Ethan Laird, 7, left, and his brother, Maxwell, 8, tried Monday to grasp the concept of an umbrella made of water at the new Imagination Playground at the South Street Seaport.

Manhattan playgrounds are serious stuff.

Swings, slides and seesaws are so 20th century, an antiquated approach to child leisure now routinely laughed out of the sandbox of learning theory. These days, child learning experts recommend playgrounds that equip children with “loose parts” and other tools to create a “child directed” play space.

So do not be surprised if there is a – child-directed – line of budding young geniuses outside the figure-8-shaped Imagination Playground when it opens Tuesday at the South Street Seaport in Lower Manhattan.
The playground has been five years in the making, a result of tons of research in progressive learning theory and child-development research, as well as $7.4 million in financing. In smaller, portable versions, it has been tested and tweaked after trial tours all over the city.

The playground’s entrance is guarded by an iron sea serpent.

Instead of monkey bars and jungle gyms, there are fountains with canals of cascading water that can be dammed in infinite ways, or transformed into a network of rivers. There is an engaging set of lifts and pulleys. Play is proctored and interaction fostered by a staff of city workers trained as “play associates.”

The playground, a free park open to the public with daytime hours, was designed at no charge to the city by David Rockwell, an architect whose firm, the Rockwell Group, is known for creating snazzy interiors for restaurants like Nobu and Emeril’s and other projects, including the viewing platform at ground zero. Mr. Rockwell, who lives in Lower Manhattan, has two children, ages 8 and 10, and he found that the playgrounds around his home did not sufficiently challenge their imagination.

“At these conventional playgrounds, you have a lot of linear thinking – kids standing on line for swings and slides,” he said at the playground Monday as it got its final city inspection. “I kept thinking we should have a playground that invites kids to make their own play space.”

So Mr. Rockwell began his quest to design a more engaging play space, one that encouraged unstructured and independent play. He said he “cold called” the city’s parks commissioner, Adrian Benepe. Mr. Benepe was game. He saw the new park as the next chapter in New York City playgrounds dating back to the Seward Park playground and making their mark every generation, for example in the 1950s with European-style “adventure playgrounds.”

“From this playground,” Mr. Benepe said, “will come the next generation of architects and engineers. Maybe the next mayor or City Council speaker.”

All of this is great in theory, but how would the real experts rate the playground?
To find out, this reporter brought in his intrepid deputy: his 9-year-old daughter, Lena, a grizzled veteran of the old-school playgrounds of Riverside Park. She would be assisted by Maxwell and Ethan Laird, 8 and 7, sons of two parks department officials, who cut their teeth at the Tompkins Square Park playgrounds.

Even as workers were putting finishing touches on the premises, the little pirates were set loose.

They headed straight for the “loose parts,” an array of blue blocks and props made of firm foam and shaped like various Tinkertoys and tubes and water tunnels. They piled them up into various fantastical functions. Lena did not know these boys but ran to help build. They looked up briefly and immediately put her to work. Now they were playing together.

“Bigger blocks encourage social interaction and collaboration,” Mr. Rockwell said.

The playground — located at Burling Slip, a parcel of land that was once a watery slip for ships — is the first new playground the parks department has opened downtown in about a decade. It is a public-private partnership that Mr. Benepe said might be repeated elsewhere.

The playground was financed with federal money through the Lower Manhattan Development Corporation, Mr. Benepe said, with construction costing $4.3 million and $3 million more used to relocate a water main that was under the parcel, which was functioning as a parking lot. The Rockwell Group has raised an endowment fund to maintain the playground.
And the children? They howled to one another through cone-shaped openings in a set of red and yellow pipes. Then they dragged the loose parts along the playground’s sloping wooden ramps to the land of sand and water at the west end of the park, dominated by four wooden masts made by a shipbuilder, each mast connected by a series of ropes and pulleys and cranks that transport empty sacks, which may be filled with sand and other materials.

Much of the playground relates to the area’s maritime history and setting. There is a crow’s nest atop a red, circular structure housing bathrooms and a storage space.

The east end resembles a ship’s bow, a rounded amphitheater-like deck overlooking a fountain play space. The water cascades through little canals into an ankle-deep pool and can be dammed with wood planking.

The park testers descended upon a short water pump spouting a circular sheet of water shaped like a mushroom or a jellyfish. Maxwell slid under it, staying dry under the water.

He reported to his mother: “Mommy, it’s an umbrella, and whenever it rains, it adds to the umbrella.”

Then I looked to my daughter, my little budding young journalist. Just the facts, I demanded.

“My sneakers are filled with water,” she screamed.

Mr. Rockwell took a swig of water and said, “The critics have spoken.”

Parks Commissioner Adrian Benepe, left, and the playground’s designer, David Rockwell, at the playground as work crews prepared for Tuesday’s opening.