting, and diverse atmosphere with a strong sense of community within the city. It allows for people to interact with one another freely and comfortably. The visual as well as physical elements in space support the activities taking place and accommodate the physical and psychological needs of people. The photographic investigation of the site through the lens of the 'lively city' makes it evident that the spatial communication of the St. Lawrence neighborhood supports the values associated with democracy and people-centric design.

## DESIGN IMPLICATIONS

The design on the building and its interiors should prioritize, soft edges, lengthy stays, meeting place and fine scale.

- Maximize edge zone around the building.
- Create soft edges wherever possible.
- Establish a visual connection between interior and exterior.
- The main floor of the building should be varied, have a strong rhythm, and support points.
- Provide opportunity in and outside of the school for different lengths of stays, as well as primary and secondary furniture to accommodate these.
- Facilitate opportunities for meeting.
- The building should be designed in relation to human proportions, scale and the senses.
- Use design elements to break up large spaces into more inviting human scale ones.

# EXAMINATION OF THE MARKET

St LAWRENCE  
FARMERS  
MARKET



Figure 99



Figure 100



Figure 97



Figure 98



Figure 101



Figure 103



Figure 104



Figure 105



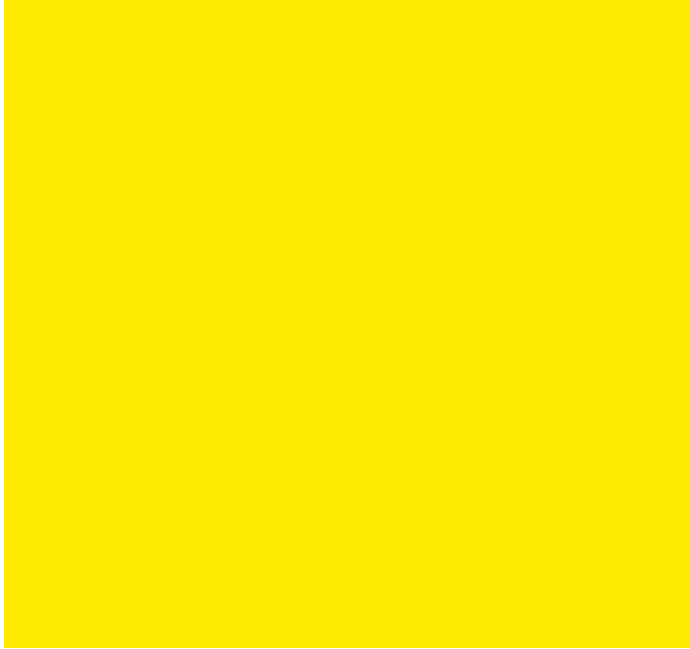
Figure 102



Figure 106







DESIGN  
PROGRAM



# INTRODUCTION

This design program is for a new construction Community Learning Centre. The program is based on a school that has a student body of 400-500. The spatial elements are based on the needs, habits and interests of student's grades 9-12, the primary users of the space. The secondary users are the teachers of the school, and the tertiary users are community members and the public, as well as other school staff, including; administrative, principal and janitorial. All user needs and values must be taken into consideration for the design. The program is specific to Toronto, Ontario, with consideration for factors affecting design in this city including climate and demographics.

The Community Learning Centre should provide an environment that is conducive to teaching and learning and can accommodate the many needs of its users. It should provide multipurpose spaces with adequate space for community use. It should provide a space for; relaxation and socializing, homework and concentration, extracurricular activities and meetings. It should also supply students with access to computers and the internet.

Because the Learning Centre will have multiple functions and serve a diverse group the public space within the Community Learning Centre will accommodate a maximum of 600 people at a time and should be 40,000 - 50,000 square feet.

The Community Learning Centre should reflect the values, attitudes and priorities of the students, faculty and community who use it. It should also reflect qualities of the learning city and lively public spaces. The environment itself will be an integrated part of the learning experience and aid in teaching and informal learning. The *schoolscapes*, the focus of the design, emphasize social interaction and multiple context for learning. The centre as a whole will be open to the public and act as a meeting place and marketplace for the community, hopefully inspiring social interaction and learning beyond curriculum and encourage life long learning for all members of the community.

# OCCUPANCY

TYPE OF USE	AREA PER PERSON M <sup>2</sup>
<b>ASSEMBLY</b>	
Space with fixed seats	0.75
Space with non-fixed seats	0.75
Stages for theatrical performances	0.75
Space with non-fixed seats and tables	0.95
Classrooms	1.85
School, shops and vocational rooms	9.30
Reading or writing rooms or lounges	1.85
Dining, beverage and cafeteria space	1.20
Laboratories in schools	4.60
<b>BUSINESS + PERSONAL SERVICES</b>	
Personal service shops	4.60
Offices	9.30
<b>CARE OR DETENTION</b>	
Treatment or sleeping room areas	10.00
<b>OTHER</b>	
Cleaning and repair goods	4.60
Kitchens	9.30
Storage	46.00
Public corridors intended for occupancies in addition to pedestrian travel	3.70

## OCCUPANCY CLASSIFICATION

Group A Division 2 Occupancy Type for:  
School, Restaurants, Libraries, Lecture halls,  
Gymnasia, Community halls, Auditoria  
Group E Markets, Shops, Stores

40,000 - 50,000 Sq. Ft. required

## USERS

400-500	STUDENTS
25	EDUCATORS
4	ADMINISTRATION STAFF
2	RESOURCE CENTRE STAFF
2	JANITORIAL STAFF
25	PUBLIC + COMMUNITY MEMBERS
603 (max)	TOTAL USERS

## USERS

The users of the Community Learning Centre's informal learning spaces are as follows:

Primary users - students in grades 9-12, ages 14-18,

Secondary users - teachers and other school employees.

Tertiary users will be people from the community, market vendors, parents, family and other student support systems, as well as part time staff.

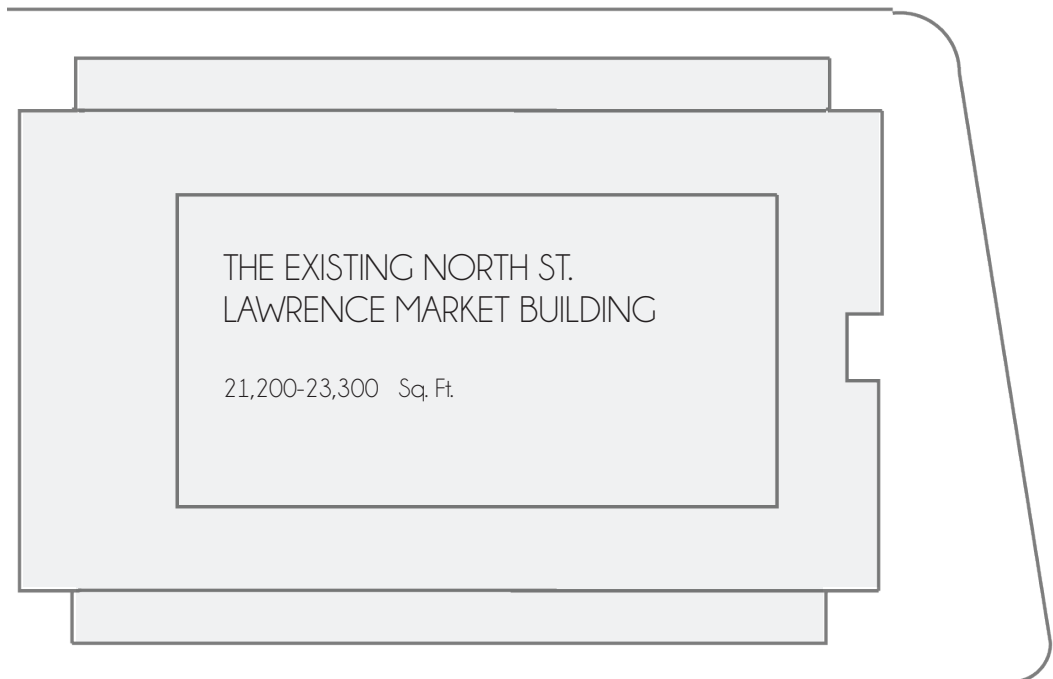


Figure 108. Existing Building and Site

# USER PROFILES

## PRIMARY USERS

### PROFILE

The primary users, as previously stated, are the students. The Community Learning Centre will be designed for approximately 400 students total. Student enrollment will be open to anyone within the Greater Toronto Area (GTA). The students require informal learning spaces and *schoolscapes* for new modes of teaching and learning. This will take the form of flexible space that allows them to engage in a multitude of activities, both social or academic.

The project titled *Growing Up in Cities*, by UNESCO studied and categorized young adults values of public space. They defined "six quality indicators: social integration, a variety of interesting settings, safety and freedom of movement, peer meeting places, a cohesive community identity, and green areas." (Chawla 2002;

Driskell 2002), (Passon, Levi, D., del Rio, 2008, p. 78). These indicators have design implications that can be applied directly to the *schoolscapes* or pseudo public spaces within the learning centre allowing them to respond to the research on young adults values.

### VALUES

The identified six quality indicators reflecting young adults values:

#### SOCIAL INTEGRATION

Spaces that provide a sense of belonging and connection to the community and other groups within that community.

#### VARIETY OF INTERESTING SETTINGS

Space that allows young adults access to multiple settings, where they can engage in different activities

**SAFETY AND FREEDOM OF MOVEMENT**  
Familiarity and comfort with surroundings allows for unrestricted movement.

#### PEER MEETING PLACES

Spaces or niches in which young adults can call their own and interact freely with their peers.

#### COHESIVE COMMUNITY IDENTITY

A strong sense of place, governed by geography and reinforced by resident pride and a strong sense of history and culture that is celebrated through festivals and art.

#### GREEN AREAS

Spaces that provide access to natural vegetation.

(Passon, Levi, D., del Rio, 2008, p. 78).



## FREQUENCY OF USE

9:00am - 3:30pm for school hours and potentially before and after classes and weekends for extra curricular activities and community activities.

## OTHER VALUES IDENTIFIED:

### DECISION MAKING ABILITY

Including the ability to choose the way in which you work by providing multiple types of spaces, and the opportunity to work independently or corroboratively and with varying levels of privacy, personal space and distractions.

### PERSONALIZATION

Flexibility of environment to suit individual needs, encouraging a sense of ownership, individuality and independence.

### SOCIALIZATION

Casual and informal meeting places for students to gather.

VALUES	DESIGN IMPLICATIONS
SOCIAL INTEGRATION	The design of learning spaces should be comfortable, safe, and functional
VARIETY OF INTERESTING SETTINGS	Provide a variety of spaces that support multiple types of learning activities Provide informal spaces that support informal learning, brainstorming and collaboration, spaces such as hallways or cafes
SAFETY AND FREEDOM OF MOVEMENT	Provide views and sense of flow between spaces. Navigation should be seamlessly integrated into the design
PEER MEETING PLACES	Learning spaces should enable internal and external connections: face-to-face as well as digital communication Provide collaborative spaces as well as spaces for independence
COHESIVE COMMUNITY IDENTITY	Learning spaces should reflect institutional, community and student values Use the environment as a means of communicating identity and values
GREEN AREAS	Provide access to outdoor space, physically and visually
DECISION MAKING ABILITY	Create learning spaces that are flexible and adaptable, to evolving teaching and learning strategies, changing technologies and different learner needs Every space in the Community Learning Centre should be a place where learning can take place: provide connection with wireless Internet, access to knowledge resources, the ability to collaborate with one another, and construct knowledge
PERSONALIZATION	Provide diverse, flexible environments that respond to the diversity of user needs
SOCIALIZATION	Provide informal spaces for meeting. Interpersonal interaction is key for both faculty-student interaction and student- to-student collaborations Provide spaces that are experiential, engaging, interactive, and collaborative. The next generation of students view learning as a social and constructive activity Immediacy, connectivity, and communication should be important components of the design. Learning spaces must be wired for connectivity

\*(Skiba, 2006, pp. 103-104)

Table 7. Design Implications Based on Primary User Profile

## PSYCHOLOGICAL NEEDS

Stimulating visual environment - To engage students and maintain interest.

Responsive environment - Lighting, acoustics, temperature control and air quality, heating and cooling should be appropriate to the space and user needs

Formal and informal spaces - To meet the diverse needs of all students.

Accessible and Safe - All people should feel welcome, accepted and considered

Furniture - Socially inclusive, comfortable and ergonomic

## PHYSICAL NEEDS

Safety - Personal safety and the safety of personal belongings

Mobility - The ability to use multiple spaces and have ability to move freely between spaces.

Access to technology - Necessary for activities within the spaces, including; computers, power sources, internet, cable, projection etc.

Flexibility - For students to be able to personalize space to meet their needs

Accessibility - Access for all users to: washrooms, transit, change rooms, food, outdoor space, books, technology, fitness facilities etc.

Comfort - Furniture that is comfortable

and ergonomic that is easy to maintain and durable. Comfort and ease of work require enough space and storage for work tools (backpacks, writing materials, computers etc)

## SENSORY NEEDS

Touch - Varied materiality

Hear - City buzz and nature, quiet for concentrated work

Taste - Natural foods

Smell - Fresh air, food, restaurants

Sight - Daylighting and views to the street life and to nature as well as views connecting to historical surroundings and the context of the market.

## ACTIVITIES - SOCIAL [INFORMAL]

Socialization, relaxation, lounging  
Impromptu interactions and meetings  
Consumption of food and beverages  
Sleeping  
Surfing the internet, using computers or personal laptops  
Social media use - including talking on cell phones, texting, videos, websites etc.  
Spontaneous interaction and expressions (art, dance, performance etc)  
Displaying work  
Student events - guest speakers, presentations, dances etc.  
Extra curricular activities  
Traveling between school spaces

## ACTIVITIES - ACADEMIC [FORMAL]

Homework, research, studying  
Reading, writing  
Collaboration and group work  
Parent teacher interviews

Formal and informal meetings including those for student organizations and clubs such as:

Student council  
Political  
Debate  
Religious  
Cultural/multi cultural  
Video game, computer  
Movies  
Book, poetry, comic books  
Study groups

## SECONDARY USER PROFILE

### PROFILE

The Staff and educators will be a diverse group of individuals ranging from 18-70+ years old and potentially living within or outside Toronto and the GTA. There will be approximately 25 educators and another 5 school staff. Their primary activities in the *schoolscapes* will be supervision of students, moving between spaces, meeting and working with students and potentially conducting lessons.

The best workplaces are those that foster social interaction and employees satisfaction. The *schoolscapes* will contribute to employee satisfaction by providing optimal teaching spaces and also supporting social interaction.

### VALUES

Flexibility – To suit different styles of teaching and supervising as well as to support different types of lessons. Spaces should afford the opportunity to work and teach in multiple spaces that support different activities and the ability to work independently or corroboratively.

Welcoming environment - an environment that is inviting and inclusive

Safe respectful learning environments - equality for all staff and students

Inspiring creativity, critical thinking, independence

Positive relationships with colleagues and students

Ensuring students are meeting

expectations - in terms of grades as well as behavior

Fostering meaningful learning experiences - in and out of the classroom

The ability to provide one on one instruction when necessary and alternatively a hands off approach where appropriate.

Mutual Respect – between students and colleagues

Open-mindedness – to new ideas and perspectives

A safe and open dialogue – an environment that allows all individuals to feel comfortable in the learning environment

## FREQUENCY OF USE

9:00am - 3:30pm for school hours, occasionally before and after classes and weekends for supervision of extra-curricular activities, community activities, lesson preparation and grading.

## PSYCHOLOGICAL NEEDS

Creative and inspirational - For students and for educators, to maintain student engagement and keep current

Socially inclusive - Furniture and environments

Safe and Respectful - Personal safety as well as the safety of others and those that educators are responsible for.

## PHYSICAL NEEDS

Flexible and functional - Allows for lessons and supervision to be smooth. The spaces functional elements ease the job of educators and staff. Space should suit multiple functions and individual needs. Comfortable and flexible furniture that is easy to maintain and durable

Connected - Visually as well as technologically

Accessible - Space that provides equal opportunities and ease of movement. Access to; washrooms, transit, change rooms, food, outdoor space, books and resources, technology etc.

Formal and informal spaces that allow for a variety of teaching and learning opportunities

## SENSORY NEEDS

Touch - Materiality

Hear - There should be the ability to alternate between the quietness of nature for focused work, and the city "buzz" for a more lively atmosphere

Taste - Natural foods

Smell - Fresh air, food, restaurants and the market

Sight - Views to the outdoors, access to daylight, unobstructed views to all areas of the space for supervision

## PRIMARY ACTIVITIES

Reading, writing, research collaboration

Computer/laptop activities

Teaching/lecturing

Prepare lesson plans, organization of events, trips etc

Grading/evaluation

Supervision, mediation

Staff meetings

## TERTIARY USER PROFILE

### PROFILE

The tertiary users of the Community Learning Centre are; community members, market vendors, parents, family, student support systems, and part time staff.

The tertiary users would again be an extremely diverse group of people. They could be from any age group and depending on their relationship to the school could also be from a wide geographical area, particularly the market vendors. Community members would be very familiar with the area. The parents, family members and part time staff would also have some familiarity with the area. Tertiary users would primarily use the *schoolscapes* for the marketplace, after school hours and on weekends, and for other school events such as performances.

### VALUES

Socialization – as a community meeting place and a place for all different groups of people to interact

Safety – personal safety, as well as safety for vendors stock and revenue.

Tradition and historical connection – the tradition of the farmers market started over two hundred years ago at this location and is a source of pride for the community and has a significant impact on community identity.

Creating positive relationships between community members, students and all users.

Ensuring students are meeting expectations (in terms of grades, behavior etc.)

## FREQUENCY OF USE

Primarily evenings and weekends for involvement in extra curricular activities, community activities, events, and the market. During school hours for the cafe, library use and special events

Meaningful learning experiences for all – the centre acts as a valuable community resource

Mutual respect and equality- between all users

Open-mindedness – to a diverse range of ideas and perspectives

## PSYCHOLOGICAL NEEDS

Flexible – To accommodate different user needs.

Connected – To the community and context. Connection is key for the success of the market and for family to be involved in education.

Accessible – Space that provides equal opportunities, ease of movement

Socially inclusive furniture

## PHYSICAL NEEDS

Flexibility – To suit different uses of the space, in particular the marketplace and the school functions

Safety – Personal safety and for vendors products and profits

Accessibility – For all users, to: washrooms, transit, food, outdoor space

Access to technology

Adequate storage for market vendors

Comfortable, flexible and easily maintained furniture

## SENSORY NEEDS

Touch – Materiality

Hear – City 'buzz' and nature or quiet areas

Taste – Natural foods

Smell – Fresh air, food restaurants market

Sight – Daylight views to the outdoors and street life

## PRIMARY ACTIVITIES

Meeting place – For community meetings, political meetings, parent teacher meetings, organization of events etc.

Participation in events

Shopping/selling – at the market

Eating, lounging, socializing

# PROGRAM OUTLINE

The program for this Community Learning Centre is specific to the informal learning spaces. It focuses on meeting places, marketplace and moving places within the building and how these can be designed in a learning environment. The program accommodate a maximum total of 600 users; 400-500 students, 25 educators, 4 administrative staff, 2 resource centre staff, 2 janitorial staff, and 25 community members at a time. The total square footage for the building should be between 40,000 and 50,000 square feet.

The program includes the *schoolscapes*, the learning centre, which encompasses a restaurant and kitchen, a multipurpose communal space, and outdoor space, and the student lounge, with breakout spaces and digital resources. The chart on the opposite page illustrates how the concept of marketplace, meeting place and moving place has been applied in the learning environment. The elements that make up each space are shown as well as their relationship to one another.

The next section will outline the spatial requirements for each of these spaces.



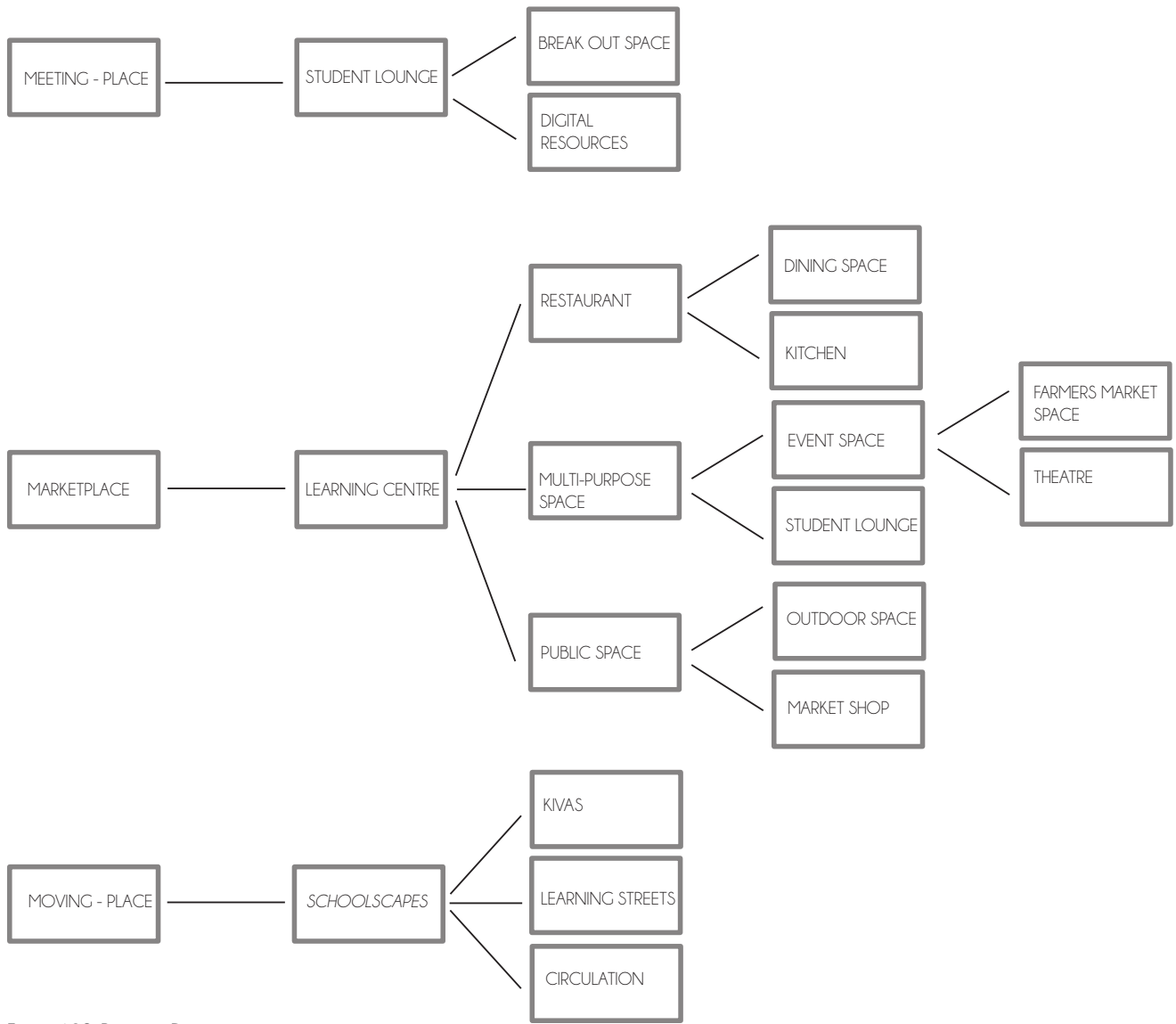


Figure 109. Program Diagram

# SPATIAL REQUIREMENTS

## MARKETPLACES

The following tables list all of the spaces to be designed, as well as their specifications and requirements. It outlines the three categories of spaces to be investigated and what each of these classifications implies.

Space where multiple people, ideas and perspectives intersect, where people come together for a variety of purposes

SPACE	QUANTITY	OCCUPANCY LOAD SQ.F/PERSON	SQUARE FOOTAGE	ACTIVITIES	FF&E
DINING SPACE	1	13 (400 people)	5,200	Eating, drinking, socializing	Seating, horizontal surface
KITCHEN/ CAFE/ RESTAURANT	1	100 (8-10 people)	1,000	Food preparation and serving	Horizontal food prep. surface, kitchen equipment, storage, transaction station
EVENT SPACE	1	8 (200 poeple)	16,000	Presentations, lectures, performances	Open space/stage, seating
PUBLIC SPACE/ MARKET	1		15,000	Public/ community events, farmers market, antique market	Flexible/multi-purpose furniture, open space, cold storage, transaction station(s)
STUDENT LOUNGE	1	20 (15 people)	300		

\* Learning Centre refers to a central space within the school (Nair, 2002, p. 12)

Table 8. Spatial Requirements for 'Marketplace' Program

## MEETING PLACES

Places where people come together for social and school related functions

SPACE	QUANTITY	OCCUPANCY LOAD sq.f./ PERSON	SQUARE FOOTAGE	ACTIVITIES	FF&E
STUDENT LOUNGE, BREAKOUT AND DIGITAL RESOURCES	1	20 (25 people)	1,000	Socializing, relaxing, group and individual work, technological, studying, reading, presenting	Work surface, computers, power outlets, display area, soft and hard seating

Table 9. Spatial Requirements for 'Meeting Place' Program

## MOVING PLACES

Spaces in which people move

SPACE	QUANTITY	OCCUPANCY LOAD sq.f./ PERSON	SQUARE FOOTAGE	ACTIVITIES	FF&E
LEARNING STREETS, CIRCULATION, KIVAS	20% of programmed area	40 (400 people)	15,950	Moving between classrooms and structured/ programmed areas, socializing, organizing/ storing books and belongings	Personal storage, surfaces to sit on and put things down, clear unobstructed path

\* Kivas have elements of both meeting place and moving place. They are more open spaces in the school that encourage social interaction and allow for circulation. (Nair, 2002, p. 12)

Table 10. Spatial Requirements for 'Moving Place' Program

ALL  
OTHER  
SPACES FOR  
ZONING

SPACE	QUANTITY	OCCUPANCY LOAD SQ.F/PERSON	SQUARE FOOTAGE	ACTIVITIES	FF&E
LEARNING STUDIO	16	20 (20-25 people)	8,000	Reading, writing, lectures, labs, group work	Task seating and workstations, projector, technology, computers
PROJECT ROOM (multi-use)	2	50 (20-25 people)	1,240	Building, experimentation, group work, computer use	Flexible furniture, projector, technology, computers, power sources, gas supply
ART STUDIO	1	50 (20-25 people)	1,240	Painting, drawing, sculpting, multimedia	Sink, easels, movable seating, projector, material storage
MUSIC STUDIO	1	50 (20-25 people)	2,550	Instrumental and vocal rehearsal, practicing, collaboration	Music stands, movable seating, projector, instrument and material storage
SCIENCE LAB	1	50 (20-25 people)	1,240	Lectures, experimentation, lab work	Sinks, work surface, emergency station, technology, computers
CAREER CENTRE	1	100 (4 people)	400	Meetings, computer use	Storage for resource material, computers
COUNCILOR OR GUIDANCE	1	100 (2-4 people)	400	Counselling, meetings	Computers

SPACE	QUANTITY	OCCUPANCY LOAD SQ.F/PERSON	SQUARE FOOTAGE	ACTIVITIES	FF&E
RESOURCE CENTRE	1	20 (100 people)	2,500	Read/write, homework, research	Lounge seating, task seating, desks, computers, book storage, circulation desk
OUTDOOR RECREATION AND 'COMMUNITY GARDEN'	1	n/a	8,000	'Community' garden/ greenhouse	Outdoor lounge, seating, open space, room for physical activity, community garden plots
OFFICE + RECEPTION	1 (but 5 individual stations or offices)	100 (5 people)	700	Administrative work, meetings,	Computers, work surface, hard seating
HEALTH CENTRE	1	100 (2-4 people)	430	Appointments, meetings	Private area, sink, storage, work surfaces, computers
TEACHER WORKROOMS OR LOUNGE	1	20 (8-12 people)	400	Relaxation, eating, grading, planning	Computer, work surfaces, soft and hard seating
CUSTODIAL ROOMS	1	50 (1 person)	300	Storage	Storage, shelving,
W/C	3 staff 5 male 9 female 17 total	75 (250-300 of each sex)	2,385		Individual washrooms, sinks
Mechanical Room	1	150 (1 person)	1,350	Maintenance	
FACILITIES MANAGES OFFICE	1	100 (1 person)	120	Administrative work	Storage, computers, work surfaces

\* Learning studios are teaching spaces, and replace traditional classrooms. They are characterized by activity zones and are multi-purpose in nature. (Nair, 2002, 12)

\* Project rooms allow students to work on a number of different types of projects long term in one location by providing a multitude of equipment for varying types of project-based learning. (Nair, 2002, 12)

Table 11. Spatial Requirements for Program to be Zoned

# ST LAWRENCE MARKET NORTH DESIGN COMPETITION

## OVERVIEW OF COMPETITION

In 2009 there was a design competition issued by the City of Toronto for a new North St. Lawrence Market Building. The city wanted to redevelop the site with the existing Saturday Farmers' Market and Sunday Antique Market but also reincorporate Toronto Court Services' courtrooms and administrative offices into their original area. The goal of the project was to bring more life into the site and give the North Market a building that is responsive to the prosperity of the marketplace, culture and history surrounding it. The design competition clearly outlined goals of the project that responded to the buildings context. Although the typology is slightly different for this project some of the considerations and requirements outlined by the City of Toronto are applicable because the market typology is a component of both projects, and the site context remains the same. The following is an overview of some of the city's competition guidelines that help to inform some of my design guidelines for this project.

# DEVELOPMENT PARAMETERS + DESIGN GUIDELINES

CITY OF TORONTO DEVELOPMENT PARAMETERS	MY DESIGN GUIDELINES
The new North Market building must relate axially to both the South Market building and St. Lawrence Hall.	The design must relate to the South Market building, St. Lawrence hall and Market Lane Park and provide visual connection between them.
Massing should be generally symmetrical about its north-south axis and have an overall height, which does not exceed the height of the bottom of the cupola on St. Lawrence Hall.	The size and form of the building must relate to its surrounding context.
The primary building entrance leading to the ground floor Market Hall is to be located on Front Street, on axis with the entrance to the South Market building. A secondary entrance is to be established along the Market Lane frontage. All entrances are to be clearly defined.	The primary entrance to the marketplace should be located on Front Street. The primary entrance to the school may be the same or located on Jarvis Street or from Market Lane Park. All entrances should be designed to promote a sense of arrival and indicate the function of the interior.
The building must promote increased usability of Jarvis Street, Front Street and Market Lane Park, and provide views into the ground floor Market Hall along all three frontages.	Pedestrian and street activity must be considered in the design; the building should act as a site that employs elements of marketplace, meeting place and moving-place.
The east and west frontages should be designed to convert from interior space to open colonnade.	There must be a relationship between interior space and exterior surroundings; transitional spaces should be given important consideration.
The design, scale, and material of the new North Market building should respect the architecture of the surrounding buildings and neighborhood.	The design, scale and materiality should complement its surroundings, suit the typology and respect the historical character of the neighborhood.
Market Lane Park should have an animated park frontage with large windows that open up in the summer months. The new building must engage this park.	Market Lane park will be designed as part of the building site. It should relate to the interior space and the frontage should be dynamic and permeable.
Together, the South and North Market buildings have the potential to form a strong anchor and grand gateway for the St. Lawrence neighborhood. There is merit in finding architectural solutions that can symbolically or functionally connect these buildings in some way, bearing in mind the historic connection between the two.	May or may not be considered
Physical connection to St. Lawrence Hall (to encourage functional continuity) could also be considered as long it occurred below the third storey of St. Lawrence Hall, resulting in substantial functional improvement, and the materials and design of the connection must be architecturally compatible with St. Lawrence Hall.	May or may not be considered

Table 12. Development Parameters and Design Guidelines from Design Competition (City of Toronto, 2009, p. 19)

## OTHER IMPORTANT CONSIDERATIONS FROM THE COMPETITION

### ENERGY EFFICIENCY AND SUSTAINABILITY

Sustainability will be a fundamental consideration in my design because its importance is inherent in the values of the marketplace. The connection of the neighborhood to local fresh produce and student environmental awareness make sustainable design an essential design priority.

The new building commissioned by the city is to be designed to meet the Toronto Green Standard, which is a set of performance measures and guidelines for new developments that have sustainable sites and designs. The performance measures address air and water quality and efficiency, energy efficiency, greenhouse gas emissions, solid waste diversion and reduction and ecological protection for the natural environment. (City of Toronto, 2012). These standards ensure that new developments meet local environmental objectives.

Because my design is focusing on the interiors of the building and expanding the existing building these standards will be considered and implemented where possible but will not be met completely.

One of the ways in which I plan to incorporate sustainable design is through a green roof. The green roof will provide the opportunity for education and awareness as well as give back to the community and city by improving storm water management and helping to reduce the urban heat island effect. The City of Toronto's Green Roof

Strategy suggests that a policy be implemented in which all new city owned buildings be required to have green roofs with an area of 50 percent of the building footprint. (City of Toronto, 2005, p. 51)

### EXTERIOR LIGHTING

The City of Toronto has a heritage lighting plan in place for the heritage areas within the St. Lawrence neighborhood. Both the St. Lawrence Building South and St. Lawrence Hall are part of this plan. If there is to be any exterior lighting it should adhere to the guidelines of the lighting plan as well as green standards for energy efficiency.

### MIGRATORY BIRD PROTECTION

The city has also set out guidelines for design that is sensitive to migratory bird protection policies. They feel that it is a priority for all new and existing buildings to be less dangerous to migratory birds.

### FINAL NOTES

The users of the building are primarily students, however, a wide variety of people will use the building on a regular basis for its other functions. The building and interior should respond to all users needs and accommodate the different ways in which the space is used. The design should respond to this and the space should be relatable to each group.





SUMMARY OF  
DESIGN  
IMPLICATIONS

	THE ENVIRONMENTS IMPACT ON PEOPLE + LEARNING	THE SPACE BETWEEN CLASSROOMS <i>SCHOOLSAPES</i>	SPATIAL COMMUNICATION	PRECEDENTS	READING EXISTING SCHOOLS	READING THE SITE + STREETLIFE	PROGRAM + DESIGN COMPETITION
KEY CONCEPTS	<p>Light colour, acoustics and ventilation impact the physical and psychological wellbeing of users</p> <p>Education and educational environments should be social and participatory</p> <p>The environment should be integrated into teaching - the 3D textbook</p>	<p>Marketplace, meeting place and moving place create streetlife and are key elements of <i>Schoolscapes</i></p> <p>The learning city - the city becomes part of the learning experience</p> <p>Social activity is key to great places which should include, varied levels of contact</p> <p>Multiple contexts for learning</p>	<p>The environment should simulate real life situations and the city</p> <p>Open and public</p> <p>Establish a connection to the history, present and future of the site and building</p> <p>Accessibility should be seamlessly integrated with design</p> <p>Open, acceptance, comfort, respect,</p>	<p>Student empowerment through engagement with the environment</p> <p>Enclosure and protection through design for wellbeing</p> <p>Integration with context</p> <p>Marketplace qualities should be enhanced by multipurpose spaces</p> <p>Balance industrial materials with natural elements</p>	<p>Individualize schools to be responsive to: students, faculty and neighborhood - school design should not be standardized.</p> <p>Accessibility</p> <p>Personalization and flexibility</p>	<p>Lively space that encourages lengthy stays is created when the environment has elements of:</p> <p>Meeting place,</p> <p>Soft edges, and</p> <p>Fine scale</p>	<p>User values; Social integration, varied settings, safety, freedom of movement, meeting places, community identity, outdoor space, decision making ability, and personalization</p> <p>Connection to the context, the market buildings and history</p> <p>The building should be a site of marketplace, meeting place and moving place</p> <p>Interior and exterior connection</p>
GUIDING PRINCIPAL FOR DESIGN	Wellbeing 3D Textbook	Engagement Marketplace, Meeting Place and Moving Place	Democracy	Adaptability	Opportunity, Ownership	Human Scale	Connection to users and context

Table 13 shows key design implications derived from the previous chapters 135

# SPATIAL CONCEPT

“Every educational building calls for a spatial order that works as a structure of streets and squares together forming a small city where everything is geared to the greatest possible number of social contacts, confrontations, meetings, adventures and discoveries.”

(Hertzberger, 2008, p. 123).



Figure 110



The public space of the Community Learning Centre should have a warm and inviting atmosphere that is fun, youthful and engaging. It should combine natural elements with bright warm colours inspired by the market to reflect the vibrancy of the market, neighborhood and provide a connection to the buildings history.

The spaces should be varied and flexible to allow for adaptation and a multitude of uses and experiences. It should be versatile to accommodate multiple functions, community environment, and fulfill the desire of students to have varying levels of contact with one another.

Spaces should have elements of lively cities such as soft edges, mixed function, transparency, visual connection, fine scale, good support points and vantage points, places where you can see, hear and talk to create rich meeting places. These elements should also be implemented in marketplace and moving places to enhance their qualities.

The interior should communicate the values of the Community Learning Centre and send positive



messages to students. The architecture should provide freedom of movement and expression as well as socialization. There should be areas for students to contribute to the space, which could take place by providing wall surfaces for displays of art, or planning for student projects such as building or gardening to take place.

Furniture should be adaptable and movable to accommodate the different users and activities of the space. Seating should be a mixture of soft and hard, (primary and secondary) and should be durable, designed with human dimensions and comfort in mind. Flooring and other materials should be durable, easy to clean, and low emitting to contribute to health, well being and environmental concerns. The Community Learning Centre should provide ample ambient light maximizing daylight wherever possible. Task lighting should also be provided in areas where focused work occurs. General lighting should be dimmable to adapt for events such as presentations or extracurricular evening events, such as dances.

The space should be a component of the learning process. The building should spark



curiosity and be a starting point for inquisition and learning. Spaces should be provided that allow students to learn in a hands on way. The configuration of space should resemble the city streets and squares, these spaces should be the main priority with supplementary spaces built up and configured around them.



DESIGN  
INTERVENTION



# SYNTHESIS



The proposal for the design of the Community Learning Centre will be presented in this chapter and includes a new building, conceptual development for site intervention including Market Lane Park and a roof top garden, and most significantly, the interior development of the *schoolscapes*, or the space between classrooms.

Specific attention was paid to these public spaces of the Community Learning Centre because they facilitate the most opportunities for informal learning. They are the spaces of the school where the community, students and staff will interact on a regular basis and thus provide the greatest potential for informal learning opportunities, varying levels of contact, engagement and social interactions. They are the spaces that host a variety of activities and provide multiple contexts for learning.

The inquiry process has informed the design and has been overviewed in the previous chapters; theory and literature, analysis of the existing site, precedents and programming. The proposal attempts to bring together the ideas of informal learning, the environment as a three-dimensional

textbook and the concept of lively public space through the design of the Community Learning Centre.

The key concepts derived from the inquiry process are, the school as a social institution, varied levels of activity through implementation of marketplace, meeting place and moving place qualities of space, and the environment as a backdrop and facilitator of learning and inquiry.

# DESIGN STRATEGY

The design strategy for the Community Learning Centre was to:

- Identify main circulation and build 'marketplace' and 'meeting place' functions around them
- The interior should act as a network of streets and squares
- Provide rich contexts and varied stimulating environments for exploration and discovery as well as layers of activity in space
- Provide visual connection between levels, create projections through the building and make mobility visible
- Create *schoolscapes* that act as the unifying feature of the building
- Provide visual connection between people and their surroundings, inside and outside the building. Views to nature and the city should be considered and provide access to natural daylight
- Design for varying levels of contact
- Corridors should be designed as 'learning commons' and have qualities of marketplaces, moving places, and meeting places
- Create spaces that support all necessary, optional and social activities

- Allow for control over the environment to encourage student empowerment
- Provide a range of formal and informal learning environments beyond the classroom
- Provide opportunity to engage in spontaneous social encounters
- Provide opportunity for relaxation and psychological restoration, including the opportunity for privacy and for movement between interaction and solitude
- Provide multiple enclosures and refuges, including overhangs to give a sense of protection
- Provide clear directors; design elements that communicate what to do and where to go

The design aims to achieve these desired outcomes and to bridge the gap between educational practice and values, and the physical setting of education.

The goal of the Community Centre Model for education is to foster life-long learning in young people which can occur when space emphasizes social interaction, citizenship, life long learning and engagement. For this project, the qualities of good public space and the design elements associated with them, are implemented in the Community Learning Centre are the way in which the democratic quality and character of the environment is enhanced.

# EXTERIOR



0 2' 6" 5' 10' 20'

Figure 114. North elevation rendered in context

## EXTERIOR

The exterior of the building is an important consideration for the design because it is the mediator between the city and the Community Learning Centre. The main level where the building meets the street is of primary concern. It is what we see at eye level that Jan Chel believes to have the greatest impact on our experience in the city. The main floor envelope has been made permeable by the use of sliding doors that open up the interior to extend beyond the walls of the Community Learning Centre to the space of the city. Activity from inside the building is able to spill out on the street and vice versa.

Transparency provides views between the interior and exterior of the building. Conveying information about that activity going on inside and outside the building. The community is able to see and feel connected to student work and programs, and alternatively, students are able to feel a sense of connection to their surroundings, nature, history and the city.

Overhangs are implemented around the building to further extend the interior of the building out into the street. The 'edge zone' around the building creates a transition, blurring between interior and exterior. The main floor of the building is varied and has a strong vertical and horizontal rhythm. This edge zone is informed by Jan Chel's ideas of lively space and has elements of soft edges, and support for lengthy stays. By extending the interior level changes out of the building to the landscape of the city support points and edges for sitting are created as part of the landscape. Good vantage points are another element of lively space enhanced by the building. Protected from the elements by the shelter of the overhang, and through the change in scale people feel a sense of enclosure and refuge while being able to view the city and others in space. Mixed function allows for visual separation along the edge of the building, breaking up the façade into storefront like spaces that can be experienced as a human scale when walking past the building, interrupting up the monotony of the long façade and enhancing the vertical rhythm.



EXTERIOR ELEVATION NORTH

0 10' 20'

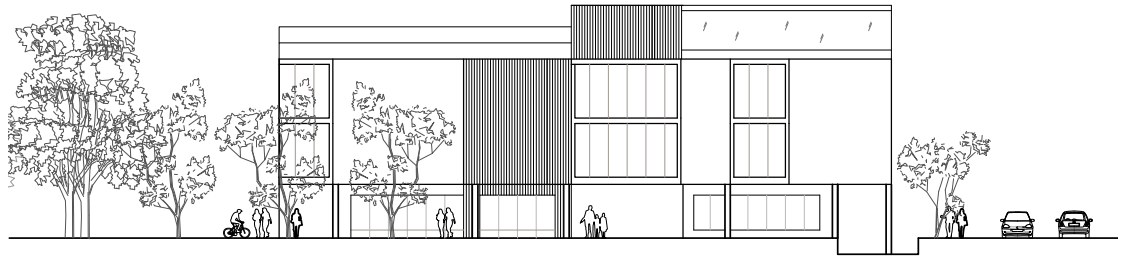
Figure 115



EXTERIOR ELEVATION WEST

0 10' 20'

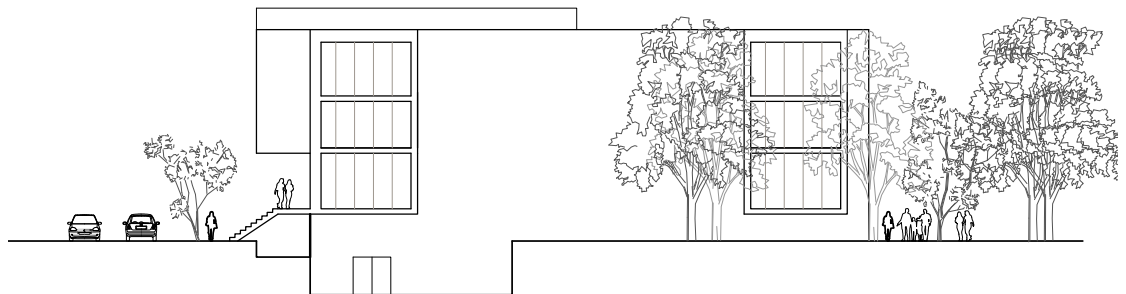
Figure 116



EXTERIOR ELEVATION NORTH

0 2' 6" 5' 10' 20'

Figure 117

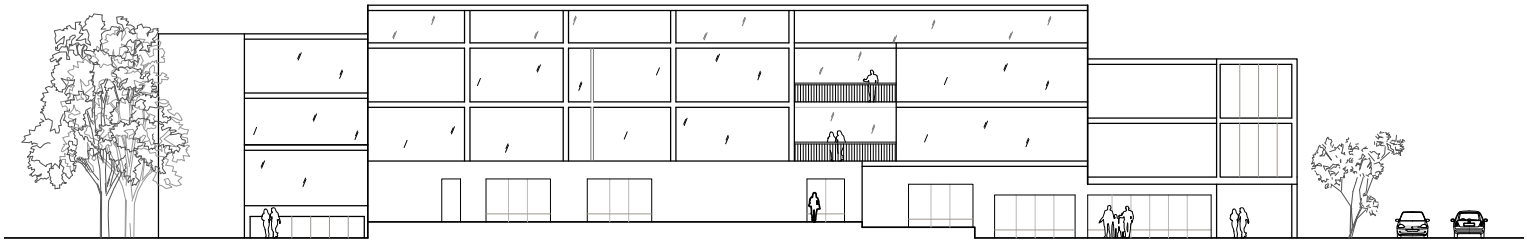


EXTERIOR ELEVATION SOUTH

0 2' 6" 5' 10' 20'

Figure 118

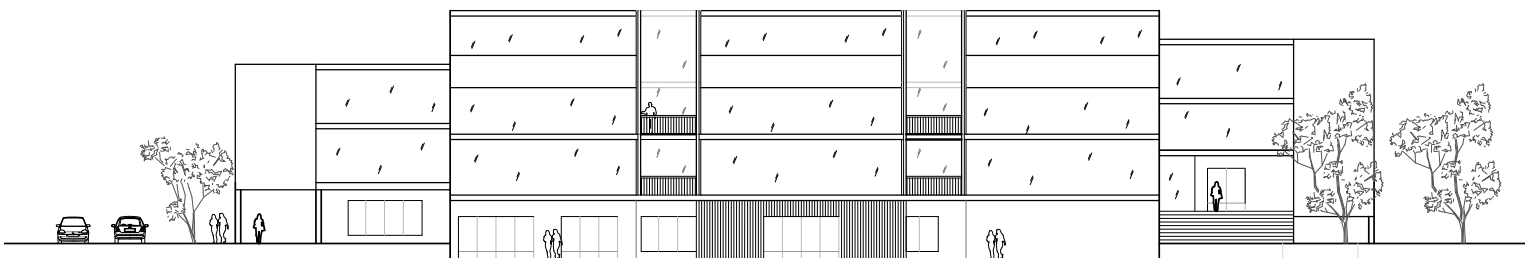




## EXTERIOR ELEVATION EAST

0 26' 5 10' 20'

Figure 119



## EXTERIOR ELEVATION WEST

0 26' 5 10' 20'

Figure 120

# SITE

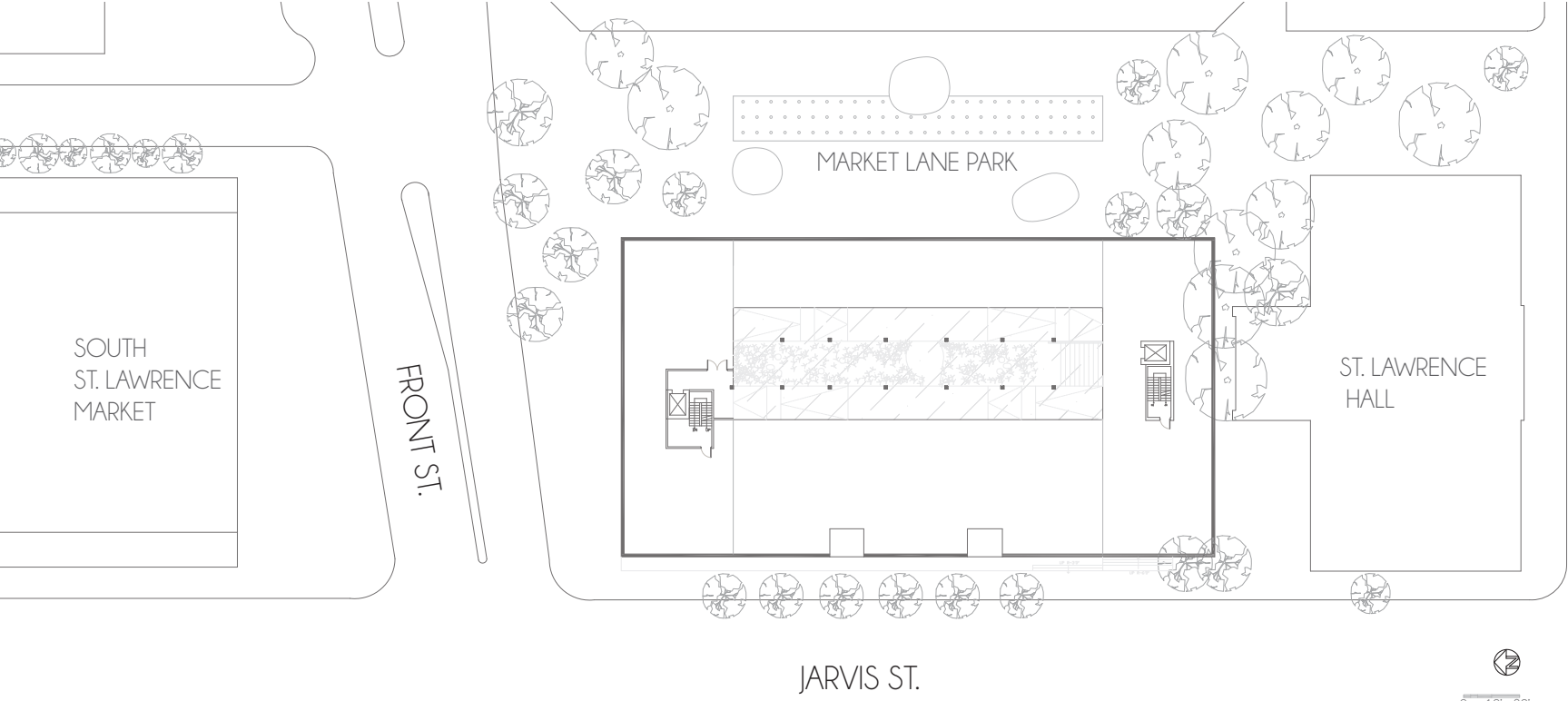


Figure 121. Site Plan

## SITE DEVELOPMENT

Market Lane Park was initially intended to be part of the design proposal however due to the scale of the project only a conceptual proposal was completed. This proposal suggests relating the design language and gestures from the interior of the building to the park. The bamboo forest creates a strong horizontal and vertical gesture on the interior of the Learning Centre. This gesture should be mirrored in the park. The bamboo forest is adjacent to the interior public square and so a public square should be created in the same orientation in the park as well. A vertical water feature is proposed for the exterior bamboo garden and an open space with street furniture mimicking that found in the bamboo forest is proposed for the public square. This will create an open flexible space for the café and dining to bleed into and allow daylight to permeate the building. Shaded areas should be provided on both ends of the park to create varied exterior spaces.

Access to the rooftop has been provided via the *schoolscapes*. This space is intended to be an exterior lounge with space for student projects, a community garden and green roof. The community garden is proposed to be a place where students can have plots of land to develop and grow plants of their choice. This garden would also supply the merchandise for the Market Shop. This is a space where the building has the ability to be a three dimensional textbook, teaching about agriculture, sustainable building systems and hands on work.

The West side of the building faces Jarvis Street, where there is a sunken exterior space to be used as an extension of the multi purpose space, provide main access to the market shop and house a garden that will provide additional vegetables for the market shop.

# PRIMARY CIRCULATION *SCHOOLSCAPES*

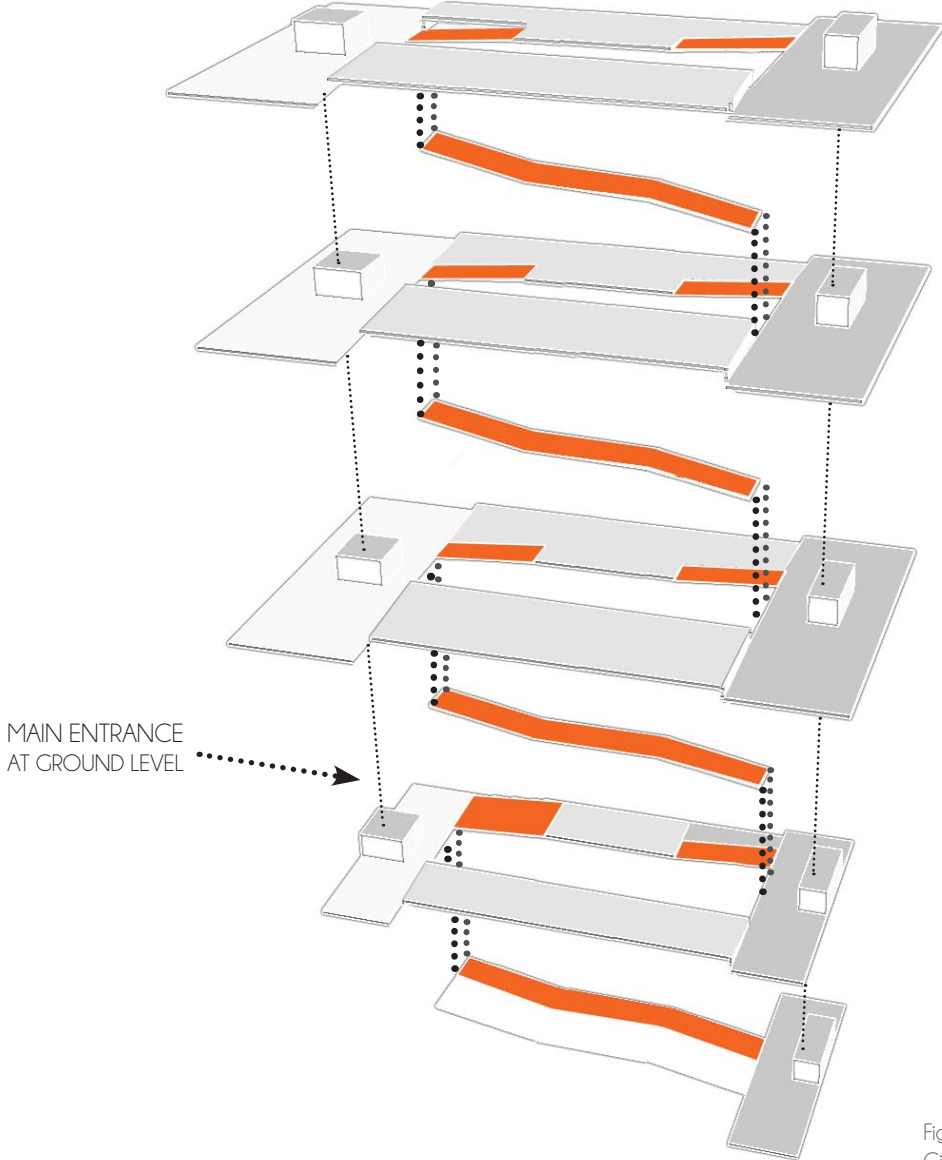


Figure 122. Primary Circulation Diagram

## BUILDING DESIGN

As previously stated the design concept is based on a quote from Herman Hertzberger. "Every educational building calls for a spatial order that works as a structure of streets and squares together forming a small city where everything is geared to the greatest possible number of social contacts, confrontations, meetings, adventures and discoveries." (Hertzberger, 2008, 123). The approach to the design of the building and interiors was based on this notion. The building was based on the concept of a street, a continuous path with activity adjacent to it. Levels were designated to be interior squares and functions were arranged around these to provide opportunity to ensure interactions between users would occur.

Hertzberger suggests that designing a school requires one to identify main circulation and build up 'marketplace' and 'meeting place' functions around it. This is how the form and zoning was generated. The continuous street orients users in the space and provides opportunity to develop

the *schoolscapes* into the main gesture and unifying feature of the building. This was the primary consideration during the form development.

The interior *schoolscapes* provide the main circulation route and act as the interior street. Spaces adjacent to 'the street' are an extension of the *schoolscapes* and the lounge and dining areas act as the public squares within the school, people converge on these spaces and they are visible from multiple places within the building. These spaces are where all marketplace, meeting place and moving place activities truly come together to create lively spaces within the Community Learning Centre.

A combination of horizontal and vertical elements were combined to create visual interest and connection throughout the building. Volumes that punctuate vertically through the interior add an element of the unexpected, contrasting planes and volumes were used as an interruption or a pause in the strong horizontal gesture of the building. The verticals also represent a contrast

between the ordered, structured, and formal elements of the design. These contrasts are most evident in the entry, multipurpose space, and lounge.

Level changes along the interior street allow for gradual progression through the building. The use of ramps creates a universal design where accessibility is built into the space, creating an equal and democratic experience of space for all users. The changes in elevation allow for views between multiple levels and spaces as you move through the building along the *schoolscapes*. This provides a sense of connection and for varying levels of contact between people. The level changes also allow for passive surveillance between spaces that is noninvasive and natural, providing both students and staff with a sense of independence.

## INTERIOR ORGANIZATION

Following the conceptual development of the building design the fixed functions that the school program requires were built up around the *schoolscapes* and 'public squares', as Hertzberger suggests. Opportunities were provided for these spaces to bleed into the *schoolscapes* and the integration of outdoor space with learning studios allows for flexible teaching and learning situations. Spaces between learning studios were zoned and designed to provide multiple context for learning and varied environments to accommodate a range of activities.

The public functions of the learning centre, including the theatre, café, multipurpose space for the market, dining and events, the market shop and the library were positioned on, or close to, ground level. The building becomes more private as you move up through it. This was done to allow maximum interaction for students and community, while maintaining a level of visual and acoustical privacy for school functions requiring these conditions, such as the learning studios. By

locating the majority of public functions or shared resources close to the main level it condenses the population of those spaces adding to the lively character desired in these spaces, and maximizes the opportunity for social encounters.

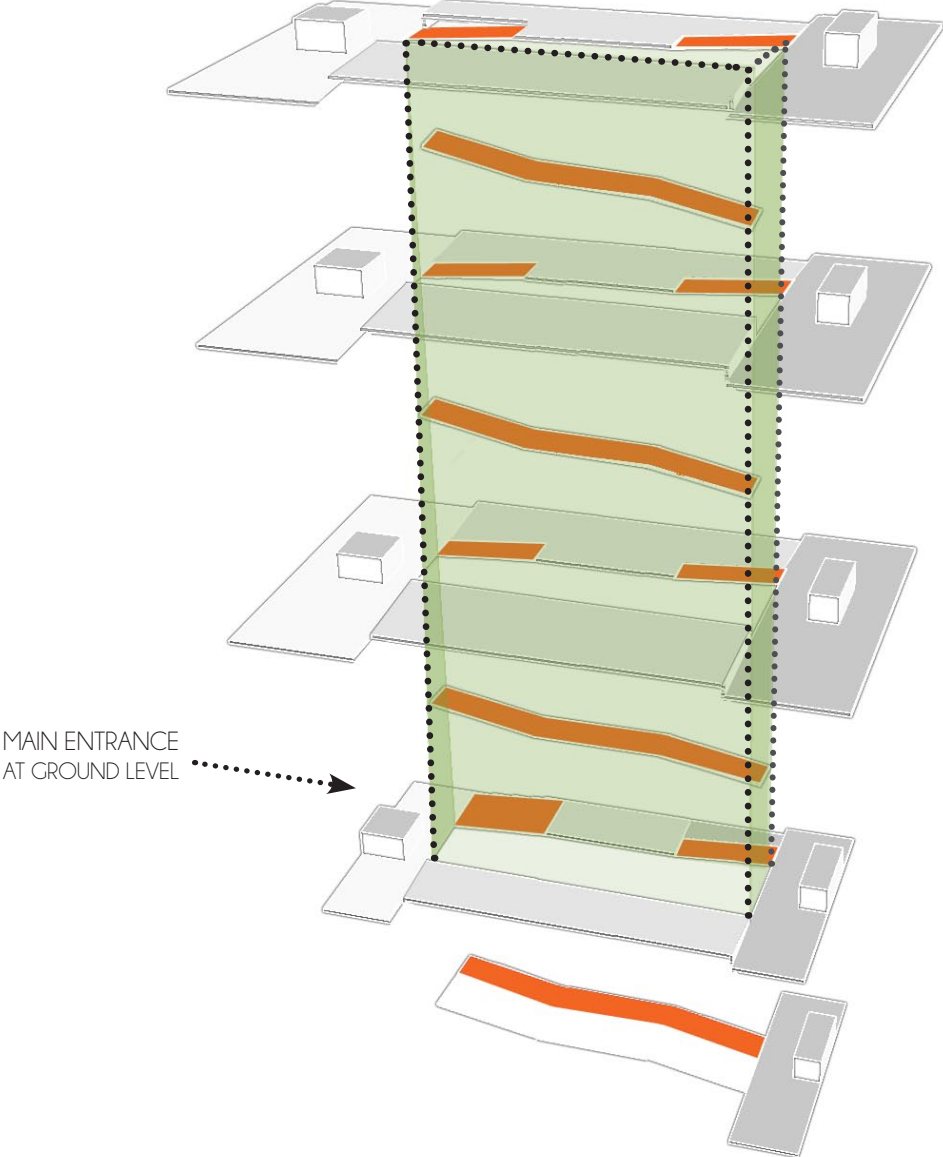
The most dominant visual element in the space is the interior garden or bamboo forest; centrally located it draws focus to the circulation and street emphasizing the *schoolscapes* significance as the unifying feature of the building. The bamboo forest vertically connects all levels of the building allowing for orientation and a central element providing a form of interior 'public square'. This space allows for a contrast, and element of surprise and the unexpected. The spaces within it, on level 0A and the kivas spaces, are designed to be an alternative space, both in form and function. They are organic in shape and provide a sense of refuge, enclosure and protection within the Community Learning Centre. They provide opportunity for relaxation, psychological restoration, and the opportunity for privacy and transition between interaction and solitude.

These spaces maintain visual connection to their surroundings and allow individuals to be in close proximity of highly populated spaces in a less active way. These spaces allow for varied levels of contact between people.

The interior 'public square' within the Community Learning Centre is a central hub in the building where activities and people converge and interact. On two levels, 0A the multipurpose space, and 3A the lounge, 'public squares' are created as extensions of the Bamboo garden and *schoolscapes*. These spaces act as larger squares with opportunity for diverse of activities.

# PUNCTUATING VOLUME BAMBOO FOREST

Figure 123. Diagram of  
Bamboo Forest



## LEGEND



ENTRY POINTS

1

MAIN ENTRANCE

2

BAMBOO FOREST

3

DINING + EVENT SPACE

4

PROJECT ROOMS

5

MARKET SHOP

6

CUSTODIAL

7

SCREEN, THEATRE +  
PRESENTATION SPACE

8

TECHNOLOGY SPACE

9

MECHANICAL ROOM

10

KITCHEN DELIVERIES

11

FURNITURE STORAGE

12

FACILITIES MANAGER  
OFFICE



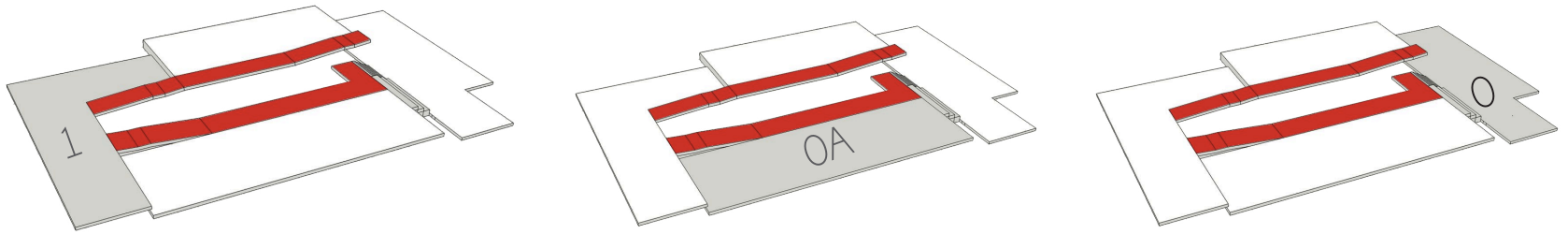


Figure 124. Key plans indicating level changes



Figure 125

## LEGEND



ENTRY POINTS

1

MAIN ENTRANCE

2

MAIN OFFICE

3

CAFE SEATING

4

KITCHEN

5

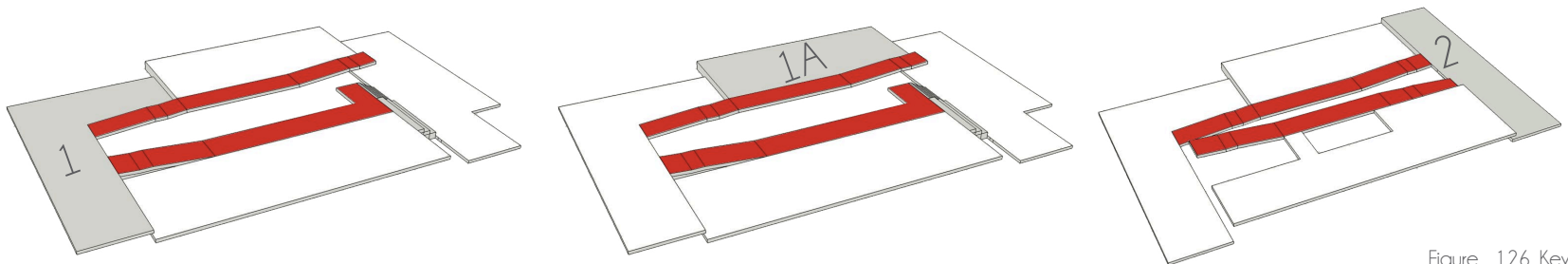
VIEW TO KITCHEN

6

STUDENT STORAGE

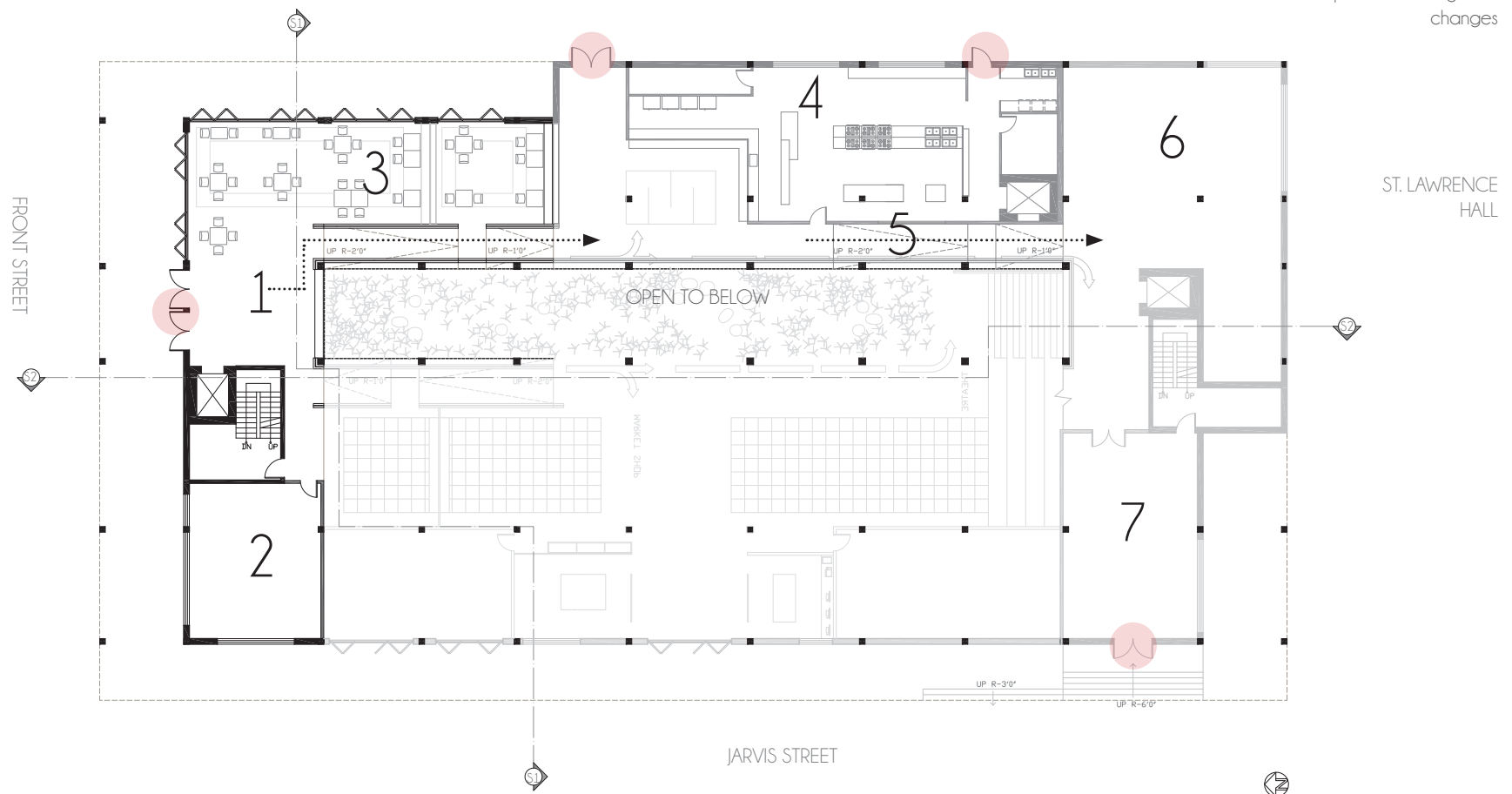
7

RESOURCE CENTRE



MARKET LANE PARK

Figure 126. Key plans indicating level changes



ST. LAWRENCE HALL

FLOOR PLAN LEVEL 1, 1A, 2  
Figure 127

## LEGEND



ENTRY POINTS

1

STUDENT STORAGE

2

RESOURCE CENTRE

3

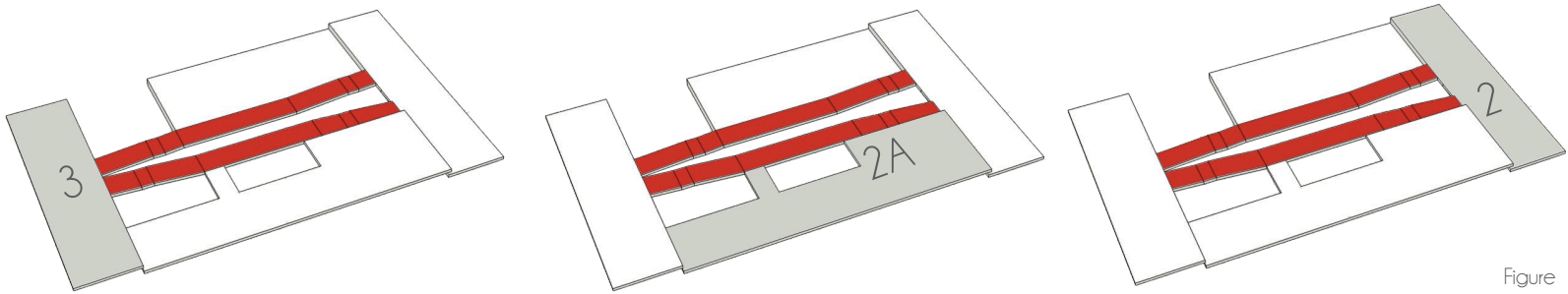
MALE W/C

4

FEMALE W/C

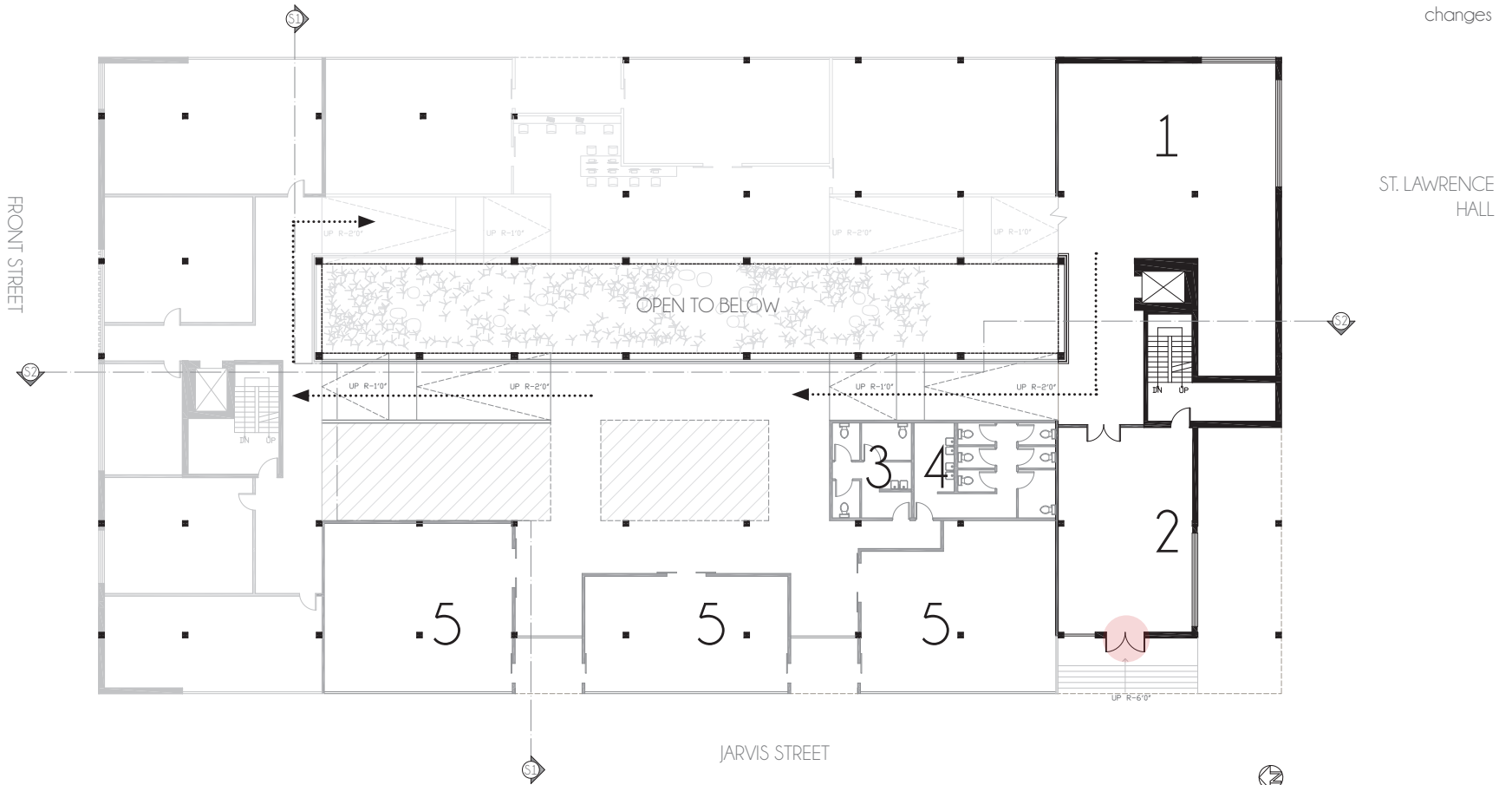
5

LEARNING STUDIO



MARKET LANE PARK

Figure 128. Key plans indicating level changes



FLOOR PLAN LEVEL 2, 2A, 3  
Figure 129

# FLOOR PLANS

## LEGEND



ACCESS TO OUTDOORS

1

LEARNING STUDIO

2

TEACHER WORK ROOM

3

GUIDANCE + CAREERS

4

HEALTH CENTRE

5

DIGITAL RESOURCE

6

KIVAS

7

RESOURCE CENTRE

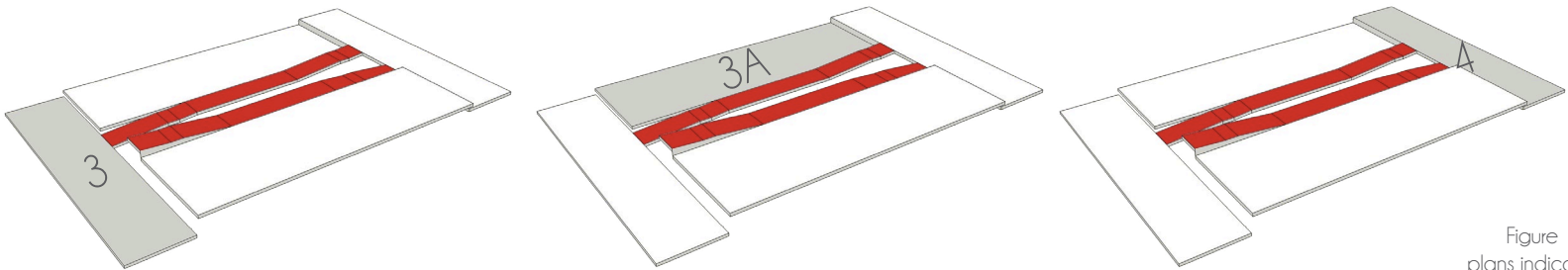
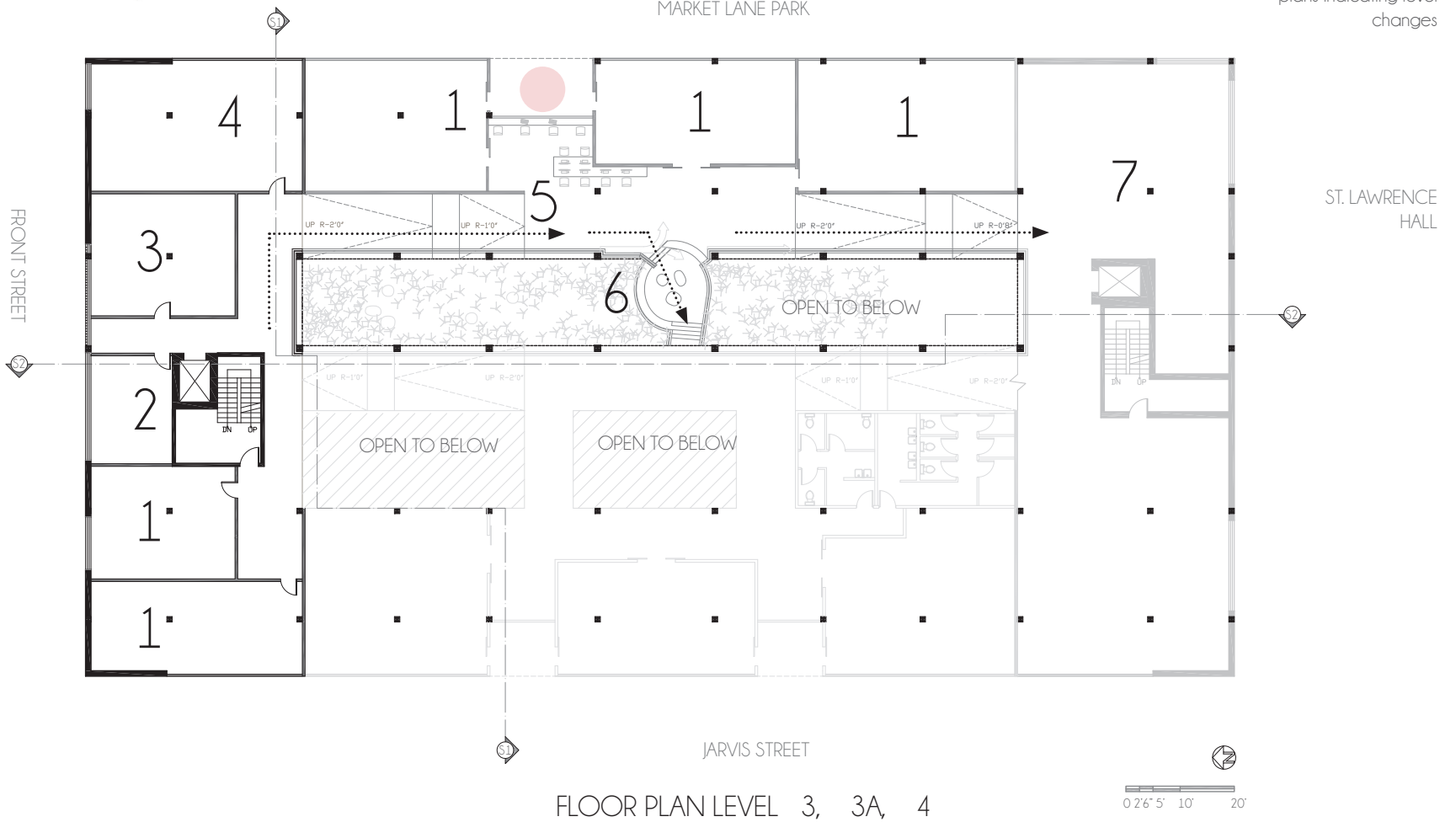


Figure 130. Key plans indicating level changes



FLOOR PLAN LEVEL 3, 3A, 4

Figure 131

## LEGEND

	ACCESS TO OUTDOORS	4	MALE W/C
1	RESOURCE CENTRE	5	FEMALE W/C
2	STUDENT LOUNGE	6	DIGITAL BREAK-OUT
3	KIVAS	7	LEARNING STUDIO



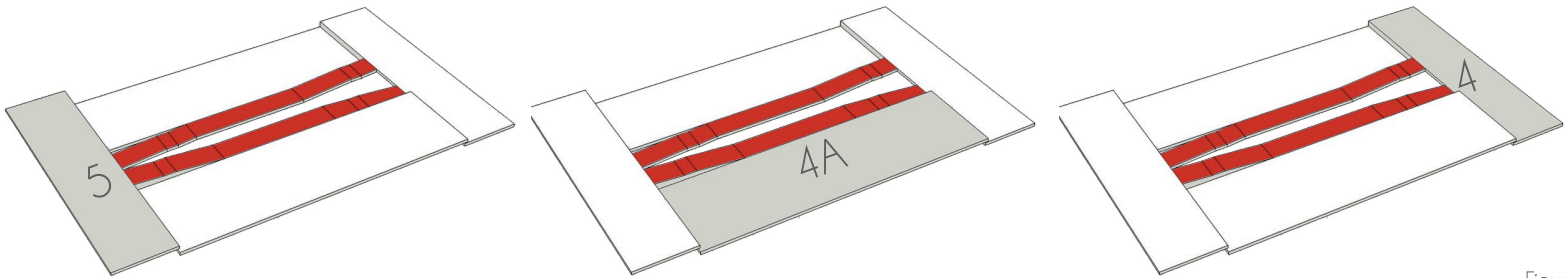


Figure 132 Key plans indicating level changes

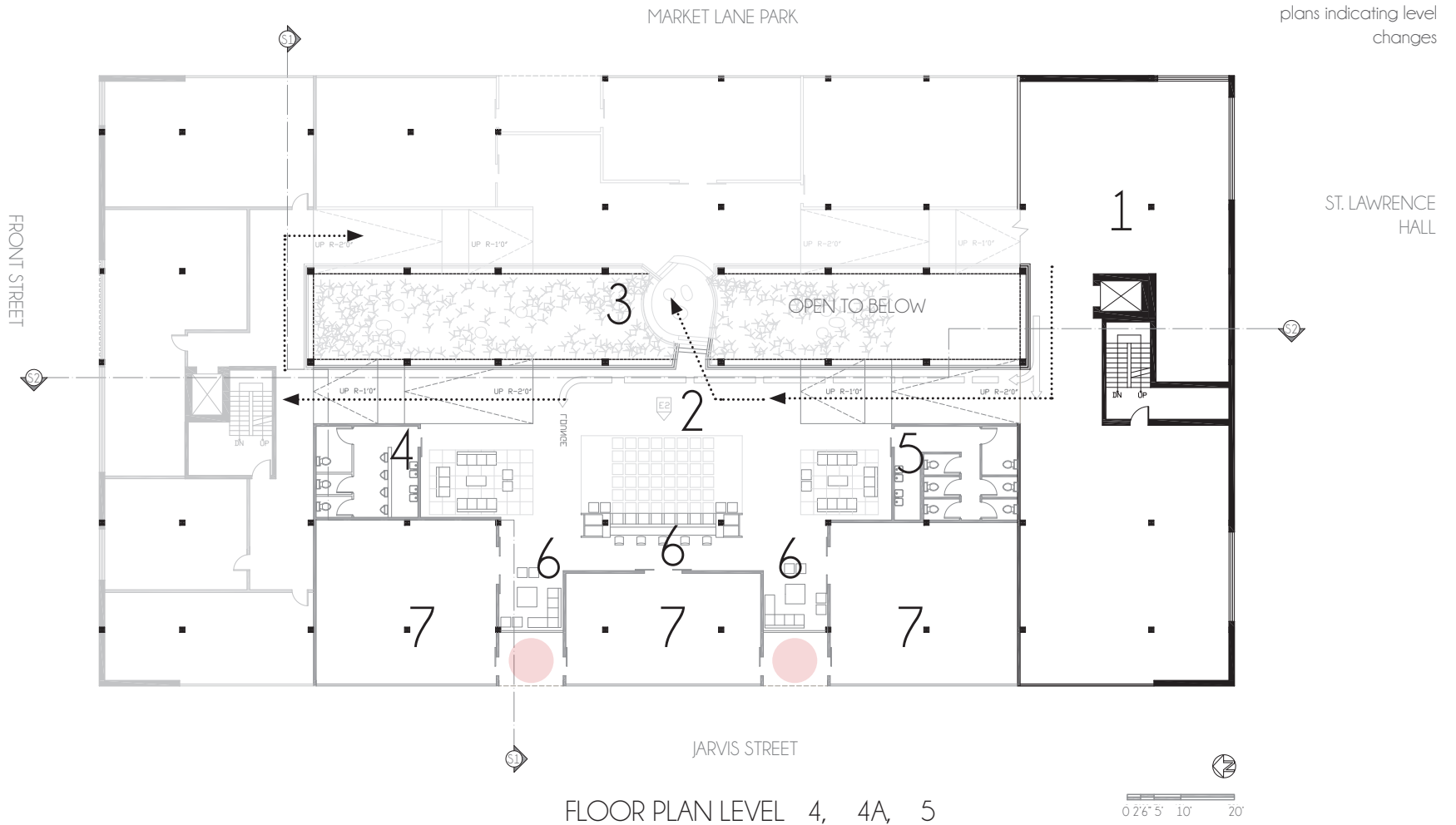


Figure 133

## LEGEND



ACCESS TO OUTDOORS

1

LEARNING STUDIO

2

MUSIC STUDIO

3

BREAK OUT SPACE

4

KIVAS

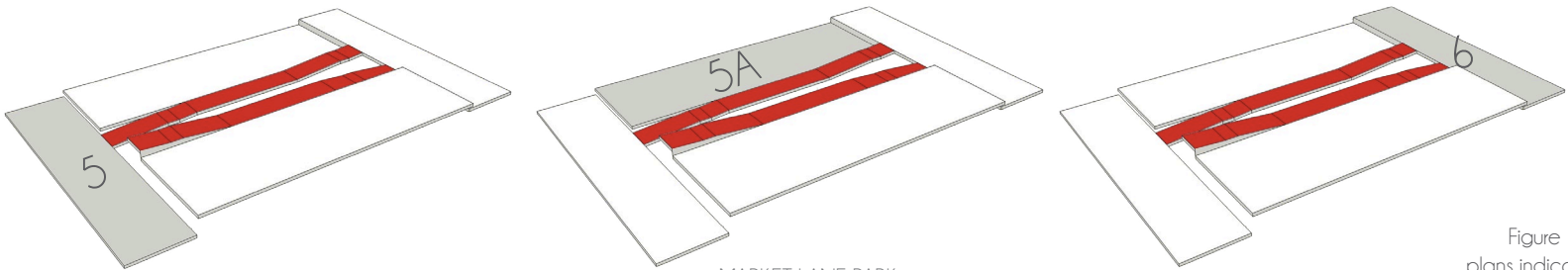
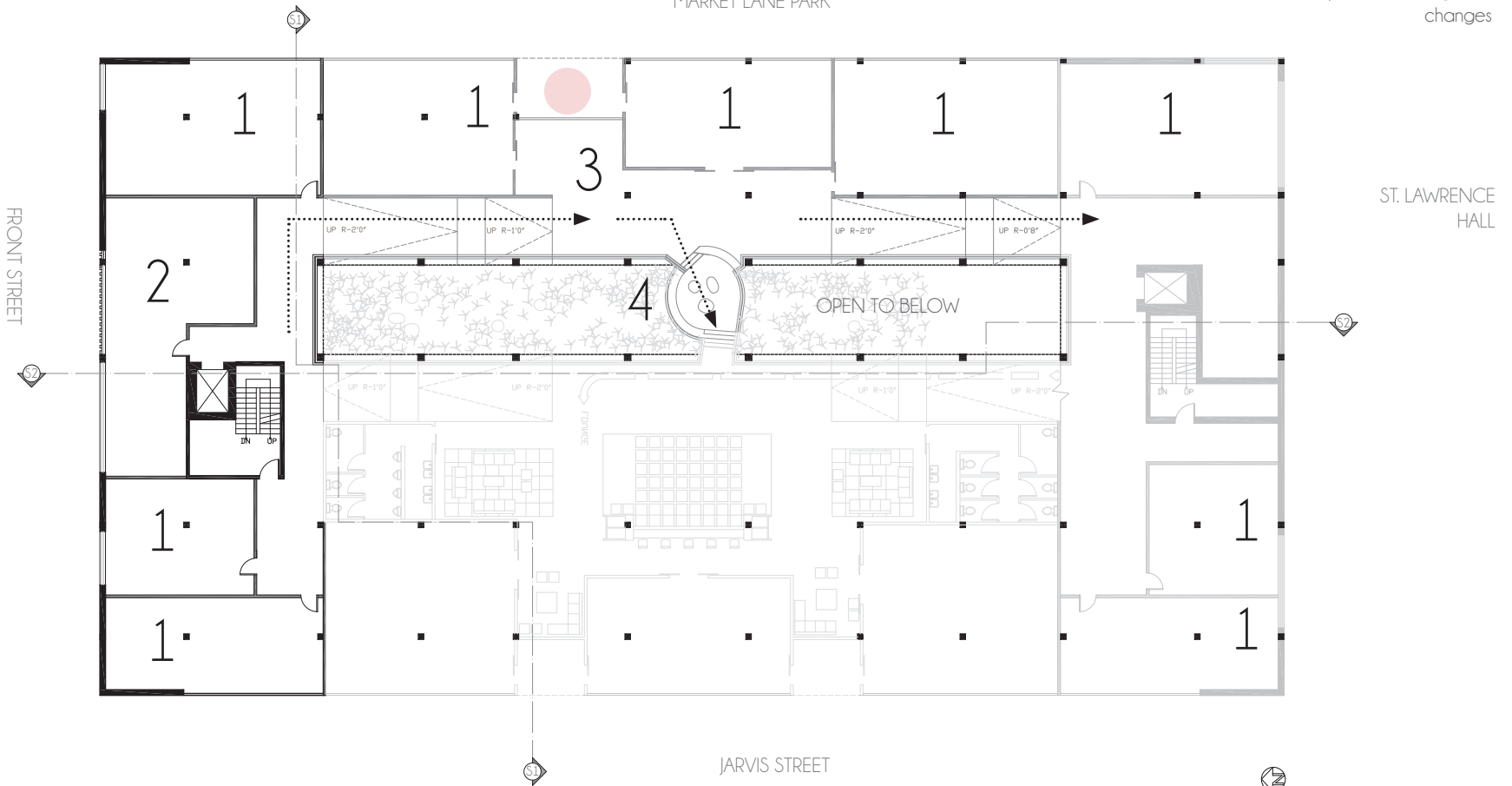
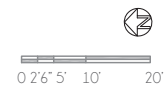


Figure 134 Key plans indicating level changes



FLOOR PLAN LEVEL 5, 5A, 6

Figure 135



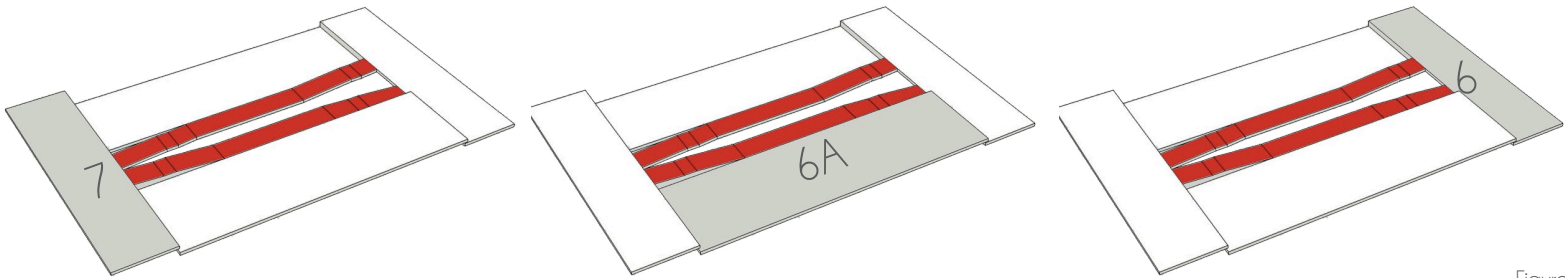
## LEGEND

 ACCESS TO OUTDOORS

1 LEARNING STUDIO

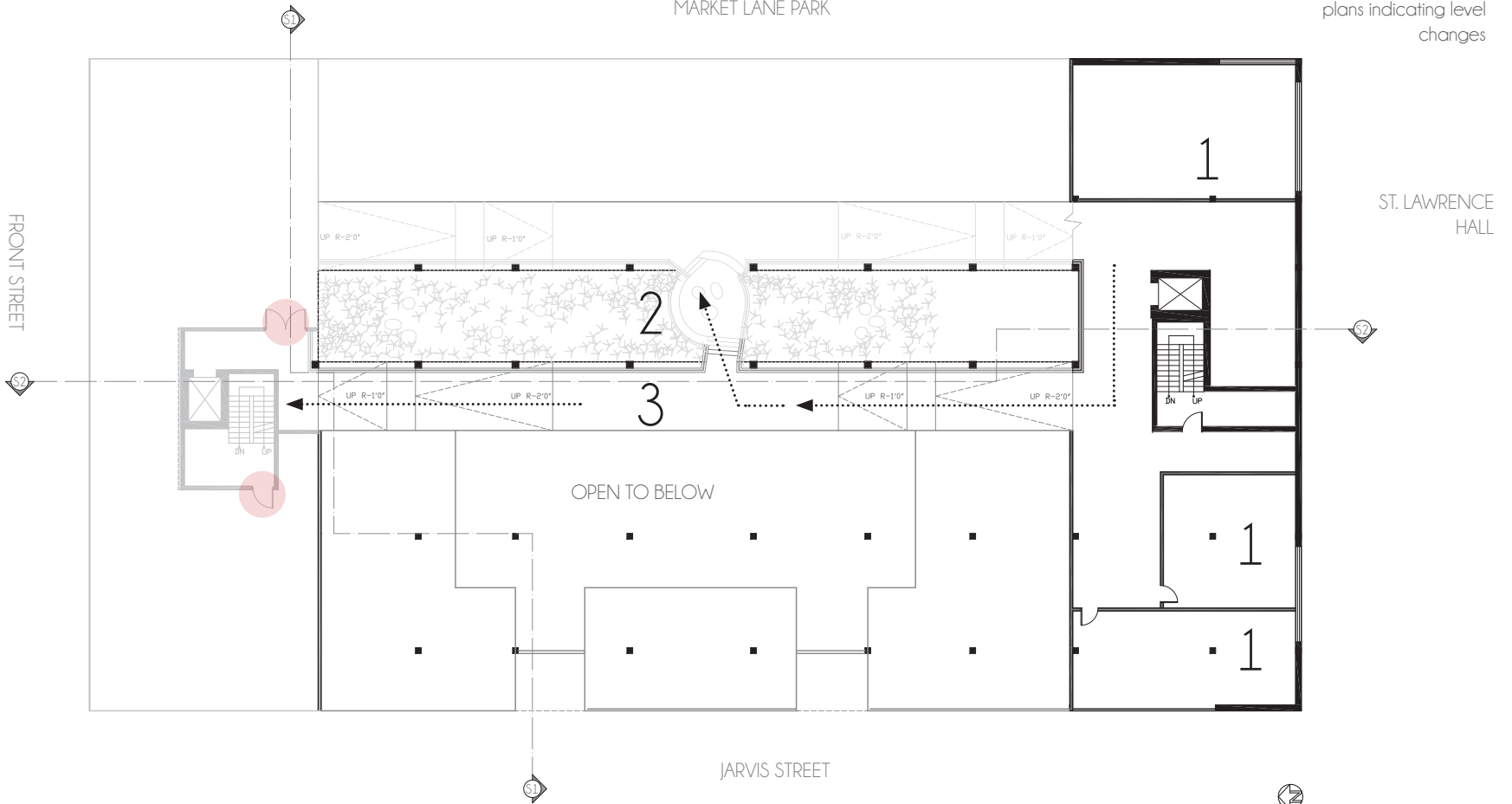
2 KIVAS

3 CIRCULATION TO  
ROOFTOP



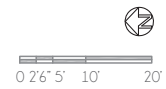
MARKET LANE PARK

Figure 136 Key plans indicating level changes



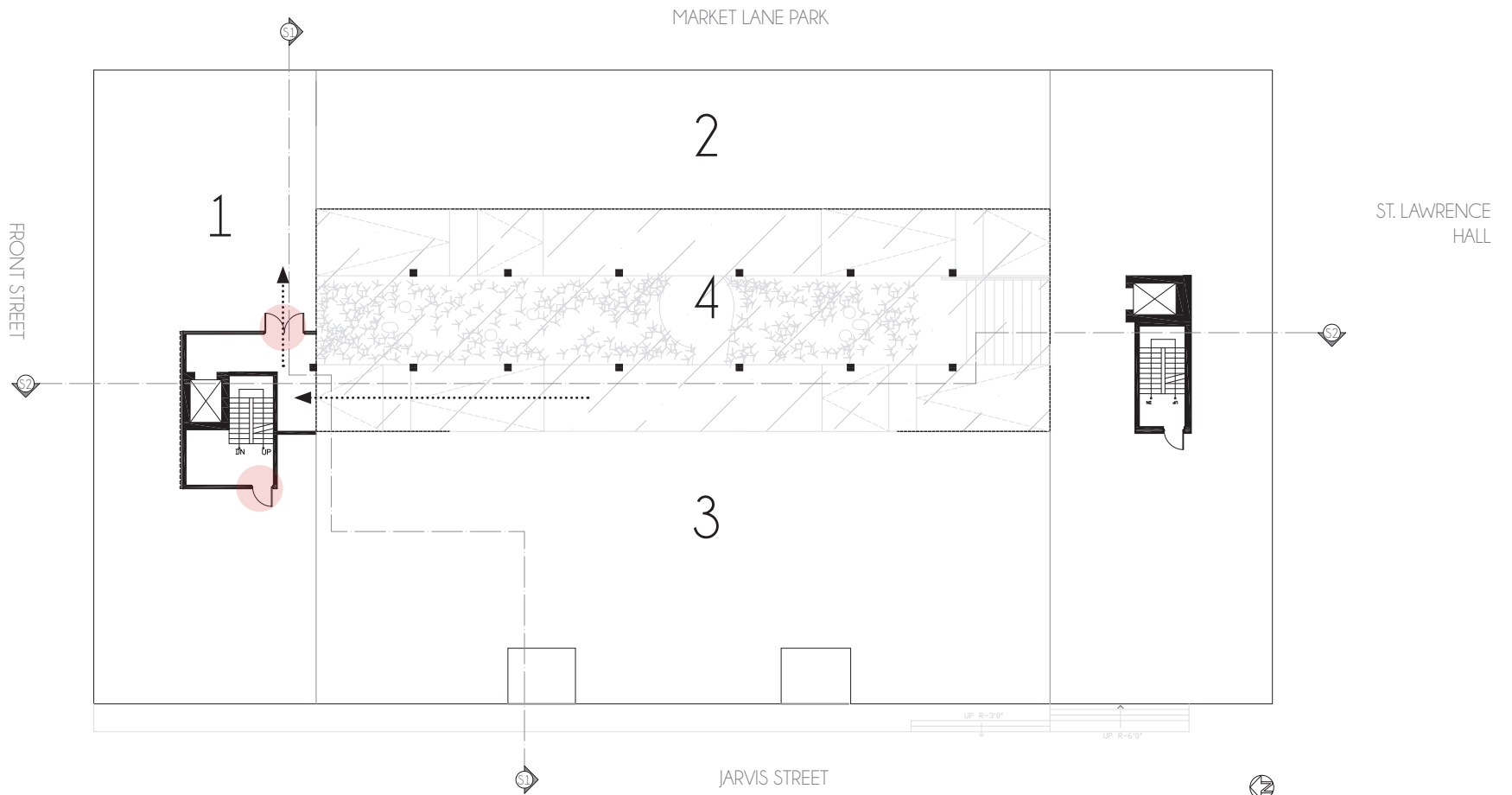
FLOOR PLAN LEVEL 6, 6A, 7

Figure 137



## LEGEND

-  ACCESS TO OUTDOORS
- 1 EXTERIOR LOUNGE
- 2 COMMUNITY GARDEN PLOTS
- 3 GREEN ROOF
- 4 GLAZING



ROOF PLAN LEVEL 7, 7A, 8

Figure 138



# ENTRANCE

The entrance space of the building is where the initial experience of the interior of the building occurs. In this space the user is confronted by the most dominant and important element in the space; the *schoolscapes*. The bamboo forest greets you and the circulation routes are highlighted. Immediately you can see views to the multipurpose space, café, and theatre and library in the distance. The public spaces of the building are laid out in front of you.

Colour, directionality and signage are used in the entrance and throughout the building to communicate to users how to navigate through the space. The handrails and floor patterns emulate road marking indicating circulation and direct users view to the signage. The signage is mirror images of writing imbedded in the floor. These signs serve not only for navigation and orientation but also as a point of intrigue and convey information typically taught from textbooks, about reflection and the human visual system.

Connection between the community and the learning centre was a priority for the project. The entrance space communicates information about

the values and structure of the Community Learning Centre. An event board and event calendar are prominent in the entrance space and inform people of ways to engage and become involved in the Community Learning Centre. At the same time they convey the underlying value placed on partnerships, community engagement and learning through social and informal activities.

The entrance space and café area open up to the surrounding exterior context and physically connects the building to the community and surroundings. This allows the café to physically open to the street and park and enabling activity to spill to the street. Views and glazing allow for an additional level of visual connection between the city and Learning Centre.

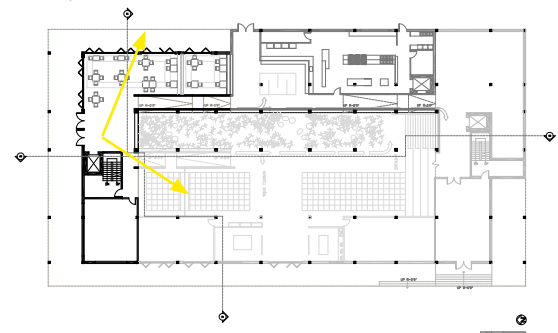
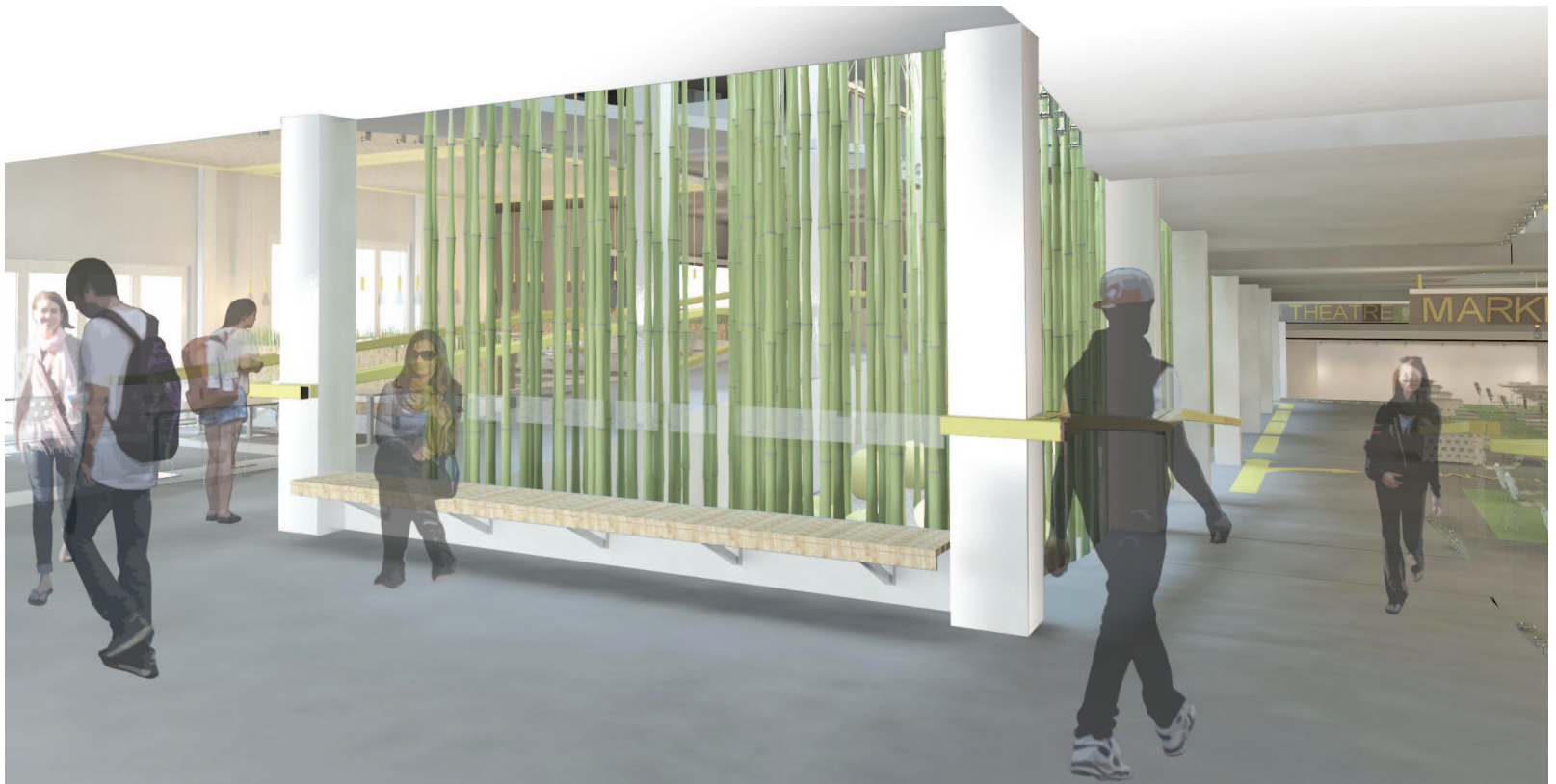


Figure 139. Key Plan for Perspective of Main Entrance





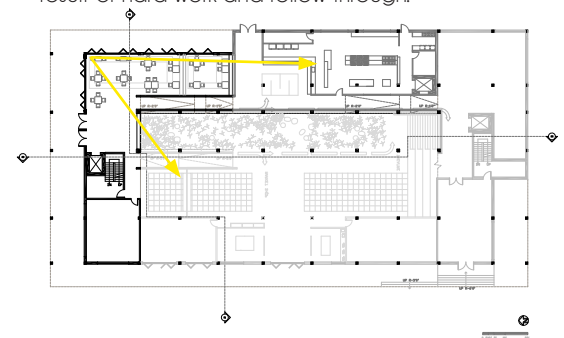
PERSPECTIVE OF MAIN ENTRANCE

Figure 140

# DINING + KITCHEN

The café and teaching kitchen have elements of a three-dimensional textbook and encourage informal learning. Views into the kitchen from both Market Lane Park and from the interior *schoolscapes* are provided and allow students and community members a sense of connection to the activity occurring within the building. They allow for people to learn from watching others and spark curiosity and conversation regarding culinary studies. Students taking courses that use the kitchen are able to learn in a hands-on way. Graphic text visible from the café also communicates information about weekly ingredients that have been featured in the menu, educating users on food, health and nutrition. Food grown on site in the proposed community gardens may also be used in the kitchen and would demonstrate to students the result of hard work and follow-through.

Figure 141. Key Plan for Perspective of Dining Area and Kitchen Pickup Window





PERSPECTIVE OF DINING AREA AND KITCHEN PICKUP WINDOW

Figure 142

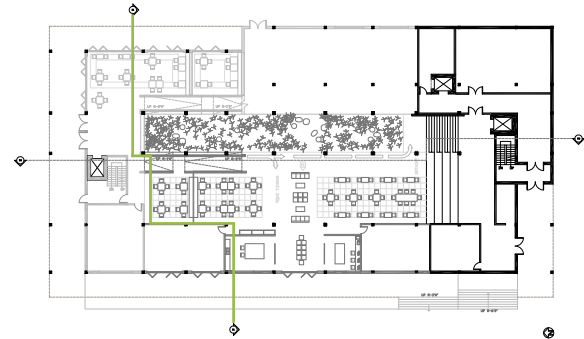
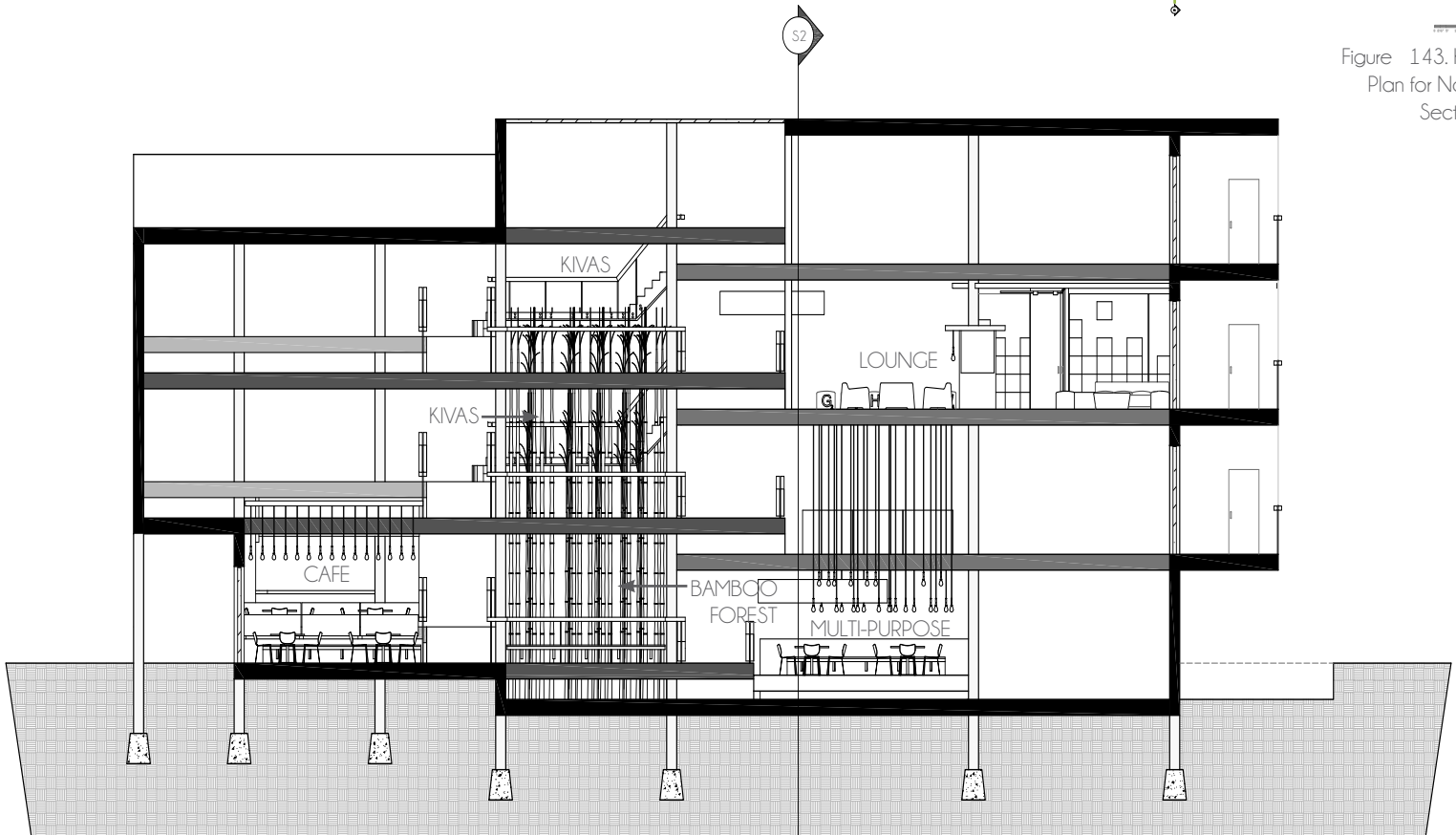


Figure 143. Key Plan for North Section



NORTH FACING SECTION

Figure 144. Section through Cafe, Bamboo Forest, Multi-purpose, Lounge and Kivas'

# MULTI-PURPOSE SPACE

The multipurpose space has four primary functions, a dining space for students during lunch hour, a farmer's market space for the community on Sundays, special events space for both the school and community, and seating or a stage space for performances. Other potential uses include; exhibitions, presentations, games, lectures, and dances.

Floor changes and ceiling planes were used throughout the building to delineate large multipurpose spaces and creating a human scale. Jan Ghel suggests this strategy of breaking up larger spaces with design elements to appeal to human scale. These floor and ceiling changes provide visual interest and acoustical properties. They assist in orientation and directionality, indicating what space you are in and where to go, while maintaining the flexibility required for multi purpose spaces. These design elements become most important in the lounge and multipurpose space where flexibility is key. In the both of these spaces the floor changes are used to indicate paths of circulation and areas for activity to take place. The grid like pattern allows for a reference point when arranging and rearranging the space

for different functions.

The multipurpose space has a number of features that contribute to informal learning and demonstrate how the building can act as a three-dimensional textbook.

The bamboo forest exposes people to an interior garden that teaches users about ecology, nature and growth as well as introduces them to the possibilities and benefits of living building elements and systems. The market shop can teach students about business and entrepreneurship, as well as demonstrating how produce is cultivated prepared and sold.

A digital screen in the multipurpose space projects the quantity of garbage, recycling and compost collected in the Community Learning Centre on a daily basis. Sensors and scales built into the waste collection bins generate the collection of data. This feature teaches students about their collective impact on the environment and the focus on recycling composting and gardening equips them with tools to minimize their impact.

The digital screen is one example of an interactive surface provided. Others previously mentioned are the event board and calendar and yet another provided in the multipurpose space is the student display areas in the project rooms. These are places where students can interact with and impact the space. The project rooms put student work on display and give a sense of connection for others in the building to the work that is taking place. A sense of connection between the users is created through the recycling program as well. Views to the market shop and project rooms are provided from the street and allow for interaction and connection between the community and school. The exterior space adjacent to these spaces allow for transitions between street and interior. Walls that open to the outdoors are used and blur the boundaries between interior and exterior, city and school, and public and private.

The multipurpose space encompasses the notion of lively space as defined by Jan Gehl. In this space the marketplace, meeting place and moving place functions of the Learning centre come together to form a vibrant hub within the building.



PERSPECTIVE OF MULTIPURPOSE SPACE

Figure 145

The moving place or interior street opens into this space, people must move through it to get from the entrance to the theatre, market shop and project rooms. This ensures there is a constant flow of people; movement through this space is necessary. There is opportunity for optional activities in this space as well. Eating, watching a performance or relaxing can also occur here. Social activities are encouraged but providing a range of seating and diversity of space within the larger space itself. The bamboo forest for example provides a different environment than the platforms adjacent to the ramp or the display space outside of the project rooms. These different zones allow for multiple activities to overlap in space, and the opportunity for unplanned social encounters, thus creating a lively interior.

Characteristics of good meeting places include the ability to hear, talk, and see others in space. The multipurpose space provides views to the entrance, café, bamboo forest and theatre. Quieter zones for conversation and the ability to hear and talk are accommodated more specifically in the bamboo forest. Meeting places are areas for different forms of exchange and in this multipurpose space there is exchange between interior and exterior, the market shop and

project rooms and main space. Connections and exchanges are created through views and the chance encounters associated with highly used spaces.

The multipurpose space encourages different length stays by providing a range of primary and secondary seating including benches, chairs, couches and soft stools. The level changes provide good vantage points and handrails provide support points. All of which are design elements suggested by Jan Gehl for creating good public spaces.

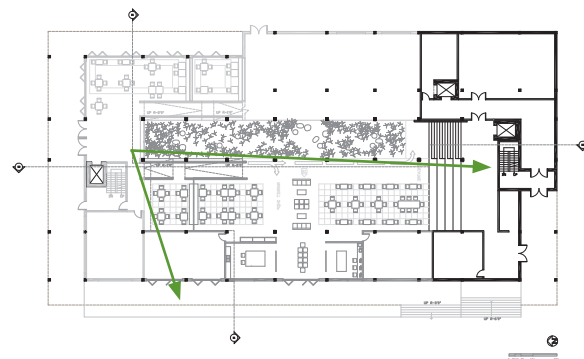
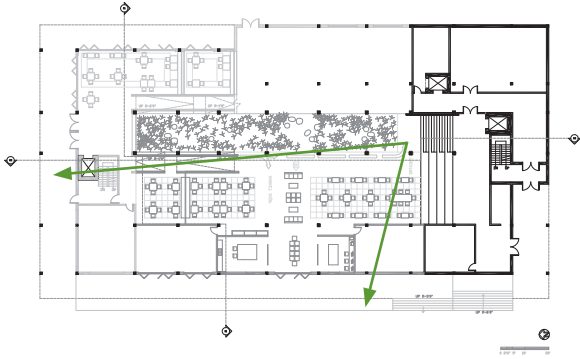


Figure 146. Key Plan for Perspective of Multipurpose Space

Figure 148. Key Plan for Perspective of Multipurpose Space



PERSPECTIVE OF MULTIPURPOSE SPACE  
Figure 147



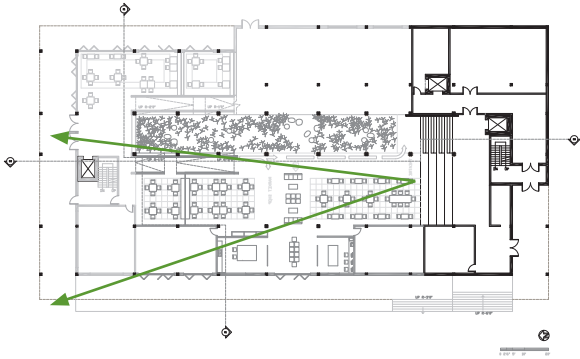
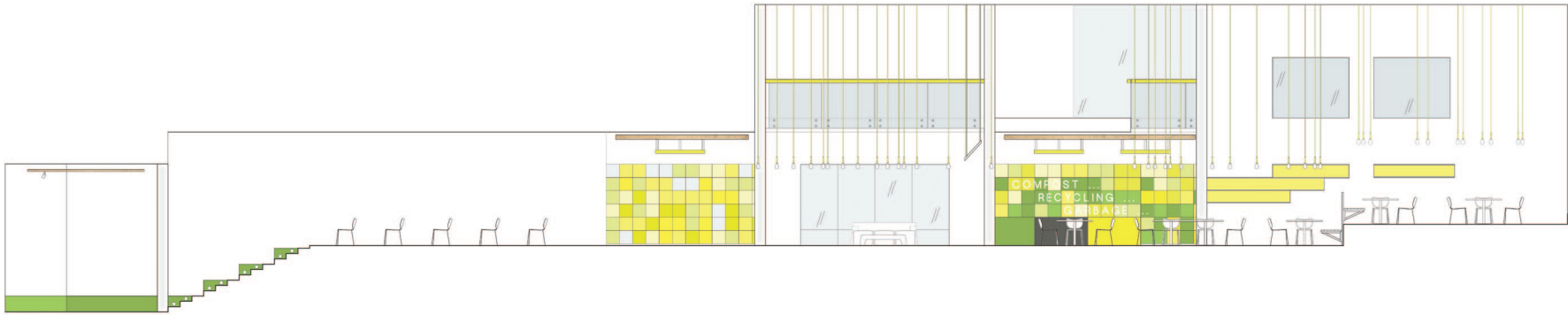


Figure 150. Key Plan for Perspective of Bamboo Forest



PERSPECTIVE OF BAMBOO FOREST  
Figure 149



ELEVATION 1  
Theatre and Multipurpose Space  
Figure 151





Figure 153. Key Plan for  
Perspective of Bamboo Forest



PERSPECTIVE OF BAMBOO FOREST  
Figure 152

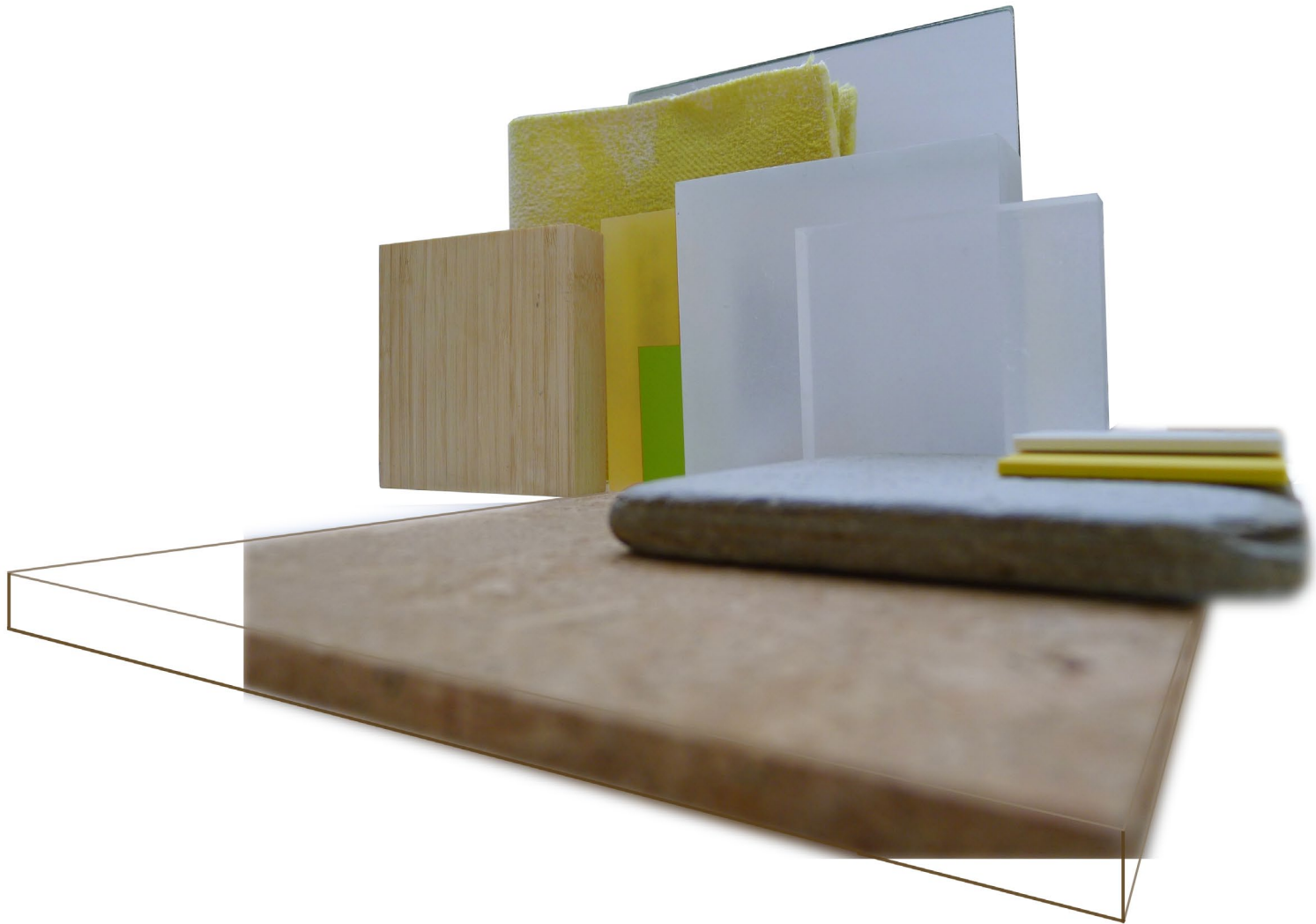
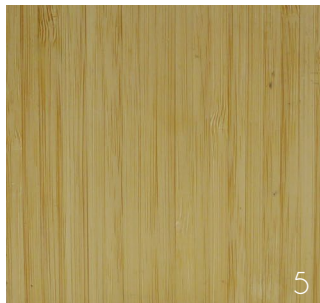


IMAGE OF MATERIALS FOUND IN MULTIPURPOSE SPACE  
Figure 154

# MATERIALS

## MULTIPURPOSE SPACE



- 1 3Form Chroma Vitamine C  
Hand Rail Detail (see page 188)
- 2 3Form Chroma Reflect  
Mirrored Signage
- 3 Lightblocks L595-09  
Column Finish
- 4 Maharam Oda 002 by Kavate  
Upholstery
- 5 Bamboo (Smith&Sons plyboo)  
Furniture Details
- 6 Cork Tile  
Ceiling Planes

Figure 155. Materials found in multipurpose space

Unexpected combinations of spaces, such as the theatre and dining area are a way of integrating the concept of marketplace and meeting place into interior spaces. By creating a public square as a central meeting place, used for communal, social and academic purposes it unifies educational practices that are often distinctly separate. People use the theatre and multipurpose space for different activities that overlap in a multitude of combinations. This creates opportunity for encounters between people and activities and a more diverse range of activity in space. The theatre space is open and can be used for both formal and informal purposes that allow students and teachers an alternative space for teaching and learning. Some uses of the theatre space include; individual or group presentations, lectures from teachers or guests, meetings for student groups and organizations, community events or film screenings. Because the space is open, public and visible from the multipurpose space it provides exposure to what is being presented and allows people to stumble upon and engage with the presentation, these are people who, if the presentation occurred in a more private space may otherwise not have had that learning

opportunity.

Because the theatre space is located in the basement level seating has been built into the structure. The sunken theatre also allows views from the multipurpose level directly to the screen. This was done intentionally to allow for more flexibility and a wide range of potential uses. The multipurpose space can be organized with movable chairs to accommodate more people and extend the space of the theatre.

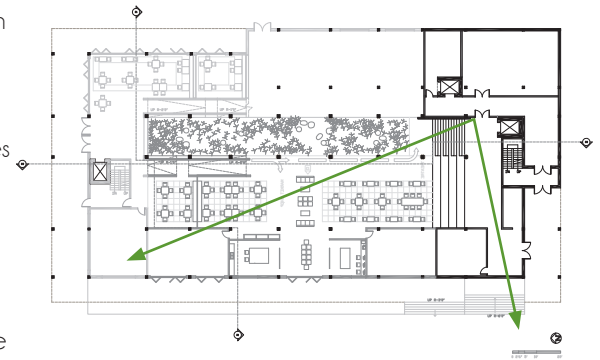


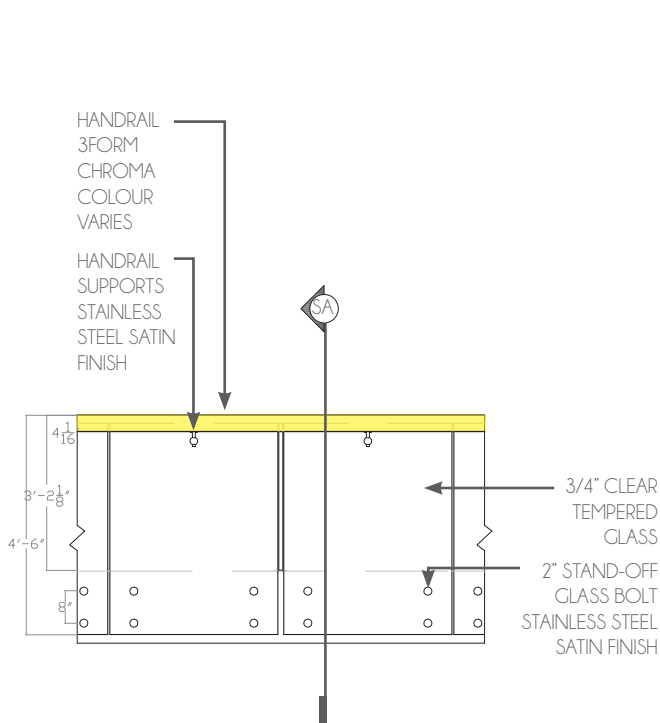
Figure 156. Key plan for perspective of theatre



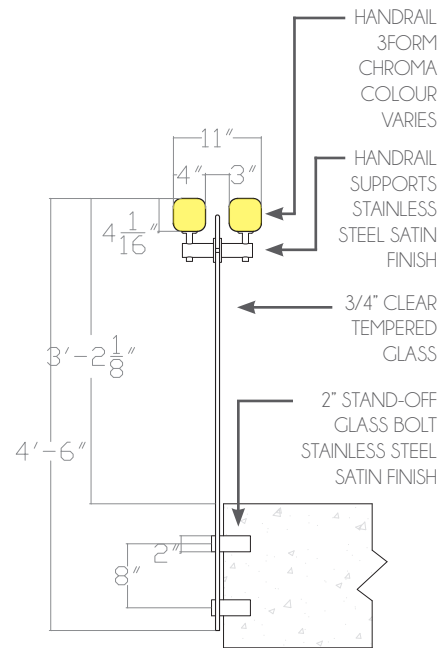
PERSPECTIVE OF THEATRE  
Figure 157

# DETAILS OF HANDRAIL

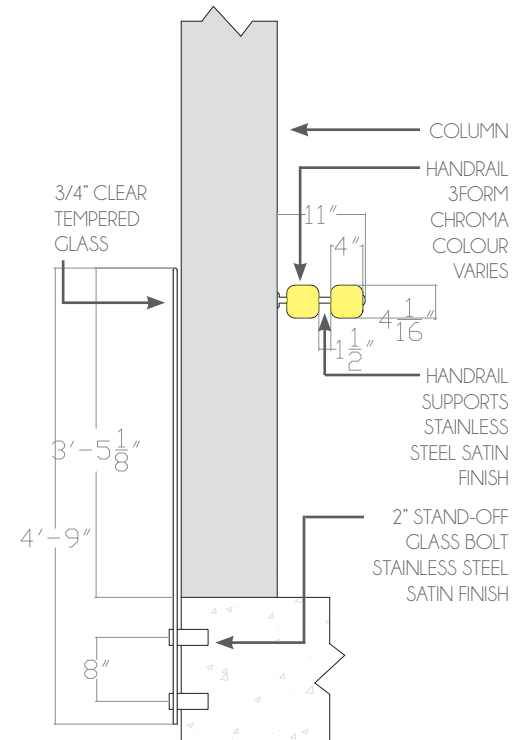
1/4" & 1/2" SCALE



FRONT ELEVATION  
HANDRAIL CONNECTED TO FLOOR  
1/4" SCALE  
Figure 158



SECTION A  
HANDRAIL CONNECTED TO FLOOR  
1/2" SCALE



SECTION B  
HANDRAIL CONNECTED TO COLUMN  
AND BARRIER CONNECTED TO FLOOR  
1/2" SCALE  
Figure 159. Sections



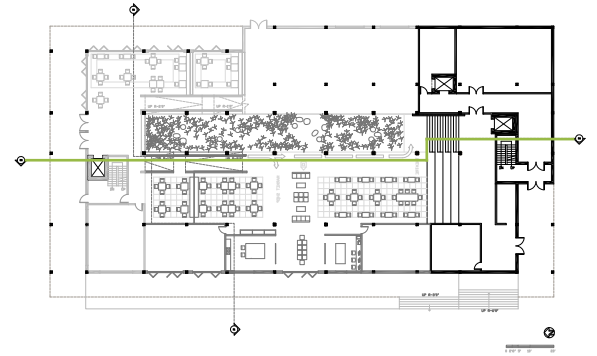
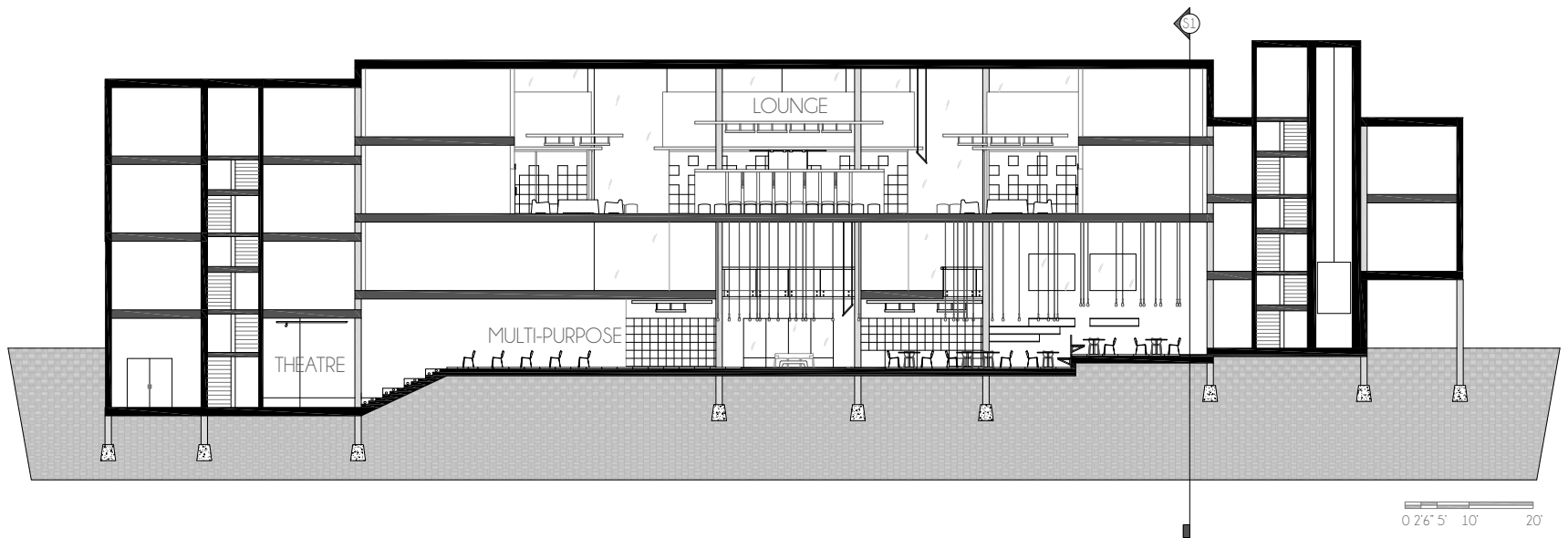


Figure 160. Key Plan for East Section







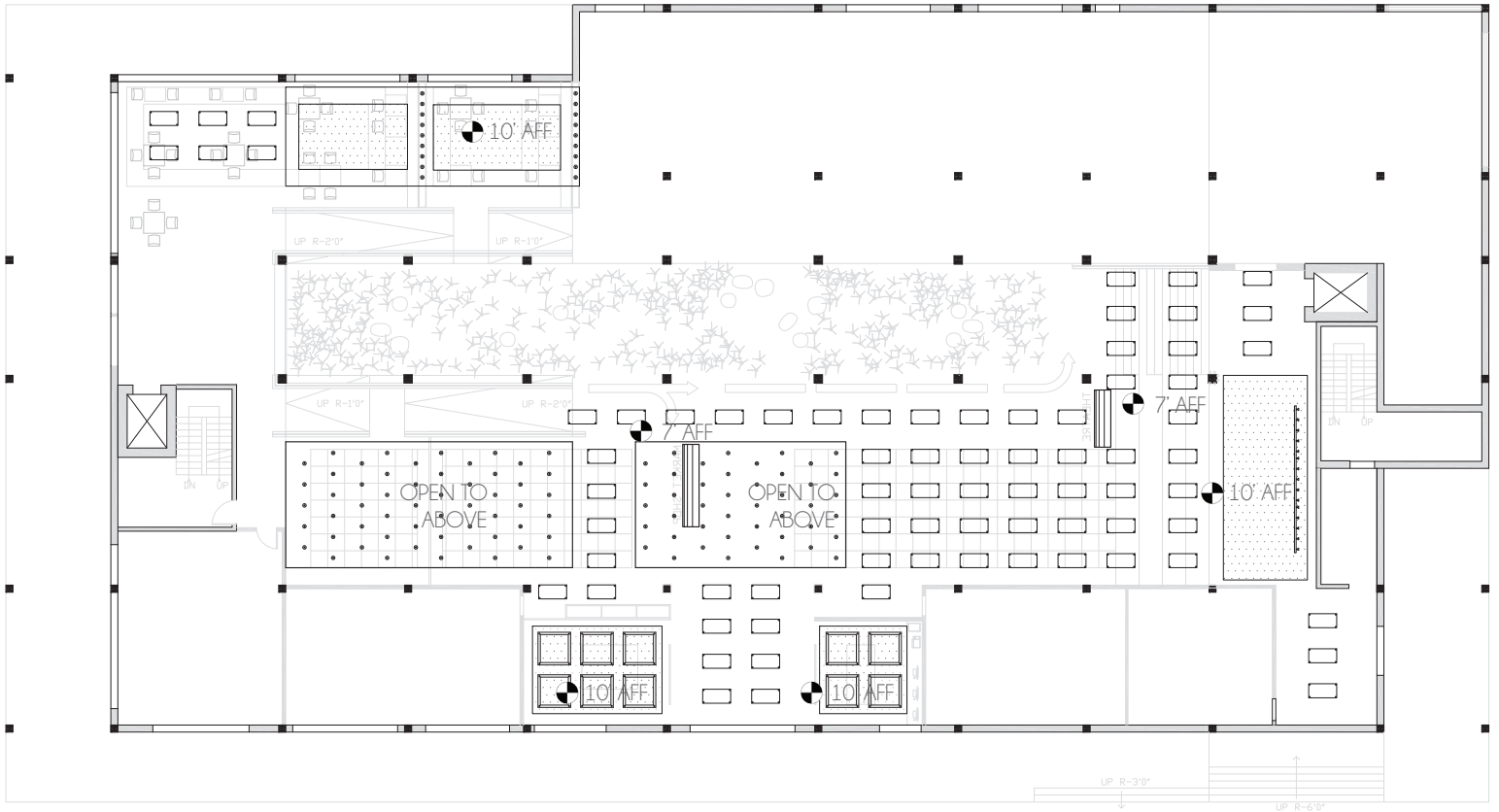
EAST SECTION

Figure 161. Section through Lounge, Theatre and Multi-purpose

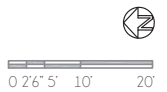
# REFLECTED CEILING PLAN MULTI-PURPOSE SPACE

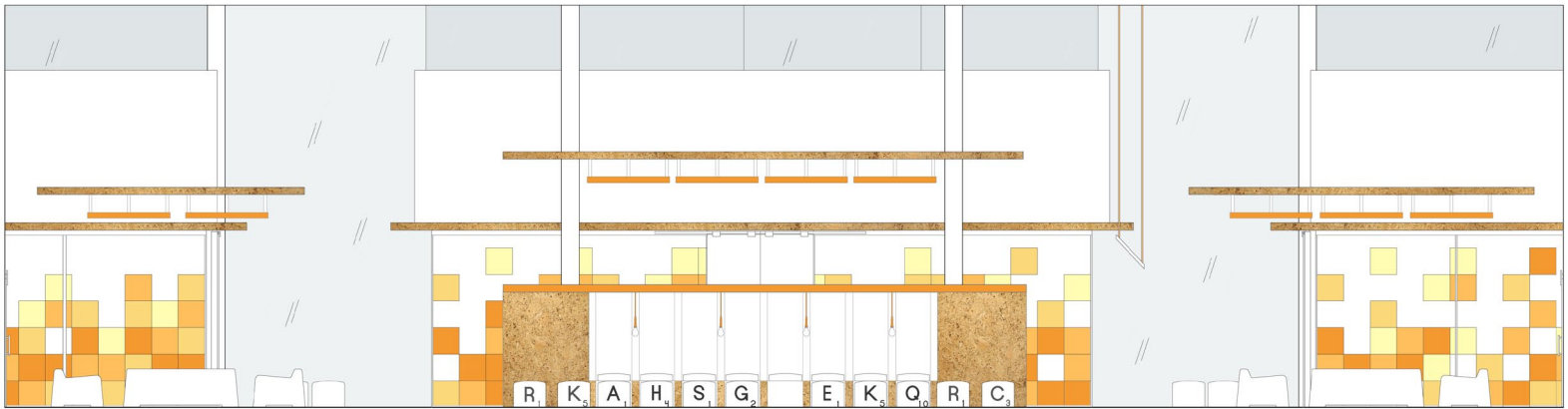
## LEGEND

-  Square Suspended Light
-  Fluorescent Light (2'x4')
-  Pendant Light
-  Track Lighting



REFLECTED CEILING PLAN  
 MULTI-PURPOSE LEVEL 0, OA , 1  
 Figure 162





ELEVATION 2 LOUNGE

Figure 163.



PERSPECTIVE OF LOUNGE AND BREAK OUT AREA

Figure 164

The lounge space, much like the multipurpose space is designed to accommodate multiple functions. In the lounge the space has the potential to be used for; exhibitions, presentations, performances, games, homework, group work, touch down work and computer use, learning from peers, social encounters, brainstorming, researching, socializing, and extra circular activities including, group, club, or organizational meetings.

Many of the design strategies implemented in the multipurpose space were carried over to inform the design of the lounge space. There are many similarities between the treatments of these spaces because they are both intended to be used for multiple purposes.

Ceiling planes and floor changes were used to break up the large open space of the lounge into smaller varied spaces. These smaller sub-spaces allow for multiple activities to occur simultaneously. Message boards and interactive surfaces were implemented for user engagement and control over the space. Technological components including screens and smart boards have been incorporated into the lounge. These are easily

accessible to the learning studios and allow for class work to extend into the lounge space on both a small and large scale. The exterior space outside the learning studios as well as these nooks that are part of the lounge create opportunity for break out spaces and creative teaching and learning. The lounge thus provides a diversity of spaces increasing the range in scale of formal to informal learning space available to users. The lounge creates a mediation zone where there is no sharp divide between formal and informal learning spaces, where learning extends out from the learning studios to the *schoolscapes*. Jan Ghel identifies the need for this range of spaces in the city, and is a key component when designing for what he calls varying levels of contact. There should not be a harsh distinction between spaces, interactions or people but instead a spectrum of situations and opportunities for engagement.

Soft flooring with acoustical properties was used for the scrabble board on the floor to create a soft surface that would be comfortable underfoot and for people to sit on. Although the scrabble board is a strong design gesture its fixed features, ceiling plane and floor changes, allow the space

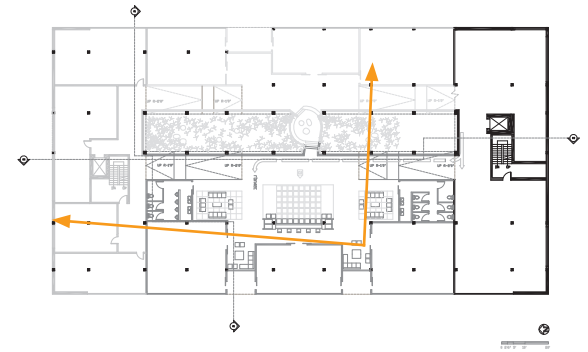


Figure 165. Key Plan for Perspective of Lounge and break out area

to be reconfigured and adjusted for different functions. Movable furniture allows for flexibility for a variety of functions. These mobile design features give students and teachers a sense of ownership over their space and allows for alternative teaching spaces and experiences. The scrabble game is meant to be an element of surprise and the unexpected in the interior. It is a catalyst for social interaction, spontaneous activity and unplanned social encounters. It contributes to informal learning through its ability to engage people with one another and is a game that encourages people to expand their vocabulary and improve their spelling.

Elements of lengthy stays and soft edges are present; people are encouraged to stay through the implementation of both soft and hard seating. There are places to sit, good vantage points, a range of textures and detail, transparency, and mixed function.

Transparency and views in and out of classrooms were particularly important for allowing passive surveillance between the learning studios and the lounge. Encouraging teachers and students to

utilize that space during class time. Transparency also is used to incite curiosity in from students outside of the class on subject matter taking place. Beyond the lounge the art and science rooms have been placed in prominent spaces along *schoolscapes* to allow exposure for more visual work occurring. These spaces have also been equipped with additional break out spaces that bleed into the *schoolscapes*, allowing for another level of exposure and transparency.

The lounge acts as a public square within the school, fusing marketplace meeting place and moving place functions. It is part of the circulation space to and from learning studios on the same level and adjacent to the main circulation use to access the levels above. It is a meeting place for staff and students, used for both social and academic purposes. The space allows for people to see her and talk to one another in space on varying levels of intimacy. The lounge acts as a marketplace, people use the space for a variety

of purposes and through social encounters facilitated by the space multiple people, ideas and perspectives intersect.

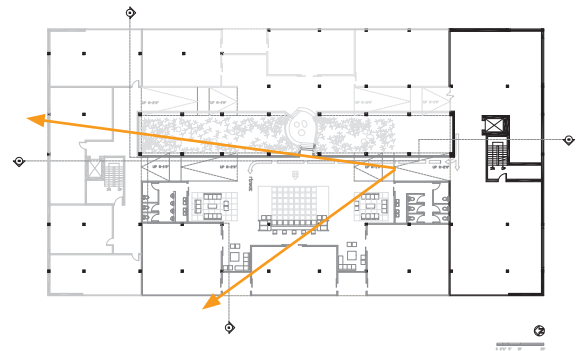


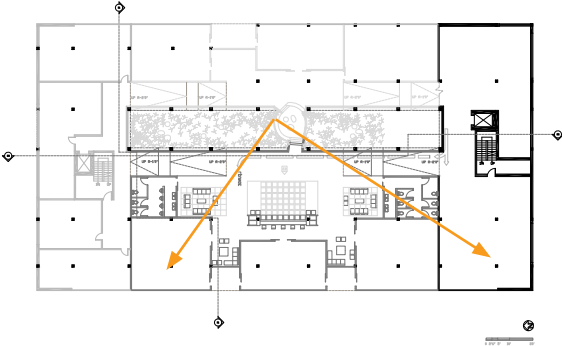
Figure 166. Key Plan for Perspective of Lounge scrabble board



PERSPECTIVE OF LOUNGE AND SCRABBLE BOARD

Figure 167

Figure 168. Key Plan for Perspective of Lounge scrabble board







PERSPECTIVE OF LOUNGE AND SCRABBLE BOARD  
Figure 169

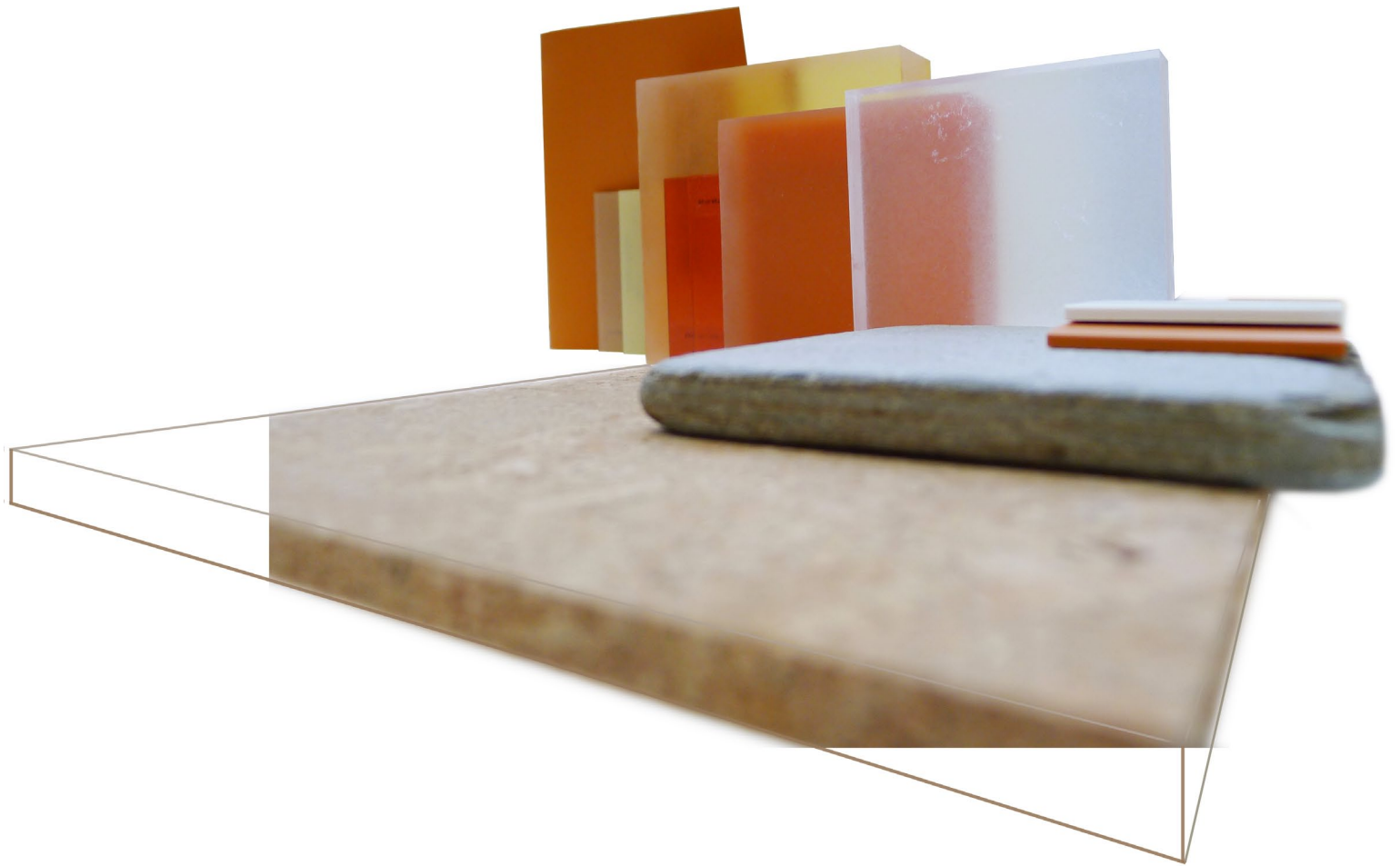


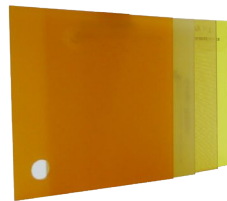
IMAGE OF MATERIALS FOUND IN LOUNGE

Figure 170

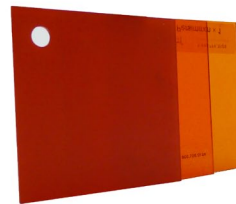
# MATERIALS LOUNGE



1



2



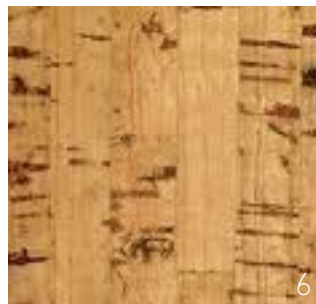
3



4



5







6

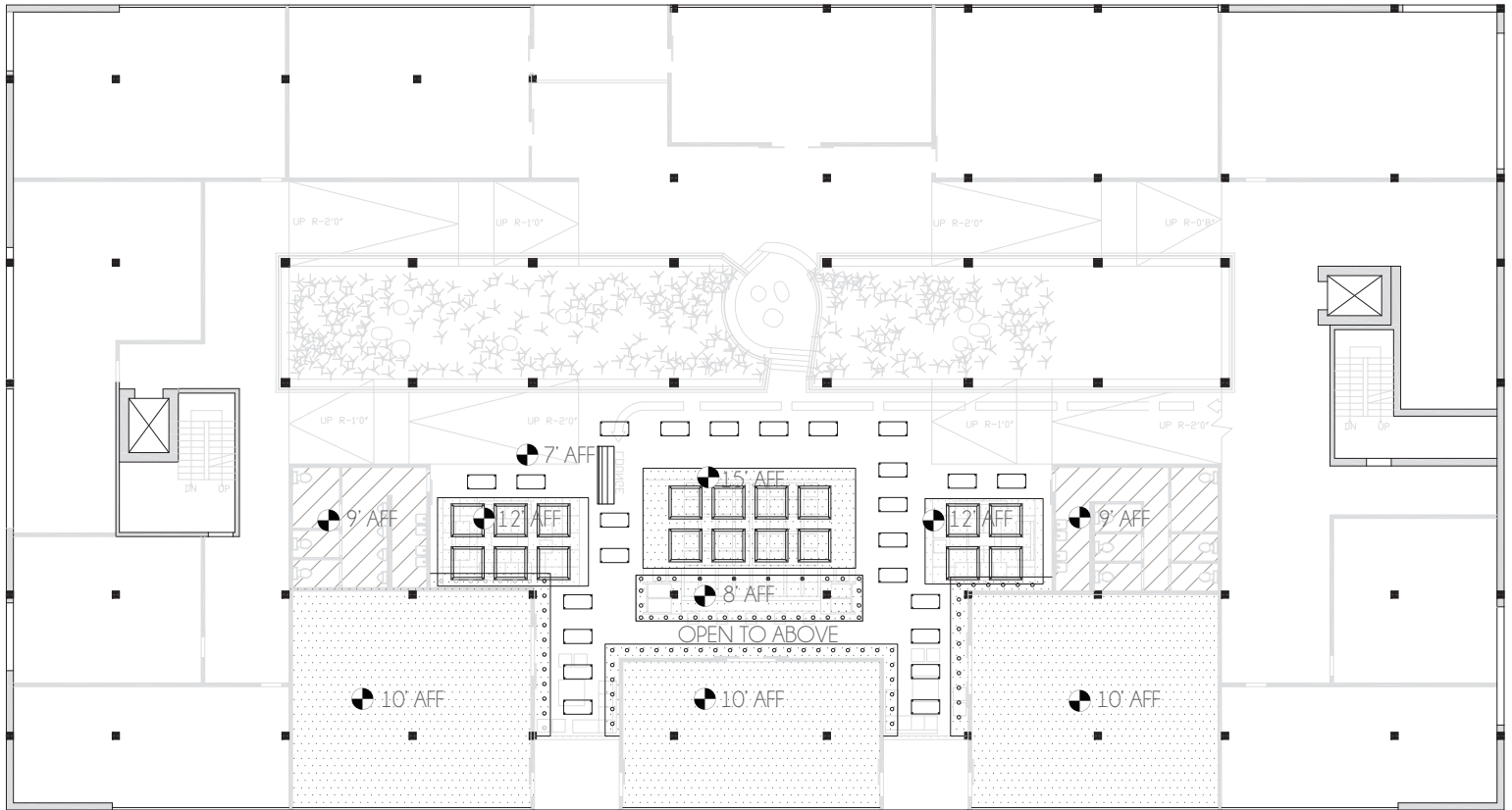
- 1 3Form Chroma Mai Tai  
Hand Rail Detail (see page 188)
- 2 3Form - Mango, Ribbon,  
Caramel, Canary  
Classroom Partitions
- 3 3Form - Mesa, OJ x 1,  
Persimmon x 1  
Classroom Partitions
- 4 PVC free Tender - Topaz  
cfstinson  
Upholstery
- 5 Maharam Oda 002 by Kavate  
Upholstery
- 6 Cork Tile  
Ceiling Planes

Figure 171. Materials found in lounge space

# REFLECTED CEILING PLAN LOUNGE

## LEGEND

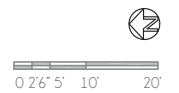
-  Square Suspended Light
-  Fluorescent Light (2'x4')
-  Pendant Light
-  Pot Light (4" Diameter)



# REFLECTED CEILING PLAN

LOUNGE LEVEL 4, 4A, 5

Figure 172





PERSPECTIVE OF KIVAS LOOKING UP INTO LOUNGE

Figure 173

# KIVAS

The 'kivas' spaces, (spaces that have elements of both meeting place and moving place) are spaces in the school that encourage social interaction and allow for circulation. (Nair, 2002, 12). As well as the proposed break out areas adjacent to the learning studios, art studio and science lab were provided to diversify the learning environment and provide multiple contexts for learning. The kivas spaces become shortcuts through the bamboo garden and an extension of the circulation. They are more intimate scale

spaces that provide contrast to other spaces provided in the *schoolscapes*. They are an element of surprise in the design and have a feeling of enclosure and protection similar to that found in the bamboo forest on the multipurpose level.

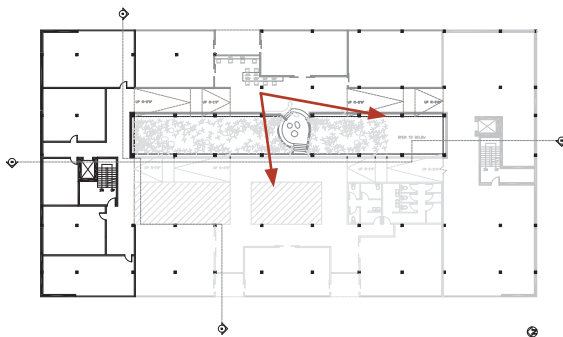


Figure 174. Key Plan for Perspective of Kivas looking up into lounge

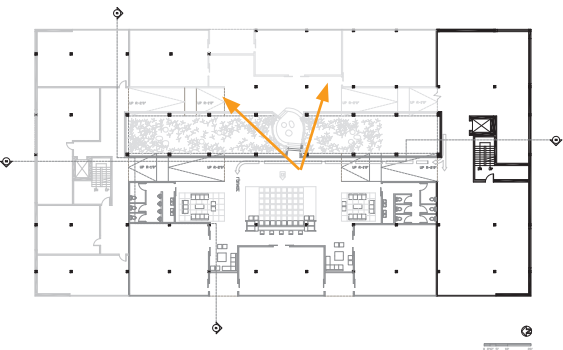
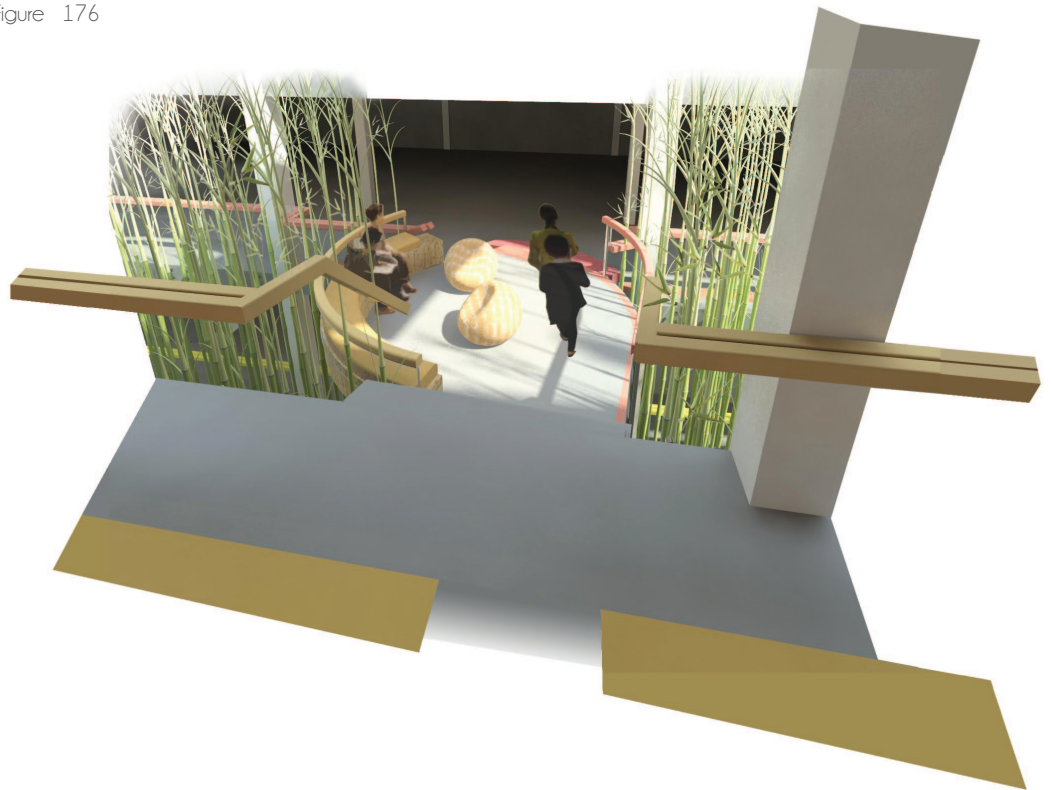


Figure 175. Key Plan for Perspective of Kivas looking down from lounge

## PERSPECTIVE OF KIVAS LOOKING DOWN FROM LOUNGE

Figure 176



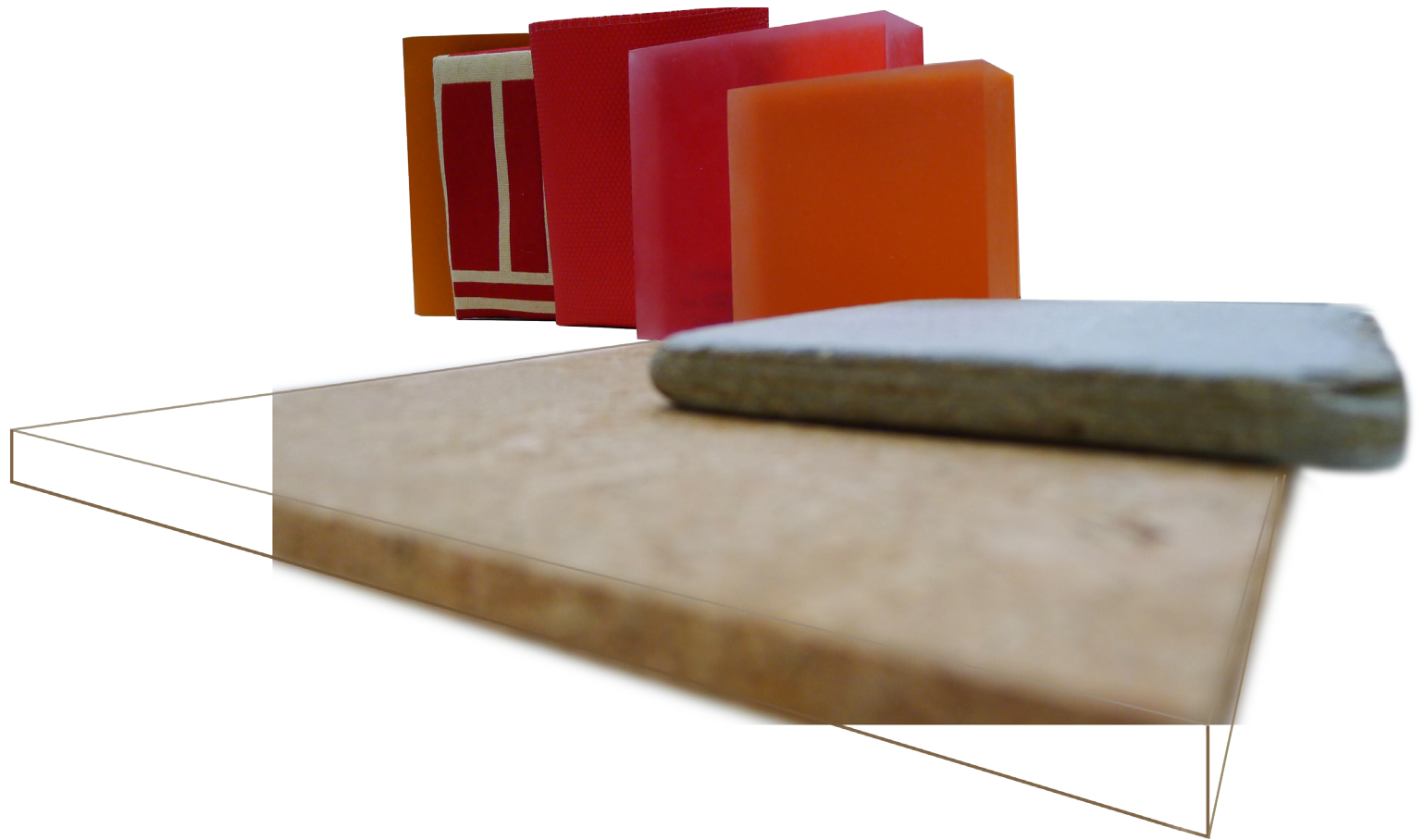


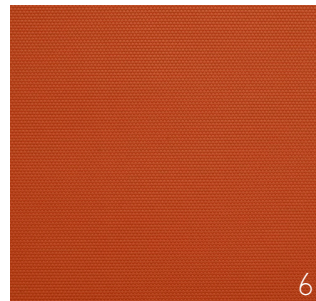
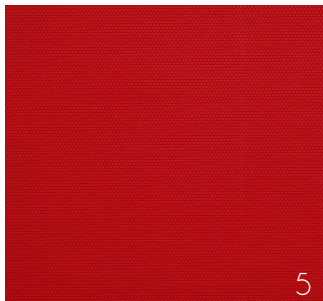
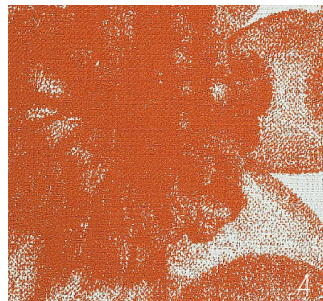
IMAGE OF MATERIALS FOUND IN KIVAS

Figure 177



# MATERIALS

## KIVAS



- 1 3Form Chroma Mai Tai  
Hand Rail Detail (see page 188)
- 2 3Form Chroma Cranberry  
Hand Rail Detail (see page 188)
- 3 Bamboo (Smith&Sons plyboo)  
Built in Furniture
- 4 Maharam Oda 625 by Kavate  
Upholstery
- 5 Maharam Wafer 008 Crave  
Built in Soft Seating Upholstery
- 6 Maharam Wafer 007 Blaze  
Built in Soft Seating Upholstery

Figure 178. Materials found in Kivas

1	3Form Chroma Cranberry Used For: Hand Rail on level 3A and in Kivas'	12	CC Leathers - Stucco Used For: Scrabble Ottomans	22	Maharam Oda 002 by Kavate Used For: Soft Seating in Kivas and Bamboo Forest
2	Series II Brewster Red Used For: Soft Seating in Lounge	13	Light blocks - Ice Used For: Classroom Partitions in Lounge	23	Johnsonite Rubber Flooring 75 Lemon Used For: Flooring in Cafe and Entrance space
3	Maharam Wafer 008 Crave Used For: Soft Seating in Kivas	14	Bamboo (Smith&Sons plyboo) Used For: Furniture Details	24	Cork Tile Used For: Ceiling planes in Lounge, Theatre and Multipurpose spaces
4	3Form Chroma Mai Tai Used For: Hand Rail on level 4A and in Kivas'	15	3Form - Mango, Ribbon, Caramel, Canary, Mesa, OJ x 1, Persimmon x 1 Used For: Classroom Partitions in Lounge, Level 4A	25	ECO Surfaces - Underlayment Used For: Flooring in Lounge and Multipurpose space
5	PVC free Tender - Topaz cfstinson Used For: Soft Seating in Lounge	16	Light blocks - Light Cast Silk Used For: Classroom Partitions in Lounge	26	Johnsonite Rubber Flooring 273 Copper Penny Used For: Flooring in Lounge
6	Benjamin Moore Pumpkin Pie 2167-10 Used For: Lounge	17	3Form Chroma Reflect Used For: Mirrored Signage on all levels	27	Johnsonite Rubber Flooring 68 White Sand Used For: Flooring in Lounge and Multipurpose space
7	Frosted Glass - Satin Etch Used For: Exterior Glazing adjacent to balconies	18	Crystal Temp Clear Mirror Used For: Mirrored Signage on all levels	28	Johnsonite Rubber Flooring 263 Leafy Used For: Flooring in Multipurpose space
8	Lightblocks L595-09 Used For: Columns	19	Benjamin Moore Tequila Lime 2028-30 Used For: Entrance and Multipurpose Space		
9	Concrete Used For: Primary Flooring throughout	20	Benjamin Moore Sun Porch 2023-30 Used For: Entrance and Multipurpose Space		
10	Bamboo (Smith&Sons plyboo) Used For: Furniture Details	21	3Form Chroma Vitamine C Used For: Hand Rail on levels 0, 0A, 1		
11	CC Leathers - Dark Grey Used For: Scrabble Ottomans				



IMAGE OF A MATERIALS  
Figure 198

# FINAL REMARKS

The learning objectives set out for this project were first, to understand the role that informal learning plays in education and how that can be facilitated through the design of an educational centre. Second, to determine how the built environment can be used to foster informal learning. And third, to investigate the idea of lively public space and determine how it can inform the design of communal spaces in an educational setting.

The importance of informal learning in progressive education became evident through the literature review. Informal learning was understood as any form of learning that can occur outside of the classroom. It encompasses almost every interaction and experience that a person goes through. To facilitate experience and social encounters in the Community Learning Centre it became important to provide a range of spaces from formal to informal, and conceptualize the learning centre as a social institution. This is why the multipurpose spaces are such an integral part of the design. The environment is a backdrop and facilitator for social encounters and learning opportunities by providing multiple contexts within the environment.

Elements of lively public space guided the design. Through the incorporation of these elements the public squares and streets in the building have the potential to become active, lively and engaging places where people want to spend time. They ensure that the spaces become hubs within the building, where people intersect with one another and exchanges take place between people, community and learning.

When designing for education what is needed is for designers to start with the foundations of learning, the values of education and create environments that are responsive to these concepts. This shifts both design and educational practice away from traditional approaches and buildings and the factory model of education. By attempting to understand the shifting values in education and informal learning I was able to generate a design that responds to current teacher and learner needs in the 21st century and potentially beyond.

Through the design of the Community Learning Centre the correlations between the city and interior became stronger. Design elements that

work in the city to create positive, interactive, and lively spaces can similarly activate interior space. Designing spaces for learning beyond the classroom became focused around an element of fun and surprise. The multipurpose area, scrabble board in the lounge and bamboo forest formed large gestures within the building used to break up and diversify the space and as ways to fostering interaction and engagement. Smaller spaces branch off of large public spaces, creating nooks and smaller zones for different types of work and activity. Much like the public squares of the city their program is flexible and the configuration and use is open and not prescribed, leaving opportunity for people to make an impact on the space and use it for their own needs.

The street is only one aspect of the *schoolscapes* and the space between the classrooms encompasses a larger notion of space in the Learning Centre. The space for informal learning was given more presence in the school justified by the need for multiple contexts for learning, the need for flexible and adaptable space and environments that would lend themselves to the changing nature of education and the need for

educational buildings to continue to adapt for the future.

Jan Ghels observations of people in the city, their basic human nature, needs and desires were significant because they form the basis for all human activity, and inform the creation of space that people want to be in. If human needs are met and design prioritizes peoples innate needs and desires the design will be successful.

The activity in the space of a learning environment is the most important aspect of the design. The building and interiors can only be facilitators for activity and interaction. The interior lends itself to this, acting as a backdrop for learning and activity. The spaces in this project can only be fully realized in their relationship to people and the success of the design is dependant on human response and engagement. Because this is a theoretical project this is something that has to be inferred from the intentions and analysis of the design.

## LIMITATIONS

Because of the building scale the interiors were zoned and only areas most relevant to the theory and inquiry process were designed. As a result it was not possible to fully develop the connection between interior spaces. The space between classrooms was difficult to isolate because ideally it reaches into every part of the building. The relationship of formal learning spaces in the building to the *schoolscapes* and informal space is something that could be investigated further as a continuation of this project. The flow between spaces within the building could also be better addressed with a more complete design of the entire building.

The building as a three-dimensional textbook provided some challenges and limitations. While I have embedded ideas and information in the building, and the building conceptually conveys these to users, the physical structure of the building was not a priority for the design because this is an Interior focused project. For future studies the role of the building as a three-dimensional textbook

could be investigated through an architecturally focused investigation.



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# APPENDIX A BUILDING CODE REQUIREMENTS

## 3.3.1.3 MEANS OF EGRESS

Access to exit within floor areas shall conform to subsections 3.3.2 to 3.3.5, in addition to the requirements of this subsection.

If a podium, terrace, platform or contained open space is provided, egress requirement shall conform to the appropriate requirements of sentence 3.3.1.5.(1) for rooms and suites.

Means of egress shall be provided from every roof which is intended for occupancy, and from every podium, terrace, platform or contained open space.

At least two separate means of egress shall be provided from a roof, used or intended for an occupant load more than 60, to stairs designed in accordance with the requirements regarding exit stairs.

A rooftop enclosure shall be provided with an access to exit that leads to an exit, at the roof level, or on the story immediately below the roof.

A rooftop enclosure which is more than 200m<sup>2</sup> in area shall be provided with at least two means of egress.

### 3.3.1.4 PUBLIC CORRIDOR SEPARATION

Except as otherwise required by this part or as permitted by sentence (4), a public corridor shall be separated from the remainder of the story by fire separation.

### 3.3.1.9 CORRIDORS

The minimum width of a public corridor shall be 1100mm

### 3.3.2.12 LIBRARIES

Except as permitted by sentence (2), a library book storage room that is not normally accessible to the public shall be separated from the remainder of the building by a fire separation with fire-resistance rating not less than 2h if it is more than 250m<sup>2</sup> (2,690sq.ft.), or penetrate more than one floor assembly.

The fire separation required by sentence (1) is not required if the book storage room is sprinklered.

Open book shelves are permitted above and below a mezzanine floor in a library building provided the height of the shelves is not more than 2.1m but not more than 75% of the floor-to-ceiling height of the space above or below the mezzanine floor assembly.

### 3.4.2.1 MINIMUM NUMBER OF EXITS

Except as permitted by sentence (2) to (4), every floor area intended for occupancy shall be served by at least 2 exits.

### 3.4.2.2. MEANS OF EGRESS FROM MEZZANINES

The space above a mezzanine shall be served by means of egress leading to exits accessible at the mezzanine level on the same basis as floor areas. For an Assembly occupancy the maximum area is 150 m<sup>2</sup>, and the distance limit is 15m.

### 3.4.2.3 DISTANCE BETWEEN EXITS

The least distance between two exits from a floor area shall be one half the maximum diagonal dimension of the floor area, but need not be more than 9m for a floor area having a public corridor, or one half the maximum diagonal dimension of the floor area, but not less than 9m from all other floor areas.

### 3.4.2.6 PRINCIPAL ENTRANCE

At least one door at every principal entrance to a building providing access for the exterior at ground level shall be designed in accordance with the requirements for exits.

### 3.4.3.1 EXIT WIDTH BASED ON OCCUPANT LOAD

To determine the aggregate width of exits, the occupant load of every room or floor area shall be determined in conformance with subsection 3.1.17

### 3.6.3.1 FIRE SEPARATION FOR VERTICAL SERVICE SPACES

A vertical service space shall be separated from all other portions of each adjacent story by a fire separation having a fire-resistance rating conforming to table 3.6.3.1

### 3.7.2.2 WATER CLOSETS

Except as permitted by sentence (4), water closets shall be provided for each sex assuming that the occupant load is equally divided between males and females, unless the proportion of each sex expected in the building can be determined with reasonable accuracy. See table 3.7.2.2.A for water closets for an assembly occupancy.

If a single universal toilet room is provided in accordance with the requirements of section 3.8., the total number of persons in the building used to determine the number of water closets to be provided, is permitted to be reduced by 10.

Urinals are permitted to be substituted for two thirds of the number of water closets required by this article for males, except that if only two water closets are required for males, one urinal is permitted to be substituted for one of the water closets.

### 3.8.3.8 WATER CLOSET STALLS

At least one water closet stall or enclosure in a washroom is required to be barrier-free and shall not be less than 1500 mm (4.9ft) wide by 1500mm (4.9ft) long.

### 3.8.3.13 SHOWERS

Except within a suite of residential occupancy, where showers are provided in a building, at least one shower stall in each group of showers shall be barrier-free and shall be no less than 1500 mm (4.9ft) wide by 900mm (2.9ft) deep.

### 3.8.1.2 ENTRANCES

Not less than 50% of the pedestrian entrances of a building shall be barrier-free and shall lead from the outdoors at sidewalk level, or a ramp.

### 3.8.1.3 BARRIER-FREE PATH OF TRAVEL

Pertaining to doorways, the unobstructed width of a barrier-free path of travel shall not be less than 920mm (3ft). Interior and exterior walking surfaces that are within a barrier-free path of travel shall have any elongated openings oriented approximately perpendicular to the direction of travel

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