

Plant Services-York Region District School Board
Finland Study Tour Experience

by

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York Region District School Board

Report Summary- In May 2011, a group from the Board's Plant Services participated in an international study tour. While the educators discussed and examined the world of academia, the Plant representatives spent time inspecting rooftops, visiting the bellies of buildings, hiking around school exteriors, and examining mechanical and facilities systems.

York Region District School Board ~ Plant Services

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In May 2011, Plant Services Superintendent Margaret Roberts, Manager of Energy and Environmental Services Robert Selvazzo, and Assistant Manager Quality Standards Kathryn Powell joined a group of educators on a study tour to Finland. Visiting schools in the City of Espoo, this is the first time a group from the Board's Plant Services participated in an international study tour. While the educators discussed and examined the world of academia, the Plant representatives spent time inspecting rooftops, visiting the bellies of buildings, hiking around school exteriors, and examining mechanical and facilities systems.

Although the visit was not a comparison of apples to apples (or schools to schools) due to a myriad of differences between the two school board systems, representatives did develop a strong sense of how the Finnish culture and a common sense approach to day-to-day activities positively influence the school environment.

Lifestyle & Culture

One of the ideologies that first stood out was the reference to the school as "home." In keeping with

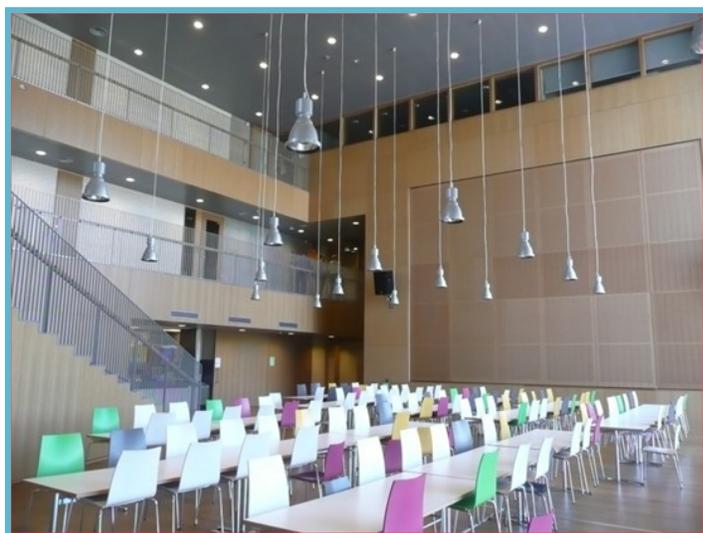


Student 'mud room'.

functional at home, it's also an expectation and functional at school too."

a household lifestyle, students take their shoes/boots off at the front door and transfer to their indoor footwear, stocking feet or stay barefooted. This model suggests, "If it's an expectation and

In keeping with this belief, students and staff are responsible for maintaining their house, which includes tidying classrooms, moving around tables and chairs for events, and cleaning-up after themselves following meals. Healthy, hot lunches are



Elementary school cafeteria utilizing colour and light.

served every day to every student and staff member, and at meal time the students, even from the youngest of ages, plate their own food, carry their meals to the table, clean up messes they may have made, and then return their plates, cutlery and cups to the kitchen for washing. These practices differ from the practices within York Region schools (and more than likely Canadian schools), where Caretakers (Custodians) perform the waste transfer, cleaning and maintenance functions required for daily operations. The minimal cleaning functions performed in Finnish schools are contracted and paid for by the city. Regarding waste, there is no mass production of garbage to collect daily as all meals are prepared on site using healthy, fresh ingredients and served on reusable dishes with cutlery. Additionally, there are no vending machines or packaged foods served within the school, so all food waste is organic and composted accordingly.

Lifestyle is also reinforced within the school by the staff, who typically work at the same school for significant periods of time. Principals can be assigned to a school for decades, leading to a heightened sense of responsibility and ownership for the building. Within York Region, principals are typically transferred every three to five years, which can sometimes affect consistency of practice.

With regards to the community use of schools, in York Region our board sets the expectations for visitors and provides building coverage from an operational perspective any time a 'permit' group occupies our schools. In Finland, community groups are provided with their own keys to the building and the expectations to maintain the building are as great as they are for the daytime occupants.

School Board & Facilities

In Finland, the schools are rented from the city. As such, a number of York Region Plant Services functions do not exist at the Finnish school board level, but instead are city functions. School rent covers operating costs including utilities, maintenance and life-safety systems, waste removal, snow removal, and food programs. Schools are also built and intended to be multi-use facilities, which can include daycare, youth centres, gymnasiums, libraries and other community services. With the funding models and operational practices being considerably different between the two school board systems, the challenges York Region encounters from a facilities management perspective differs greatly from those of the Finnish practices. The Finnish model also allows for private funding and co-investment in the properties.

City-managed maintenance functions of the Finnish facilities were completed by a team responsible for specific grouping of schools, and they were well-versed on the history of facilities and also treated the care of their buildings like they would maintain their own home.

The average Finnish school was found to cost 3-4 times more to build than a typical York Region school. Finnish schools house 250-400 students, whereas York Region schools can house up to 1,000 students. (In 2011, the City of Espoo elementary, secondary and alternative program schools accommodated 12,020 students; York Region schools accommodated 120,000.) The average cost per square foot to build a school in Finland was \$450.00; the average cost to build an elementary school in York Region is \$140.00 per square foot. And while the Finnish school board co-approves design and budgetary costs, end costs could be substantially more as the city monitors the construction.



Skylights which are also building design elements.

From a design perspective, schools are uniquely built following an architectural competition held for each site, which in itself absorbs about 7% of the project cost. Design criteria include functional, efficient, healthy and safe spaces, yet the architectural interpretation of these criteria varies greatly from school to school.

Unlike how Ontario developers approach a new sub-division, the natural environment in Finland is respected and left in its most authentic state while construction takes place in and amongst the trees

and rock formations. School exteriors become a part of the overall landscape design and natural elements are embraced. The outside environment around each school is also then integrated into the educational programs.



Ample parking space for bicycles.

The intentional use of natural resources is apparent with the inclusion of skylights and massive windows. Furnishings resemble a model showroom at IKEA, focusing again on functionality. Colours are bright yet relaxing, eliminating any feeling of an institutional setting. School design elements enhance the building's appearance within the community. While aesthetically pleasing, buildings are also designed to be energy efficient. Energy design elements include good thermal insulation, air tight facilitation, effective ventilation, small scale solar systems, energy consumption systems, and again, the extensive use of natural light.

There didn't appear to be the same abundance of regulatory requirements or restrictions impacting Finnish building design and maintenance, with health and safety standards in Ontario/Canada seeming to be more stringent or structured than Finland. Understanding of the governance that influences and affects aspects of construction and daily maintenance and operational practices in our province, it was most surprising to see open wood

fireplaces within schools, the absence of fire sprinkler systems, windowless interior doors, and the use of a variety of natural building materials. Other building features that speak to the Finnish culture included air raid bunkers, wood shops in elementary schools, the absence of perimeter fencing, single-use co-ed student washrooms, shower-type wash-down systems in washrooms, multiple rows of bicycle racks, and mud rooms for exterior coats and footwear. Administrative offices are also located away from the front entry doors and are secured locations versus our front door 'reception' model in Ontario schools.



Hallway gathering and seating concourse.

From an energy management perspective, both school boards were found to be invested in sustainable and responsible practices. In 2005, the European Union (EU) issued a directive to increase renewable energy sources which the Finnish school board demonstrates, as does York Region in response to its environmental expectations. Both boards adopt room temperature set-points, following a standard of 20-21 °C, and implement night time set-backs. However, in some of the older Finnish schools where set-back technology is not in effect, temperatures can mimic a home environment and the building occupants wear sweaters for their personal warmth and comfort. In York Region, testing new sustainable



Natural light and finishes working in harmony.

technologies (e.g. solar wall and solar roof panels, high efficiency boilers, occupancy sensors, LED lighting) through pilot applications/installations appeared to be more visibly evident.

There were many building and design concepts that lingered with us following our visit to Finland, evoking questions such as:

- While York Region has adopted a prototypical school design, how can we introduce a greater variety of design elements to invoke a less institutional feel to our schools?
- How do we encourage building occupants (students and staff) to adopt a change in behaviour in response to the day-to-day participation and care of our schools, and work together to keep our 'homes' in good order?
- What opportunities are there in our school designs to incorporate more natural light?
- How can we be more assertive with regards to maintaining the outdoor environment of a school site, and can the natural environment around a school be integrated into education programs (outdoor classrooms)?



A well lit library with a welcoming ambiance.

The experience to visit the Espoo School Board was extremely rewarding. It opened the doors to stimulating conversations and continues to challenge our thinking to search for more efficient and effective building design, operations and maintenance practices.

Thank you to the staff and students at the Espoo School Board who were so welcoming, warm and helpful to us in our learning.

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