

Starship enterprise

Studio E's brief for an astronomy

classroom was to explore new frontiers in design and education. **By Eleanor Young. Photographs: Edmund Sumner.**



Client	St Francis of Assisi RC Primary School
Architect	Studio E Architects
Structural engineer	Techniker
M&E	Max Fordham
QS	MFA
Contractor	Balfour Beatty

study : classroom of the future, london



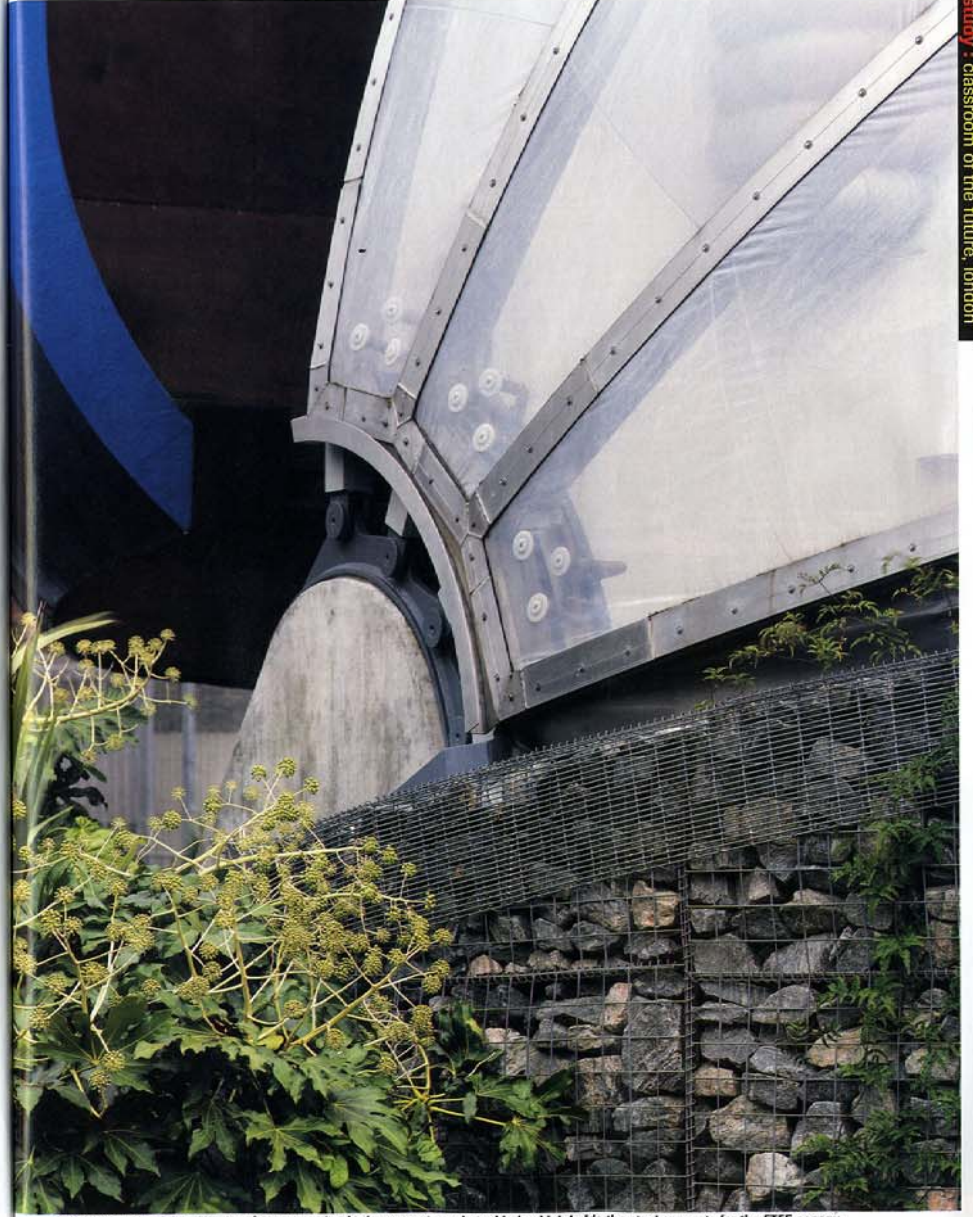
The gabion wall turns the building in on itself, leaving only hazy views out through the ETFE or distant images of the stars from the telescope.



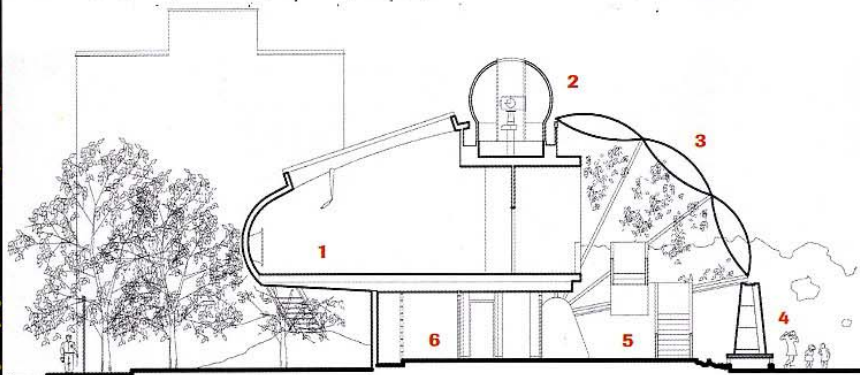
A rooflight cuts through the sailcloth ceiling of the pod.



Plywood angles of the staircase sit against the curved conservatory.



The focal point of the classroom's construction is the concrete and steel hub which holds the steel supports for the ETFE canopy.



Section A

- 1 Classroom
- 2 Astronomy dome
- 3 ETFE roof
- 4 Gabion wall
- 5 Conservatory
- 6 Toilet pod

Some of the most imaginative education buildings of the last couple of years have been generated by the Classrooms of the Future scheme. Of the 26 projects in the first round of this three-phase Department for Education and Skills initiative, 24 have been built so far, designed by architects including Future Systems, Sarah Wigglesworth and Gollifer Langston. Each is a specialist outpost to its school, targeting a particular subject and investigating new ways of learning.

Paul Rincon, head teacher of St Francis of Assisi School, west London, wanted his new classroom for astronomy. He was appointed in 1992, while the dinky brick primary school was still on the drawing board, and is gradually turning the whole site into a place where children can learn through experience – there is a small olive grove and a recently acquired yacht. His idea for the Classroom of the Future was to focus on the stars in a paperless environment.

When Studio E was chosen as architect in 2001, it was asked for something more aspirational, and more complex, than a classroom with a telescope. In this urban setting, butted up against a large council estate, Rincon wanted the new space to be part of his greening of the school. A conservatory and a protected play area were included in the brief.

Studio E, working with artist Peter Fink, pictured the classroom as a spaceship touching down in a forest. The ‘forest’ still has to establish itself, but the spaceship has landed. Its bright blue ply and transparent ETFE body, set on a concrete and gabion plinth, is an alien form amid the streets and blocks of North Kensington. Protruding from the top is a white observatory dome.

Creating a covered play zone made heavy demands on space – the first-floor classroom had to have its own vertical access – so the ETFE conservatory doubles as circulation area.

Much of it is taken up by a dog-leg ply staircase and orange open-topped lift, pushing plants to the edges and leaving awkward, though fun, spaces for children to do project work in.

Unfortunately children are not able to work here, or on the landing above, for much of the year. To protect the delicate ETFE from the street and help the plants, the conservatory is south-facing, so it is very hot in summer and cold in winter. Studio E did consider these issues: the ETFE is fritted and there are hooks to suspend shading from. Installation of thin film photovoltaics in the next few months should make a real difference and hopefully replace the outdoor parasol perched on the stairs.

For a building devoted to astronomy, there’s a notable lack of star-gazing instruments. The main telescope, which has only just been installed, is accessed through the small first-floor seminar room and up a hooped ladder. It is not for children to actually look through, but can be focused on a planet or star overnight and the results beamed on to the fabric ceiling of the classroom. The domed ceiling is designed to evoke the heavens while a large skylight means the real thing is ever present.

In this classroom, eight- and nine-year-olds try a new way of learning based on small computers called tablets. Unfortunately the skylight tends to be kept closed because of glare, with only small low windows to give any natural light.

Costs

Total costs	£564,000	Timber pod	£61,000
Area	235m ²	ETFE dome	£88,000
Costs/m ²	£2400	Stairs	£17,000
		Fixtures/finishes	£46,000

Breakdown

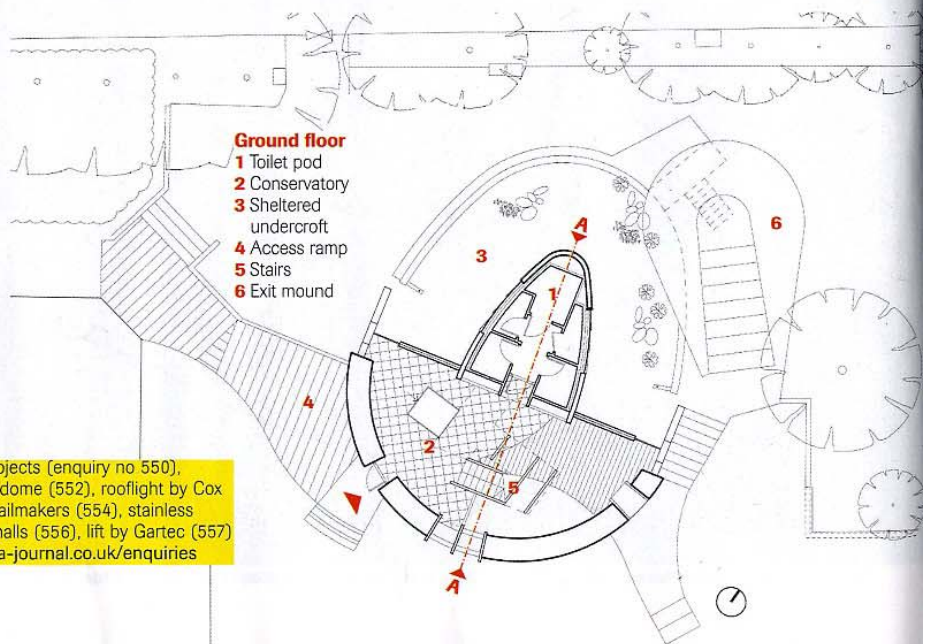
Preliminaries	£98,000	Roof, rooflight and windows	£22,500
Substructure	£22,000	M&E	£73,000
Frame and core	£45,000	Site works	£35,000
Gabion wall	£16,500	Other	£40,000

But Rincon says the children are proud to be in this unusual environment which, combined with the independent learning on the computers, has made them motivated and confident.

The satisfying organic forms show off the skills of two favourite subcontractors of the architectural world: Vectorworks for the ETFE and Gordon Cowley on the curving ply skin. Hoops supporting the ETFE are held around a robust concrete and steel hub. They were hoisted into place and the triple-layer cushions attached before being tethered to the gabions, which are double-layered with membrane in between for watertightness. The painted surface of the ply curve is still in good shape after a year’s exposure. It must look wonderful when rain separates the undercroft from the rest of playground with a wall of water.

The curved forms led to some problems with setting out that resulted in messy compromises on site. Each of the big ideas had to be physically separated from the other because of different tolerances, material sensitivities and structural requirements.

The Classroom of the Future initiative is to be applauded for pushing interesting new concepts in both education and design, but this building tries too hard to be innovative at the expense of function at a time when design’s role in the school building programme is under constant scrutiny. ■



Specifications ETFE conservatory by Vector Special Projects (enquiry no 550), gabion wall by Hy-Ten (551), observatory dome by Astrodome (552), rooflight by Cox Building Products (553), sailcloth pod lining by M Putt Sailmakers (554), stainless steel roof by Richardson Roofing (555), paving by Marshalls (556), lift by Gartec (557) For more information on these products, visit www.riba-journal.co.uk/enquiries