**School as a Place of Occupation:**

**The Importance of the Physical Environment in Student Well-being**

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**Introduction:**

"I have always felt it is our job to make children fall in love with the world"

-Ken Winograd, 2016, intro.

Our job as teachers is *not* to simply have students "acquire special skills by means of automatic drill so that their power of judgment and capacity to act intelligently in new situations is limited" (Dewey, 1938/1986, p.46). Rather, "we need to see ourselves as designers of learning" (Halbert & Kaiser, 2013, p. 37). Our job is to "arrange for the kind of experiences" that are linked cognitively and schematically; it is to "arrange for the kind of experiences that…promote having desirable future experiences" (Dewey, 1986, p. 248). Emotion is tied to learning, therefore, if we want students to learn, we do not want to drill them, we want instead to make them fall in love with the world (Winograd, 2016, *intro*., OECD, 2018).

 Getting students to fall in love with the world is no small task given the physical architecture of most schools (Cheryan et al. 2014). If we want students to fall in love with the world, we need to provide students with a world *or environment* that is accessible, engaging, and worth loving. For a student, the environment primarily consists of the classroom and the school. It is composed of physical objects that often define where students sit, how they move[[1]](#footnote-1), and who they interact with. Physical objects also define what or who is valued and how we are able to think (Cheryan et al., 2014; Paul, 2021p.129-137). Teachers often think about the person-to-person interactions in the school environment, but if we are truly going to make students fall in love with the world and all that is in it, it is vital to think of the person-to-physical-space interactions. How does the environment *engage* students? What about the environment is *accessible* and motivational? How does it *inform* occupation[[2]](#footnote-2)? What *biases and beliefs* does it hold (Cheryan et al., 2014)? *Who* does it contain? How does it influence pedagogy?

Kaiser and Halbert challenge us to ask, "Have we designed a learning environment that allows each young person to be valued for his or her unique strengths" (p.38)? Consider, for example, the design of desks in rows. Desks in rows represent the belief in meritocracy and individuality. On the other hand, tables with pots of shared materials represent the belief that students need to learn to talk to each other and the notion that resources can be shared. Desks in rows allow for individual thought, practice, and knowledge transmission style pedagogies (Park & Choi, 2014). Tables and chalkboards allow for communal knowledge and inquiry or problem-based tasks (Beichner & Saul, 2003; Liljedahl, 2020; Park & Choi, 2014,). Desks imply that conversation should be limited, and tables imply freedom to move where one wants within a space. Hannon & Peterson (2021) talk about how rare and empowering it is for students to have freedom to move within a space (p.175). Classrooms with student work and pictures of students engaging in activities outside of school value background knowledge and show that we see the child as a capable contributing member who adds to the collective knowledge base[[3]](#footnote-3). In my experience classrooms and hallways with motivational posters and store-bought bulletin boards show that we value who the child will become, but they also imply that adults do it better. Classrooms and schools filled with books (and reading places) imply that literature is valued as is time for reading, researching, leisure and quiet[[4]](#footnote-4).

For place-based educators the outside becomes part of the classroom and contains different affordances. A city park (for example) creates different interactions and ideas than a forest will:

Imagine a child playing in a small patch of woods, where the trees might be hiding places, the foundation for a fort or branches to jump and swing. The tall grass in the understory might be a bed, a hiding spot, or a farmer's field. Now compare the imaginative possibilities this child has with a slide or swing. (Erickson & Earnst, 2011, p.97)

In my experience a raked clean park with play structures encourages tag games and some limited forms of dramatic play and early numeracy. I find that, on the other hand, places filled with sticks, logs, and long grass encourage a wide range of dramatic play, cooperative gross motor work, balance work, construction, letters in the sand, and early math skills. In the book "Outside My Window" Liz McCaw 2017) also talks about how creativity flourishes in the forest as there are a wide variety of "loose parts" (sticks, stones, logs…) that can be used (given new value) for a multitude of purposes (p. 19-24). In my opinion, pristine environments, regardless of being inside or out, may show care, attention, and pride, but they do not encourage one to look closely and "create new value"[[5]](#footnote-5) as they have little to create new value with.

The environment also influences what is taught: walking around a city or town as part of a water inquiry also leads to more work around mapping streets and civic planning (Endreney, 2009). Walking around a wetland leads to conversations and learning about the water cycle and animal habitat. Staying in a classroom lends itself to literacy, math, coding, and writing. A school with a stage will encourage drama and the arts, a school without will not. And, perhaps most importantly of all, when one thinks of the environment as the third teacher, one can consider place attachment. It is important to note that when a person feels a sense of belonging and attachment to place (environment) identity is fostered, and educational outcomes improve.

**What does a well set out classroom look like?**

 As the "physical environment impacts physical, cognitive, and psychosocial development and also shapes behaviours" then what a classroom looks like may very well depend on what your intentions are (Can & İnalhan, 2017, para. 12). If there are times in the day when knowledge transmission is the goal (and there will be), a straight and organized space with a distinct front is better (Park & Choi, 2014, p.769). If the goal is to encourage inquiry, story workshop, visible thinking, or play-based learning, then there will be various manipulatives or loose parts that promote multiple modes of use (Mrs. Meyer's Kindergarten, n.d.; Liljedahl, 2020; Ontario 2016 Kindergarten program section 1.3; reggioemilia, 2015). If the goal is to "create a more positive attitude toward learning [and] more relationships with peers" (Park & Choi, 2014, p.755), and to shift the role of the teacher, then a "de-fronted", asymmetrical classroom with lots of vertical surfaces to share thinking on is crucial (Liljedahl, 2020)[[6]](#footnote-6). If the goal is "relaxed spaces in which students feel safe to take risks, to try, and to fail" then the room needs to be neither too neat nor too chaotic (Liljedahl, 2020, p. 72). If the goal is to learn about science or places in the real world, then the classroom might be outside (Endreny, 2009). If the goal is to have students try new leisure activities to promote health and well being now *and in the future*, the classroom will allot time for these activities. It will also contain multiple spaces, such as playgrounds, hiking trails, and classroom corners with materials such as exercise equipment or art supplies for self-directed activities[[7]](#footnote-7) (Carmen Bennison, OT, personal communication, Nov. 1, 21).

**The impact of environment on educational outcomes:**

When one thinks of paying close attention to classroom set up one typically thinks of the Reggio-Emelia approach and young children. However, the most striking study I have read on the environment as the third teacher has nothing to do with small children and the Reggio-Emelia approach, rather, it has to do with higher education. After reviewing relevant research studies, Park & Choi (2010) themselves studied the effects of traditional lecture style university classes with Active Learning Environments. They discovered that, while traditional desks in rows are best for basic knowledge transmission, they contain "positional discrimination" and that seat choice in the "shadow zone" is often based on a student's GPA – students with lover GPAs end up in positions that are not as conducive to learning and therefore learning is inequitable (p. 758-760, p.768).

 The Active Learning Classrooms on the other hand, promoted "positive learning attitudes regardless of their GPA level" (Park & Choi, 2014, p.769). Active learning classrooms are much like Liljedahl's (2020) thinking classrooms. They have tables where students can work together, whiteboards or large computer screens for sharing ideas, and a clear view of lecture screens from anywhere in the room. The Students in Active Learning Classrooms stated that they had more interactions with peers and the instructor. Interactions are important because they state that "active involvement in peer and student-faculty interaction are the most significant factors on student achievement" (Park & Choi, 2014, p.751, citing Hay, 1995). Universities that chose to change how they set up the physical classroom environments were deliberately trying to change educational outcomes. The universities in the United States and in Korea that were highlighted in Park & Choi's study were looking for more than knowledge, because an "information…based society….[needs to] emphasise the development of critical analysis competencies,…communicating, and cooperating…to create novel ideas" (Park & Choi, 2014, p.751). Lecture halls and classrooms with desks in rows do not allow for cooperation, critical analysis, or good communication. If one wants to improve educational outcomes they are going to need to embrace different school and classroom designs.

 Classrooms whose physical designs promote competencies also improve general knowledge and understanding of concepts. As stated above, Park & Choi (2014) reviewed relevant research studies and found that Active Learning Classrooms showed "a highly positive effect on learning outcomes" (p. 752). One of the studies they looked at was from North Carolina State University. The university set up classrooms to accommodate both physics labs (typically done in small groups), and lectures (large groups) in the same space at the same time. This careful set-up considered not just pedagogy, but the size of the tables, the nature of the chairs, and the access to others in the room. The physical set-up of the classroom was important because it took "advantage of cooperative learning techniques and helps students form learning communities [and]…. Interactions between students and with faculty are the most important aspect of a successful college career" (Beichner & Saul, 2003, p.3). Not only did students do better on traditional exams in these classrooms, they also did more advanced problems (Beichner & Saul, 2003, p.10). Park & Choi (2014) summed up the Beicher & Saul study well: "SCALE-UP classrooms resulted in improvement of students' problem-solving ability, promotion of conceptual understanding, better learning attitude and understanding of the main physics concepts, and dramatic reduction in failure rates, particularly for women and minorities" (p.752).

The OECD (2018) also encourages schools to come at education from a competency-based perspective, and there is good reason to try, as students need to come out of school able to communicate, deal with opposing views, and create new value (OECD, 2018, para 17-21). Students who are able to communicate well and deal with opposing views need to be able to self-regulate. Dewey (1938/1986) talks about how it is "idle to talk of self control" when learning experiences are not integrated into one another (p.38). As the above examples illustrate, classroom set-up can promote subject (and sensory) integration. Therefore, classrooms designed to be active learning classrooms will tend to foster self- regulation through subject integration**.** Collaborative set-ups that promote the movement and sharing of ideas through vertical learning surfaces are "suitable for classes focusing on integrating concepts, information, and opinions…as well as application of theories into practice" (Park &Choi, 2014, p. 767). The SCALE-UP classroom study was a perfect example of integration as they increased student success when they integrated "all activities, including laboratory experiments [in order] to build on one another in sequence for greater learning impact" (Beichner & Saul, 2003, p.3). Active classrooms go a long way towards creating the skills in students that we need, therefore, more classrooms need to be designed as active learning environments.

**Environment as Place: The Importance of Attachment:**

Nelson Goodman (2021) talks about how the stars came into existence because we named them. While the naming didn't cause them to exist, the idea is very important. When we looked at the heavens, we teased out objects, reflected on them, studied them, *attached* to them, and they became part of our world. When we call the "environment the third teacher" we begin to reflect on it, tease out meanings and create beliefs around it. Reflection allows us to examine our beliefs and intentions. It is important then, to think about the social nature of the classroom environment as well because "highlighting aspects of place that shape student's experience can serve to remind educators of their…responsibilities in the social construction of classrooms and schools as places" (Ellis, 2005, p.57). In fact, spaces and the relationships within them "fundamentally structure human experience" (Green & Turner, 2017, p.36) and become places when "a personal connection" is formed due to duration and *community involvement*. Once space has become place, it can provide "a source of security, comfort, nurturance, belonging, meaning, and identity" (Ellis, 2005, Huber et al., 2012; Green & Turner, 2017, p. 29, Hay, 1998). Place attachment is an important consideration in school because, according to Green & Turner (2008), place is a "significant medium through which human identity is created", and therefore we want to make sure that students create a positive sense of place in school so that they in turn have a positive self-image (2017, p.1). How we physically structure the environment can cause students to either become marginalized or more of a community depending on the interactions it allows for (Ellis, 2005; Green & Turner, 2017; Hannon & Peterson, 2021; Huber et al., 2012; Park & Choi, 2014).

**Conclusion:**

There is a definite relationship between the physical environment that is created for students and student success. Paying attention to how we design our spaces can help us create a whole child by fostering a sense of purpose through integrated collaborative activities. The environment can also help us create whole children by fostering wellness – after activities that are cognitively demanding we can provide spaces that expose students to various leisure activities and help them discover healthy ways to regulate, de-stress, and feel good about themselves. The artifacts in our rooms can foster identity and engagement. Schools can become places that create identity and belonging if we physically structure them to be inclusive and empowering. Our job is to make students engage with and fall in love with the world, and we need to design learning environments that help us do that. The physical environment is a complex third teacher that demands much scrutiny and close attention.

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1. Hannon & Peterson talk about how empowering freedom of movement is for students, and how important that is for student well-being in their book "Thrive" (p.175) [↑](#footnote-ref-1)
2. Occupation is about doing (work), being (leisure & well-being), and becoming. I would argue that occupation is the purpose of school as it encompasses the present and the future. Occupations must be accessible. [↑](#footnote-ref-2)
3. In my opinion [↑](#footnote-ref-3)
4. Again, this is my opinion, although reading is both an academic and a leisure/wellness activity and needs to be highlighted as pleasurable. There is research by Morrow & Weinstein (1982) that back this up, but I can't locate it. [↑](#footnote-ref-4)
5. The OECD recommends creating new values as a competency goal for schools (2018, para. 18). [↑](#footnote-ref-5)
6. Interestingly, Both Park & Choi (p.763-770) and Liljedahl (p.76) noted that the restructuring of the learning environment *also* changed the actions of the teacher and made them more like mentor-coaches. [↑](#footnote-ref-6)
7. The caveat here is that you must also allow time for reflecting how leisure activities make you feel so that you will continue to do them outside of school to reduce stress and increase happiness. [↑](#footnote-ref-7)