

This paper was downloaded from CRN website, Japan

URL: [http://www.childresearch.net/papers/digital\\_2013\\_01.html](http://www.childresearch.net/papers/digital_2013_01.html)

[http://www.childresearch.net/papers/pdf/digital\\_2013\\_01\\_ACKERMANN.pdf](http://www.childresearch.net/papers/pdf/digital_2013_01_ACKERMANN.pdf)

# Oh the places we'll go! [Part 1] Rethinking education in the digital age

Edith K. Ackermann

MIT School of Architecture & Harvard Graduate School of Design

<http://www.media.mit.edu/~edith>

## Abstract

Research on “digital natives” has shown that today’s youngsters interact with one another, and the world, in ways that are different from the ways we did growing up. At the same time, the “millennials” are not unique, or alone, in their attempts to comply with so-called 21<sup>st</sup>-century-skill requirements. Their parents and teachers too are on a treadmill, and they too qualify as life-long-learners. In this paper, I suggest that the 21<sup>st</sup>-century ideals of *new media literacy*, *life long learning*, and *online education* (distant learning, MOOCs) can become a nuisance if pushed at the expense of people and place. Of particular significance in this regard are the ways today’s learners—and those in charge of their upbringing—navigate, position and pace themselves, and interact with each other in the *settings* they inhabit, however shortly or permanently. *Learning everywhere* and *all the time* is not a new idea, especially among progressive educators. Yet its unexamined uses by overly hurried or worried specialists call for a moment of pause. To be viable, our schools will need to be “edgeless” but they cannot be place-less! Students will have to *be inter-connected* yet without losing their grounds. Lastly, educational institutions will have to rethink their “raison d’être” (place and identity) within a broader range of initiatives, platforms, and programs, all brought to the attention of growing numbers of [lifelong] learners in search of [short-term] options in an ever-changing flux of shifting opportunities.

## Keywords:

Millennials, Life-long-learners, 21<sup>st</sup> century skills, Educational settings, Places, Paths, Pace,

## Introduction

*"The best thing to give a child is roots and wings"*

Not a week goes by without heated debates over the pros and cons of massive online open courseware, or MOOCs, and on the urge to improve our schools (including teacher and student assessment) in order to catch up with so-called “21<sup>st</sup> century skills” requirements. At the same time we are also witnessing an explosion of ad-hoc formulas, both in and out of school: from Kahn Academy to flipped classrooms, from smart boards (and voting handhelds) to one laptop per child, from online mentoring services to after-school programs. Particularly striking in this regard, are the efforts by leading US universities, such as MIT, Stanford, and Harvard to rethink their entire value proposition (standards of excellence, educational philosophy, life on campus) as they themselves are giving out their highly praised knowledge contents. Rarely have we seen such a concerted rush to promote *anything but* the benefits of knowledge transmission through expert delivery. And indeed, if whatever-it-takes-to-graduate were just up for grabs, why would anyone send their children—or enroll themselves—in expensive or obsolete educational institutions, instead of earning their point

off-campus, “for free”, upon demand. Something big is in the making at the interstice of free-for-all, distant education, and being a member of the club.

Constructivist scholars and progressive educators have long advocated the notion (1) that knowledge is not information; (2) that gaining expertise doesn’t occur as a result of hearing experts talk (sage on the stage); and (3) that teaching is more and different from telling pupils to think like the masters. As my mentor Jean Piaget has taught us, knowledge is experience, becoming an expert requires first-hand and sustained engagement, and teaching is always indirect (guide on the side) [Ackermann, 2004]. Of great concern, in today’s trend of unbridled MOOC-o-mania, is a further depreciation of *the art of teaching* itself. And indeed, why would even the best of teachers stay in the job un-bashed, if gauged against the online Kahn’s and Chomsky’s of this world. Time has come to step back, take a close look into what it means—and takes—to be experienced, knowledgeable, literate, a creative thinker, or a skilled practitioner; and to re-examine the conditions under which today’s learners—and their teachers—are more likely to thrive or be made to fail.

In what follows, I hope to show that the 21<sup>st</sup>-century ideals of *life long learning*, *technological literacy*, and *online education* (distant learning, MOOCs) themselves become a nuisance if pushed through at the expense of people and place, and in particular the ways today’s learners—and those in charge of their upbringing—inhabit, furbish, position and pace themselves, and mingle in the settings they occupy, however shortly or permanently.

Today’s learners– who are they? What’s to be learned?

Research on “digital natives” has shown that today’s youngsters interact with one another, and the world, in ways that are different from the ways we did growing up. In a previous essay [Ackermann 2011], we have identified six areas in which there seems to be more going on than just another variation of the same old generational gap. Each constitutes a dimension that, in conjunction with others, informs how today’s youngsters play, learn, and create. Together, these dimensions provide a framework to understand the youngsters’ needs and aspirations, appreciate their contributions, and challenge some of our own assumptions on what it means—and takes—to be knowledgeable, literate, a good learner. Dimensions are:

1. Sharism - new ways of *relating*
2. Shifting identities - new ways of *being*
3. Border-crossing - new ways of *moving between worlds*
4. Literacies beyond print - new ways of *saying it across time-space*
5. A culture of gaming, or "simuling"- new ways of *—playing it safe*”
6. A culture of bricoleurs (makers, hackers, hobbyist) - new rapports to *things*

Also changing in today’s world are youngsters’ awareness of, and ways of handling, the growing fracture between the *pressures* and *limitations* inside school (content delivery, grading, teacher bashing) and the *promises* and *possibilities* outside (self-taught PROAMS i.e professional amateurs, participatory cultures, alternative living). For good or for bad, many children these days pursue their interests *anywhere but* in school (gaming, maker cultures) and, more often than not, for reasons other than money or job. Most do so creatively. Others may be less lucky.

New generational crossovers: in it together!

While the young and the old may find different ways into the jungle, the ‘millennial’ are not alone or unique, in their attempts to come to grips with so-called 21<sup>st</sup>century-skill requirements. Their teachers and parents too are surrounded by hosts of new tools we couldn’t dream of ten years ago.

They too are living in a world of ever more busy work and entertainment schedules; longer commutes; disappearing third places; reorganizing neighborhoods; and communities in transition. It is also worth noting that while today's children seem to be *growing older younger*<sup>1</sup>, their aging counter-parts feel increasingly pressed to *stay younger older!* As a result, no matter where we stand along the developmental ladder, we all qualify as life-long-learners, united in an effort to keep afloat in a sea of unexpected changes.



Photos by Edith K. Ackermann

**Generations at Work.** When you take members of different generations, blend them together, and ask them to work side by side, you have both an opportunity and a challenge: the opportunity to engage a mix of people who bring their unique experiences and skills to an organization and the challenge of dealing with the generational differences that distinguish them.

HermanMiller, 2010. P. 1)<sup>2</sup>.

More than a decade ago, Developmental Psychologist David Elkind laid out the dangers of exposing children to overwhelming pressures [Elkind, 2001]. In his groundbreaking book “the hurried child”, he eloquently argued that by expecting or imposing too much too soon, we force our kids to grow up far too fast. In today's day and age, one could make a similar case against the increasing pressure on seniors to stay forever young, and fit for the workplace. In order to compensate for the unsettling consequences of both self-inflicted and imposed *displacements* (physical or mental), most of us (young or old) are seeking new equilibrium. Educators in particular will need to invent new ways for their students—and themselves—to safely and successfully venture off the beaten paths, without losing their grounds and bearings.

Restoring a balance — Adult projections and quests for solutions.

Views differ on what today's learners *ought to know*—and *should be good at*—in order to become active and successful players in tomorrow's world. And hosts of programs, platforms, and frameworks are emerging, each hoping to shape for the better today's learners' mindsets, mentalities, and potentialities [Williamson, 2013]<sup>3</sup>. Among the flurry of initiatives, we witness a diversification and fragmentation of offerings; a blurring line between formal and informal education; and shifting

---

<sup>1</sup> A phenomenon also referred to as developmental compression.

<sup>2</sup> Jeanne Meister, co-author of “The 2020 workplace: How innovative companies attract, develop, and keep tomorrow's employees” (Meister, J. & Willier, K. 2010) projects that especially in emerging markets, we soon will have up to five generations in the workplace at once; and indeed it is not unusual even today to find 55 year-old Baby Boomers on project teams with 22-year-old Millennials, reporting to 45-year-old GenXer, while Vets, fewer in numbers, retain positions of influence.

<sup>3</sup> In “The Future of the curriculum: School knowledge in the digital age”, Ben Williamson offers an excellent overview of different innovative curricular programs, such as Enquiring minds, Future Lab UK (2005-09), Learning Futures UK (2008), Quest to Learn (NY/ Chicago 2009-present); High-Tech-High San Diego charter school (2000); New basics (2000-2004 Queensland Australia); Whole education, UK.

demands at school, home, and in-between. Question is: what's new under the sun? And what's in it for today's students and those in charge of their upbringing?

### What places for learners on the go!

*Where we are—the places we occupy, however briefly—has everything to do with who we are (and finally that we are)*  
[E.S Casey. 1993, xiii]

Place plays a major role in our lives, and research has shown that people feel and behave differently in different settings. In his studies on proxemics, anthropologist Edward Hall provided countless examples of how human behavior is regulated by *the hidden dimension of space* [Hall, 1969] and *the silent language of time* [Hall, 1959], and how culture mediates our perceptions and actions (behind our back, as Erich Fromm put it) as we move about, settle, and mingle in different contexts. Hall has shown that newcomers to a place often unknowingly infringe upon the rules and *habits* that prevail among the locals. Strangers may speak loud in a café, sit too close to another person, or fail to pace themselves properly in a conversation.

Children hold their own views on how space is to be arranged, occupied, and shared, and how time is to be spent; and it can take a while before a young child grasps the unspoken rules set by adult expectations in a given context (kids speak loud in churches, wave at their parents during a school performance, and can stare at strangers until they blush). This said even infants are sensitive to moods and ambiances. Alas, they are born with a wired-in knack to keep incoming stimuli within a range, and thus very actively partake in regulating ambient conditions. And it won't take long before they too become experts at the arts of *synching* (chorusing, give and takes, pacing) and *distancing* (opening up or shutting down, coming close or stepping back, and positioning themselves to optimize their level of comfort or engagement). The children seek corners to rest, grounds to play, stages to perform, and places to return. Children are also master navigators and relentless adventurers. They *feel their way* through situations, *stake their territory*, and venture off to see what's on the other side of the fence. And they are world-makers too! As the saying goes: when a child is interested in a hammer the whole world looks like a nail.

### Shared spaces, mediated experience – people, places, and props

*It takes a whole village to raise a child.*

The contribution of thinkers like Lev Vygotsky (and others in the socio-cultural tradition) is to remind us that while every child needs a place they can call their own, it also takes a village to raise a child. And what's true of children is also true of their parents, teachers, neighbors, and friends. Said otherwise, no human can survive, let alone thrive, without being held, heard, and respected for whom they are (made to belong) within a wider community. Conversely, no community can live long without the active contribution of its members. According to Vygotsky, a child operates at one level if left on her own (her 'level of actual development') and at a higher level if 'scaffolded' by knowledgeable adults<sup>4</sup>. Vygotsky's "zone of proximal development" defines that in-between area of potential growth, where a person feels challenged but can succeed with appropriate support, or guidance [Vygotsky, 1962, 1978]. In today's world, it becomes increasingly clear that children learn

---

<sup>4</sup> Scaffolding is about supporting learners by giving them a 'step up' through pointers or encouragement, rather than direct instruction. Ultimately, the learner reaches a point where they won't need the scaffolding support (the mere presence trusted 'others' is enough to fuel learner's self-reliance and success as learners).

a great deal more *from each other* than Vygotsky thought; and that *adult scaffolding* is not the only or necessarily the best way of bringing about mutual enrichment.

In more recent socio-cultural studies [Wertsch, 1991], learning is defined as the personal and societal benefits that emerge from being “in it” together (through joint activities), from growing in connection, and from staying in touch (through language-use and other cultural mediations, such as play rituals and enactments). Technological mediations, on the other hand, refer to the tools, artifacts, and techniques (mobile-ubiquitous / physical-digital / high-low tech) invented and/or used by humans to expand their reach, widen their horizon, and make their world a better place: from irrigation systems, to ferry’s wheels, to calculators. Communal places (in the sense of villages) are at once the contexts, or ambient conditions, in which we operate, the depositories of what we (and those who were there before us) leave behind, and the interface between who we are, when and where we are, and where we want to be, in relation to others. They are living ecosystems in Urie Bronfenbrenner’s sense.<sup>5</sup>



Photos by Edith K. Ackermann

In his “bioecological” approach to human development, Urie Bronfenbrenner argued that in order to understand—and cater —human development, one must consider the entire ecosystem, or habitat, in which learning occurs. This system, to Bronfenbrenner, is composed of five concentric subsystems that support and guide human growth, and are shaped in return by its inhabitants. They range from the microsystem of direct relations between the developing child and her immediate environment, including one’s own body, to the macrosystem of institutional and cultural patterns [Bronfenbrenner, 1994. In Gauvain and Cole (Eds.)]. Bronfenbrenner’s “bioecological” approach has enabled researchers and educators to highlight what elements in a larger social system are vital to unlocking the potential of human development.

What may be different in this day and age, as compared to previous generations, is that most of us belong to more than one community or “village” at once, and that no one seems to stick to any place for very long. Instead, we live our lives *in-between*, and we move across realms: physical, virtual, digital. We also do so at ever-faster pace and, more often than not, we *go places* without moving our physical bodies. These new forms of mobility, and the sense of “dematerialization” that comes with living our lives *online* (or *in-between*) call at once for stronger anchors and more flexible ties, for

---

<sup>5</sup> Best known for his cross-cultural studies on families and their support systems, human development, and the status of children, Urie Bronfenbrenner (1917-2005) wrote *Two Worlds of Childhood: US and USSR*, *The Ecology of Human Development*, and *Making Human Beings Human*. Before Bronfenbrenner, researchers say, child psychologists studied the child, sociologists examined the family, anthropologists the society, economists the economic framework of the times. As the result of Bronfenbrenner’s groundbreaking contribution, these environments — from family to economic and political structures — were viewed as part of the life course, embracing both childhood and adulthood.

safe harbors and new paths into the unknown, for places to care for, leave from and to return to [Abbas, 2011, Turkle, 1995, 2011].

### **Implications for education – learning hubs**

In a recent Mac Arthur funded report on “Digital media and technology in after-school programs, libraries, and museums”, researchers Becky Herr-Stepenson, Diana Rhoten, Dan Perkel, and Christo Sims [2001] write (regarding youth development programs):

Digital media can offer opportunities for both self-directed and collaborative learning, can open access to information that might not otherwise be accessible, and can allow for creative expression in new formats. However, in each of the organizational types we have seen that the non technical aspects of youth programs—the location and context, the staff and peers—are essential to the function and success of youth organizations, even in the land of digital natives and the age of cyber-learning. [2011.p. 6]

The research proposal was launched to pursue work initiated by researchers like Jenkins (2010) Ito & All (2008, 2009), Salem (2007) and Gee (2009)<sup>6</sup> on today’s youth participatory cultures and digital media practices, with the purpose of sharpening our understanding of:

- The affordances of digital media for learning within, between, and beyond educational initiatives, institutions, and programs.
- The needs, aspirations, and values, of the community at large and their uses of new spaces and programs of overlap between groups and institutions.
- The role of school within larger learning ecologies, and the ways schools can be put in dialog with other programs, practices, and institutions, such as museums, libraries, computer clubs, maker-fairs, and on-line communities.

One of the important findings of this follow-up study, beyond the mere flurry of new initiatives, is the hybridization and diversification of offerings, each with their own distinct character and often designated spaces that learners can tap into. Another is a new call for a more *systemic* (bio-ecological) approach to the design and facilitation of flexible yet consistent school curricula as well as more flexible yet inter-connected occasions, settings, and paths for learning out of school.

In sum, while no one agency or institution can be held responsible for learning in a digital age (whether it be school, home, museums, grass-root initiatives, public libraries, online courses, or computer clubhouses) this doesn’t entail that an unbridled marketplace of competing educational products should be promoted, for grabs to all. Nor for that matter, should learners have to be running from one physical location to another, to be able to access what they need. Instead, the school of the future will have to be more like a village, without nostalgia attached! The role of digital media will be key but not a silver bullet, and learner’s physical and mental health will be an increasing priority, as will be their environmental awareness. Beyond sharpening their minds and developing their senses, the learning hubs of the future will have to be designed to help students reclaim their bodies, rethink their rapports with others and with things, and learn to cultivate their gardens, literally and metaphorically. The school of the future will have to be “edgeless” but it can’t be form-less, or placeless! (Ackermann, 2013)

---

<sup>6</sup> For more on this, see <http://mitpress.mit.edu/books/series/john-d-and-catherine-t-macarthur-foundation-reports-digital-media-and-learning>

## The edgeless school<sup>7</sup> -

American philosopher, psychologist and educator John Dewey, in his 1907 lecture on “Waste in Education,” pointed out the difficulty of separating school from people’s everyday lives and experiences:

From the standpoint of the child [*learner*], the great waste in the school comes from its inability to utilize the child’s experiences outside the school in any complete and free way within the school itself; while, on the other hand, s/he [the child/*learner*] is unable to apply in daily life what s/he is learning at school [...] When the child gets into the schoolroom he has to put out of his mind a large part of the ideas, interests, and activities that predominate in his home and neighborhood. So, the school, being unable to utilize this everyday experience, sets painfully to work, on another task and by a variety of means, to arouse in the child an interest in school studies. [Dewey, 1907, 46]

At once man made and lived in, the places in which we live-and-learn are the grounds on which we stand and the springboards from where we leap. They are as much about rituals, journeys, and comeback routines than they are about exploring uncharted territories, or being taken for a ride.

In his book “Edgeless cities: Exploring the elusive metropolis,” urban planning and policy expert Robert E. Lang uses the term “edgeless” to describe a certain form of urban sprawl. Edgeless cities, he writes, are cities in function but not in form (2003, p.1). No longer confined to the physically defined space of particular communities, they depend on the transactions that span between them, resulting in a no man’s land for which nobody cares. At the opposite of the spectrum, we observe a mushrooming of professional or educational silos in which people of one kind are parked together, for a specifically defined set of purposes, at the exclusion of others: swaths of isolated buildings that are neither pedestrian friendly nor easily accessible by public transit, and do not lend themselves to mixed use.

The edgeless school we have in mind won’t be a sprawl or mushrooming of isolated educational silos, but a place in Ciaran Benson’s sense<sup>8</sup>. How to achieve this in today’s new media ecology remains a challenge, and the proposed solutions vary depending on who is talking. Some pitfalls to avoid include: designing for malleability at the expense of integrity, praising all things virtual at the expense of our own physicality, an over confidence in the power of smart-tools to make us smarter,

---

<sup>7</sup> We used the term as a title to the exhibit “The edgeless school” for which I served as a senior consultant (October 1, 2012 – January 19, 2013). Organized by the Center for Architecture, American Institute of Architecture, New York (2012-2013) the exhibit (and a series of symposia) presented over thirty new school buildings for K-12 to illustrate how 21st century education has been affected by the digital revolution and how the architecture of education is being adapted to reflect these changes. For more info on the exhibit: <http://cfa.aiany.org/index.php?section=exhibitions&expid=238>.

<sup>8</sup> Ciaran Benson defines *place* as a “humanized personalized space”, and he uses the term *place-time* to indicate that “in personal and collective memory certain places are inexorably constituted by their [...] connections with, and embodiment of, certain moments in experiential time [...] Place situates time by giving it a local habitation. Time arises from places and passes between them (Benson, 1993. p. 6).

and an under-estimation of the importance of place, pace, and people in the design of educational settings.

## Guidelines for the design of educational settings

As a way of conclusion, we provide a series of seven principles for the design of educational settings, as set forth by Jamieson, Fisher, Gilding, Taylor, & Trevitt [2000]<sup>9</sup>. The guidelines are meant as a roadmap for *rethinking* rather than *replacing* or *competing with* existing settings. In their studies on “Places and Spaces in the design of new learning environments”, the authors propose:

- **Principle 1: Design to maximize the inherent flexibility within each space** — Because of the need for greater flexibility, it should be possible to quickly re-organize a site for different purposes or activities. One recent approach has been to facilitate the sub-division of available areas, using sliding walls and re-configurable furniture. While useful, this approach remains limited, especially if dividers are not soundproof. Also, CT access, storage carts for hands-on activities, as well as movable boards and projection surfaces may be needed in sub-divided areas.

- **Principle 2: Design space for multiple uses concurrently and consecutively** — Current approaches to school design often emphasize single uses for designated spaces: lectures in lecture halls, computer-based activities in computer labs, no access to IT in tutorials or small group areas. New learning settings will often host teacher- and student-centered approaches, as well as scheduled classes and informal activities. Also, the time students spend outside classrooms is bound to increase thus existing places cannot be under utilized, or closed after-hours, leaving students to work in libraries or cafes not usually designed for working collaboratively.

- **Principle 3: Design features and functions to maximize teacher and student control** — Maximum teacher and student control of the facility’s functions should be a premise. Reliance on centrally provided technical support, as in the case of video conferencing or computer laboratories can be a costly and intrusive aspect of formal classes in those locations. Technical support is typically prioritized to formal, teacher-led activities, which reduces the likelihood of technical support for student-directed informal work undertaken without direct teacher involvement.

- **Principle 4: Design to integrate previously discrete campus functions**— Whenever possible, facilities should be designed to overcome the present on-campus separation of functions and services. Merging facilities that provide access to food/drink, communal areas for informal interaction and comfortable furnishings can facilitate social interaction and individual activity for students, teachers, and visitors. Attention should be paid to the areas outside the ‘built space’ to extend the overall learning environment (outdoor classrooms). Covered ways, arcades, cloisters and verandas provide useable transition spaces between inside and outside as well as between buildings.

- **Principle 5: Design to make use of the vertical dimension in facilities**—Better use can be made of vertical surfaces. Walls can be designed to provide display areas for subject materials or products of research activity, generating a sense of a disciplinary community; or to provide students with whiteboard space for planning, recording, and other collaborative activities. Raised floors can be used as platforms for performance activities, and staircases as sitting areas.

---

<sup>9</sup> Note: Intended for universities, these principles are still relevant in the design of environments for younger children, both in formal and informal educational settings. Also note: For the sake of this essay, I took the liberty to switch the order in which the principles were presented by the authors.

- **Principle 6: Design to maximize alignment of different curricular requirements** — For example, a science lab might be designed to have a generic student practice area supported by smaller specialist spaces that might be more discipline specific. The aim should be to minimize the larger special purpose labs, generally under utilized and often a barrier to introducing alternative CIT-enhanced pedagogies. Separate disciplines should be ‘interrogated’ to determine how their learning objectives are currently achieved, what new approaches are currently under way, and what developments and trends are evident elsewhere which might be influential in time.

**Principle 7: Design to maximize student access to, and use and ownership of, the learning environment** — The general atmosphere of control that most institutions exert is inimical to make students accountable for their own learning. Student-centered approaches require facilities (libraries, CIT equipped areas, classrooms) that are available to students at times that presently may be thought of as ‘out of hours’. There is enormous scope to improve the aesthetic dimension of facilities without compromising functionality. In spaces that students use regularly, particularly those that are department or faculty specific, students should have significant opportunity to establish a sense of ownership and responsibility for facilities and their maintenance.

### **Tying it back together**

- Learning everywhere and all the time, yes! Hurried, pressured, and out of touch, no! — Everyone in the future is qualified as a life-long learner. And many of us are already seeking more flexible arrangements, as we attempt to move on with our lives at home, school, in the workplace. Questions remain: How to bring about greater flexibility without losing our grounds and bearings? How to give ourselves (or anyone else) a chance without being ever more hard-pressured and rushed into a mindless rat race that we know is detrimental? What we’ve got so far, is a generation of learners spending much of their time online, *perpetually connected* and *out of touch*, while others (or themselves at different times) are caught hostage in antiquated classrooms, listening to talking heads. At the same time, we are witnessing a big push in two opposing directions: one is toward distant-learning. The other is to get folks back on track by dropping them into blended or augmented realities: from flipped classrooms to sense-responsive and smart environments! That’s when the solution becomes the problem: You take one shortcoming (people are increasingly out of touch, out of their bodies) and you solve it (bring them back *in situ*) by either ending them further into cyberspace, or by adding sensors and smarts to their physical “realities” (smart homes, talking escalators), all designed to detect the slightest of your moves (or mood swings); so that before you know it, they jump in and act on your behalf, without delays or surprises. While pleasant at first, such mindless readiness to serve (rescue) those who pay little attention in the first place is bound to turn into a debilitating nightmare over time. And it often does. It is our belief that a supportive environment instead is one that, at least, can be put *off* automatic pilot; one that is reliable yet non intrusive, engaging yet unimposing! It is a place that won’t ignore you or take over. And what ultimately matters is ‘its’ ability to let us in and decide for ourselves if we’d like to be taken for a ride or move around for ourselves.

- The edgeless school – flexible: yes – formless: no! (Neither walled-in nor liquid) - Students want and need to share and present their thinking to others. They are inventing their own ways of moving between worlds —physical, virtual, digital—and cycling through their days—between home, school, and favorite “hang-outs”. And in doing, they are setting new priorities on what to carry along or leave behind, where to settle, store their stuff, and how to keep track what they are doing. They are forever travelers, lifelong learners on the go! And like all travelers, they deserve safe and welcoming landing grounds, exciting destinations, opportunities to leap sidewise, places to return, and guidance along the way.

## Acknowledgements

I am indebted to my colleagues and friends from Child Research Net, Japan, for offering a lasting home for my writings on their excellent website. My thanks go in particular to Reiko Sakurai, for her kindness and ongoing encouragement, as well as to Junko Ogawa, and Reiko Nakata for their support. I am also grateful to my students, at MIT and elsewhere, for being such continued inspiration as I myself attempt to guide them through their work. I know I learn more through them than they can learn through me!

---

## References

- Abbas, Y. (2011). *Néo-Nomadisme: Mobilités, Partage, Transformations identitaires et urbaines*. Fyp Editions
- Ackermann, E. (2004). Constructing knowledge and transforming the world. In *A learning zone of one's own: Sharing representations and flow in collaborative learning environments* [M. Tokoro and L.Steels (Eds.). Amsterdam, Berlin, Oxford, Tokyo, Washington.
- Ackermann, E (2011). *Minds in motion, Media in transition. Growing up in a digital world – Areas of change*. Paper is available for download at CRN [http://www.childresearch.net/papers/digital/2011\\_01.html](http://www.childresearch.net/papers/digital/2011_01.html)
- Ackermann, E, (2012) “Oh the places we’ll go”. Essay published in *Oculus: AIA New York: Volume 74* [Learning Curve], Issue 3. pp. 28-292012
- Benson, C. (2001). *The cultural psychology of self: Place, morality, and art in human worlds*. London. US, Canada: Routledge.
- Bronfenbrenner, U (1994). Ecological models of human development. In *International Encyclopedia of Education*. Vol. 3, 2<sup>nd</sup> Edition. Oxford: Elsevier. Reprinted in: Gauvain, M & Cole, M. (Eds), *Readings on the development of children*, 2<sup>nd</sup> Ed. (1993, pp. 37-43). New York: Freeman. Available in Pdf at: <http://www.psy.cmu.edu/~siegler/35bronfenbrenner94.pdf>
- Casey, E.S. (1993) *Getting back into place: Toward a renewed understanding of the place-world*. Bloomington: Indiana University Press.
- Dewey, J. (1907). Waste in education. Chapter 3 in *The School and Society*. Chicago: University of Chicago Press. (1907): 77-110.
- Elking, D. (2001). *The hurried child: Growing up too fast, too soon*. Third Edition. Cambridge, MA: Perseus Books Group.
- Jamieson, P, Fisher, K., Gilding, T, Taylor, P, & Trevitt, C. (2000). *Places and Spaces in the design of new learning environments*. Published in HERDSA (Higher Education Research and Development) Volume 19 Number 2 July, pp. 221-237.
- Gee, J.P. New Digital Media and Learning as an Emerging Area and “Worked Examples” as One Way Forward. [John D. and Catherine T. MacArthur Foundation Reports on Digital Media and Learning](http://mitpress.mit.edu/books/new-digital-media-and-learning-emerging-area-and-%E2%80%9Cworked-examples%E2%80%9D-one-way-forward). Available at: <http://mitpress.mit.edu/books/new-digital-media-and-learning-emerging-area-and-%E2%80%9Cworked-examples%E2%80%9D-one-way-forward>

- Hall, E. (1959) *The silent language*. New York: Anchor books. A division of Random House.
- Hall, E. (1969) *the hidden dimension*. New York: Anchor books. A division of Random House.
- HermanMiller (2010). Generations at work. Research Summary can be found and downloaded at: <http://www.hermanmiller.com/research/research-summaries/generations-at-work.html>
- Herr-Stephenson, B., Rhoten, D., Perkel, D., and Sims, C. (2011). Digital media and technology in afterschool programs, libraries, and museums. MacArthur Foundation. Cambridge, MA. The MIT Press.
- Ito, M., & al. (2008) *Hanging Out, Messing Around, Geeking Out: Living and Learning with New Media*. Cambridge, MA: MIT Press. Ito, M., & al. (2009) "Living and Learning with New Media: Summary of Findings from the Digital Youth Project." White paper. John D. and Catherine T. MacArthur Foundation.
- Jenkins, H. (2010) , "Confronting the Challenges of Participatory Culture: Media Education for the 21st Century." The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning.
- Meister, J. and Willyerd, K. (2010). The 2020 workplace: How innovative companies attract, develop, and keep tomorrow's employees today New York: Harper Collins Publishers.
- Salem, K. (2007). The Ecology of Games: Connecting Youth, Games, and Learning (The John D. and Catherine T. MacArthur Foundation Series on Digital Media and Learning). Cambridge, MA: The MIT Press: <http://mitpress.mit.edu/books/ecology-games>
- Jim Greenman (2005) Caring spaces, Learning places" Children's environments that work. Foreword by Elisabeth Prescott.. Exchange Press Publisher.
- Turkle, S. 1995. *Life on the Screen, Identity in the Age of the Internet* (New York, NY: Touchstone)
- Turkle, S. (2013). Alone together. Why we expect more from technology and less from each other. NY. Basic books.
- Vygotsky, L.S. (1962). Thought and Language. Cambridge, MA: MIT Press.
- Vygotsky, L.S. (1978). Mind in Society. Cambridge, MA: Harvard University Press.
- Weinstein, C. and David T. (1987): Spaces for children The built environment and child development .
- Wertsch, J. (1991) Voices of the Mind: A Socio-cultural approach to mediated action. Cambridge, MA: Harvard University Press.
- Williamson, B. (2013). The future of the curriculum. School knowledge in the digital age. MacArthur Foundation. Cambridge, MA. The MIT Press. <http://mitpress.mit.edu/books/future-curriculum>
- Winnicott, D.W. (1989) Playing and Reality. London, New York: Routledge.

**This paper was downloaded from CRN website;**

[http://www.childresearch.net/papers/digital/2013\\_01.html](http://www.childresearch.net/papers/digital/2013_01.html)

[http://www.childresearch.net/papers/pdf/digital\\_2013\\_01\\_ACKERMANN.pdf](http://www.childresearch.net/papers/pdf/digital_2013_01_ACKERMANN.pdf)