

Youth Neighborhood Maps from Around the World: A Preliminary Look Through a *Studio Thinking* Lens

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A pleasurable problem researchers sometimes face is how to tackle a dataset so rich and abundant that its possibilities are almost endless. This is a situation my colleagues and I find ourselves in, as we prepare to begin an exploratory analysis of over 600 drawings of neighborhood maps made by students ages 8-18 from around the world. The maps were made as part of an online cultural exchange program called Out of Eden Learn, developed by my colleagues and I at Project Zero at the Harvard Graduate School of Education¹. The project began in 2013 as a loosely-linked collaboration with journalist and National Geographic Fellow Paul Salopek, who is currently engaged in a 21,000-mile ‘Out of Eden’ walk following the ancient pathways of human migration². The broad aspiration of Out of Eden Learn is to offer young people opportunities to dialogue and build understandings with peers from different backgrounds. Its three specific learning goals, which resonate deeply with Salopek's journalism, are to invite young people to: 1) slow down to observe the world carefully and listen attentively to others; 2) exchange stories and perspectives with one another; and 3) make connections between their own lives and bigger human stories. The project is also an active research project that examines such themes as students’ conceptions of culture, the character of their online interactions, and what they learn when they slow down to observe the world closely.

To date, Out of Eden Learn has reached over 20,000 students in 55 countries. Its social media-like platform of brings classes of similarly-aged students from diverse geographical and socioeconomic contexts together into online learning groups. The groups, which consist of roughly 6-8 classrooms, follow a 12-week curriculum that combines locally-based offline activities with online interaction. In one activity, students make maps of their neighborhood or local areas, which they post on the platform to share with their online peers. The instructions are

simple and open-ended: Students can draw their maps in any way they want, as long as they don't use images from Google Maps or similar mapping services. (See figure 1 for a compilation of map details.)

This article takes a preliminary look at a subset of 624 of these maps, made between 2017-2018 by students ages 8-18 from 24 countries. The maps are tremendously varied, and it will be exciting to develop an analytic framework that does their variety justice. But if there is a theme that links almost all of them, it is that they are incredibly rich and diverse from the standpoint of thinking. That is, they show thinking in action in multiple ways. They are also incredibly beautiful.³ A preview of the maps seems apt as a contribution to a *Festschrift* honoring the work of developmental psychologist and arts researcher Ellen Winner, partly because I believe Dr. Winner would delight in the dataset as much as I do, but, more importantly, because *The Studio Thinking Framework*, developed by Winner and her colleagues⁴, provides an excellent lens through which to begin to discuss and make sense of the rich thinking these maps exemplify.

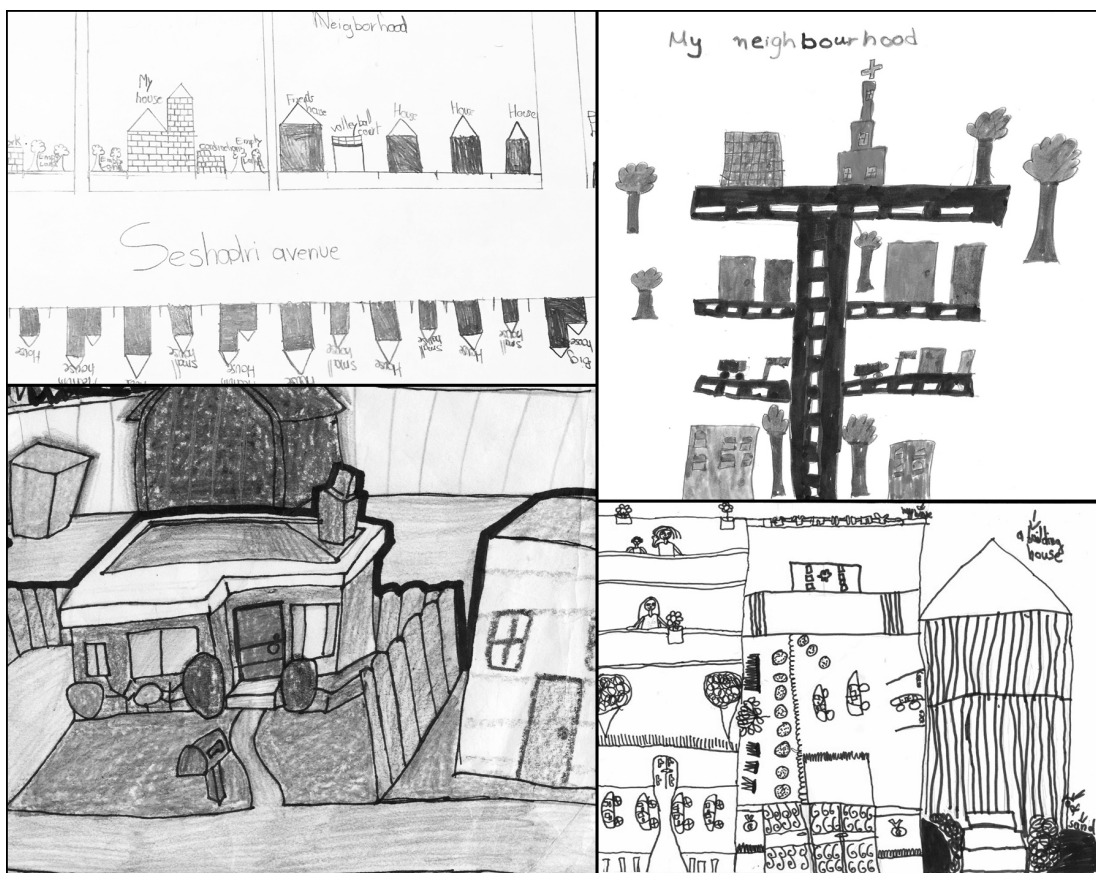


Figure 1. From upper left clockwise: Map details from Chennai, India (age 11 years); Athens, Greece (age 8 years); Port Angeles, Washington, USA (age 12 years); and Dakar, Senegal (age 10 years).

The *Studio Thinking* framework identifies eight habits of mind—sometimes called thinking dispositions—that are characteristic of high quality thinking in the arts and elsewhere. In what follows, I focus on three of these dispositions in particular: *Envision*, *Observe*, and *Express*. With a twist, I also say a few words about a fourth, *Understanding Art World*.

Envision and Observe

The map activity is fundamentally an act of envisioning. The instructions say: *Sketch a map of your neighborhood or local area, as you see it through your eyes. This map does not have to be “accurate” or similar to other maps that exist.* Winner and her colleagues define *envision* as a habit of mind that involves “learning to picture mentally what cannot be directly observed” (p. 6). Almost all of the 624 maps in the dataset show such learning in action. To begin with, in a very literal sense, students are envisioning their neighborhood from a vantage point they don’t physically occupy. For example, many of the maps take a bird’s-eye view. These drawings typically take the form of a plan, showing the two-dimensional shapes of buildings, roads, and other features of the landscape on a flat plane. Sometimes students’ birds-eye drawings are simple schematic sketches; other times, specific features are envisioned in detail. Indeed, it is often these closely-imagined details that communicate the vitality of students’ thinking in action. Rooftops in particular seem to capture students’ imaginations, and there are many drawings where one can feel the intensity of students’ thinking as they try to work out how to capture the geometry of rooftops’ shapes and slopes in a flat drawing. Other geographical features also elicit intensely imagined observations. A 13 year-old student in Madaba, Jordan, envisions how a row of trees look from above, and draws each tree as a star-like spread of branches ringed by a circle of carefully delineated leaves. A 12 year-old in Port Angeles, Washington, USA, envisions a bird’s eye view of a train, paying close attention to the top of the engine car and imagining how its parts and planes look from above.

Many students—often, but not exclusively, the older ones—picture their neighborhood from slightly below a bird’s-eye view, so that they see it at an angle from above. From this perspective, they imagine the landscape in three dimensions, and their drawings show them thinking through how to represent dimensionality. Often students choose one feature in particular

to imaginatively observe in three dimensions—the open doors of a café, the shadows cast by a row of high rise buildings; the overhang of a store’s awning; a close-up view of the student’s own home. Mostly, students explore the dimensionality of buildings and homes; other features of the landscape are typically drawn as flat. But not always. In one striking sketch, a 15-year-old from Jakarta, Indonesia, carefully renders a construction site in his neighborhood in three dimensions, drawing a freshly-dug ditch and the pile of dirt next to it to show their height, width, and depth.

The maps have been made by students ranging in age from 8-18 years, so their drawings naturally reflect developmental differences. For example, there appear to be age-related differences in students’ capacity to envision and render objects at a distance, to depict objects from multiple perspectives, and to render objects in three dimensions. But development is not a lockstep process, and one of the striking features shared by many of the maps is the way they blend different age-related capacities. For example, many maps blend an elevation view with a plan view, showing some buildings as perpendicular to the horizon and others flat from overhead. Many maps combine two-dimensional features with features rendered in three dimensions. Many maps take a mixed approach to showing features on the horizon line, so that some streets show the houses on either side of a street as upside-down from one another, while other streets on the same map show the houses all facing upwards. In part, these hybridized maps reflect the dynamism and messiness of cognitive development as youth transition from one stage of spatial reasoning to the next. But to analyze the maps merely in terms of their developmental achievements would be to miss some of their artistry. Students seem to approach the mapping activity not just as an exercise in spatial reasoning, but also as an artistic challenge. In doing so, they seem to use an expansive palette of techniques and styles, drawing from various stages in their developmental trajectory (Adult artists do this, too, of course!). As just one of many examples, a 14 year-old from Alexandria, Virginia, USA, places her home at the center of the map, carefully rendering it in three dimensions, and surrounding it with friends’ homes, also drawn with plenty of detail, but depicted in flat view. The overall effect captures the fullness—and perhaps complexity—of the feeling of home, and the hybrid techniques the student uses seem to reflect stylistic choices as much as developmental accomplishments.

In *Studio Thinking*, Winner and her colleagues describe observing and envisioning as two ends of a continuum, with direct observation at one end and imagined observation at the

other (p. 48). Students' maps offer a particularly striking glimpse of how students move between these two poles as they draw on both their direct and envisioned observations to create an expressive work. Which brings us to another artistic habit of mind from the *Studio Thinking* framework: *Express*.

Express

The map activity is much more than an exercise in envisioning geography. Students understand that they will be sharing their maps online with students from other regions and cultures, so not only are they envisioning how to draw their neighborhoods, they are also thinking about how to express aspects of their lived experiences.

Studio Thinking describes *express* as *learning to create works that convey an idea, feeling, or personal meaning* (Hetland, Winner, Veenema, & Sheridan, 2003; p. 53). One of the striking expressive themes running through many of the maps is a sense of human connectedness. Several maps show swirls of lines that connect a student's home to the homes of friends and family. Many maps identify connections through labels. For example, an 11-year-old from New Orleans, Louisiana, USA, provides labels such as *Miss Lolita's house*, *Mr. Rusty's house*, and *Mayor's old house*. A 12-year-old from Tunis, Tunisia, offers labels such as *my brother's teacher's house*, and *the house we did a trick on*. Students also find ways to express what it feels like to travel through their neighborhood. For example, a 13-year-old in Ontario, Canada shows the winding route between her school and her house and labels the road *a very long bus ride*. Several maps show walking or biking routes to friends' houses and to school. Often, the maps express a sense of warmth and comfort connected with certain places. For instance, places like home, school, or friends' houses are encircled or otherwise decorated to show that they are familiar and special. Sometimes entire regions are identified lovingly, as in an 8-year-old's map of Mantua, Italy, that uses hearts to label her favorite parts of the city. And of course, many maps express a sense of liveliness and play. Across countries and age groups, the maps are filled with depictions of people engaged in various activities—playing soccer, riding bikes, walking dogs, riding horses, feeding chickens, jumping on trampolines, swinging from tires, playing in fields, walking with friends.

As expressive as many of these maps are, it's important to keep in mind the parameters of the task. It is framed as a mapmaking activity, and, just as the work of mature artists is often

shaped by their understanding of a particular artistic genre, students' maps are shaped by their understanding of the genre of mapmaking. This underscores another striking feature of the dataset--the way in which the drawings reveal students' ideas about maps. One of the Studio habits of mind is labeled *Understanding Art World*, and it has to do with understanding the domain of art. In a bit of a stretch, one might adapt this lens to examine how students understand the world of maps.

Understanding Map World

It is striking how much knowledge students seem to have about the various features maps employ. For example, a large number of the maps in all age groups include legends—sometimes quite elaborate ones. Students use colors, shapes and symbols to identify such categories as churches, houses, apartment buildings, hospitals, animals, forests, street crossings, schools, and people. Many maps include a compass rose or other cardinal direction indicator. Several maps display insets of close-up sections or distant views. Many maps seem to use the vernacular of a tourist map, with jaunty oversized illustrations showing important landmarks or icons. Many maps use a grid layout to show the pattern of streets and buildings; almost all maps show an awareness of scale as a cartographic feature. Students' liberal use of a wide array of cartographic features suggests that students have a flexible visual vocabulary for maps, and that they use this vocabulary to both express and extend their understanding of what a map can be. From a research perspective, we can't know the extent to which each student has studied geography or mapmaking in school. But it seems reasonable to surmise that students are exposed to a variety of kinds of maps as part of their cultural surround—whether this happens in school, at home, at play, or online.

A Word About Beauty

I have shown these maps to several friends and colleagues. Without exception, one of the first things people comment on is how beautiful they are. It's not my purpose to judge the maps' aesthetic qualities in any objective sense, though I share the impression that they are beautiful. But I do feel moved to point out how much students seem to invest themselves in making their maps attractive. This doesn't mean that all the maps are finely finished. Some are, but many are not. Regardless, almost all the maps show some evidence of aesthetic engagement. For example,

many maps show attention to composition, taking care to arrange features in a balanced or interesting way. Some maps seem to guide the eye across a peaceful landscape; others almost jump off the page with liveliness. Many maps are wonderfully colorful; many play creatively with styles of labels and fonts. Many students seem to express delight in the calm geometry of street layouts. Others seem keen to express the exuberance of busy neighborhood life. It seems to me that students' attention to beauty is a result, at least in part, of a three-part alchemy: the open-ended way the activity is framed in the *Out of Eden Learn* curriculum; the intrinsic interestingness of maps as artifacts; and the fact that students create their maps knowing they will be sharing them online with peers from other cultures and places.

As my colleagues and I move forward with a more formal analysis of the maps, there are many promising directions to pursue. There are developmental themes to explore, and themes related to students' sense of place—perhaps especially in relation to geography and culture. There are themes related to students' spatial reasoning skills, as well as themes related to students' aesthetic interests and choices. As a researcher, these are all themes I get excited about. But it is important to remember that the map activity is part of an online cultural exchange program. Students often comment on one another's work, and many of the maps are accompanied by comment threads: Students ask each other questions, they share what they like about each other's maps, and they make connections across contexts and cultures. In addition to pursuing research themes that we as researchers identify, it will be exciting to look closely at these comment threads to learn more about how students engage with one another. A quick glimpse at these threads is illuminating: One can see that students are observing one another's work closely, asking each other about technique, explaining their work to one another, and reflecting on their own and others' thinking and working processes. These moves exemplify several of the habits of mind described in the Studio framework, and we anticipate that the framework will continue to be a useful lens for examining students' thinking.

**I am grateful to several friends and colleagues who have looked at these maps and shared their insights with me. Special thanks to Sarah Sheya, Nimah Gobir, David Perkins, Seymour Simmons, Patricia Stone, and Andrea Tishman.*

References

¹ (<https://learn.outofedenwalk.com>) The Out of Eden Learn core research and development team at Project Zero includes principal investigators Liz Dawes Duraisingh, Carrie James, and Shari Tishman; project coordinator Sarah Sheya, and research assistant Susannah Blair. The project is generously funded by The Abundance Foundation, Global Cities, Inc, and National Geographic.

² <https://www.nationalgeographic.org/projects/out-of-eden-walk>

³ You can view a slideshow of a selection of maps [here](#).

⁴ Hetland, L., Winner, W., Veenema, & Sheridan, K. (2007). *Studio Thinking: The real benefits of visual arts education*. New York, NY: Teachers College Press.