For secondary students, the end-of-school bell has traditionally signalled a race to freedom from lessons and stuffy classrooms.

But since Brighton Secondary College opened its new da Vinci Centre this year, increasing numbers of students have been arriving early, staying late, and even attending on holidays and pupil-free days, says principal Julie Podbury.

"The level of energy and industry we are seeing outside of class time is the greatest I have seen in my 18 years as principal. We now have enormous numbers of students working here outside class time."

The students' resounding endorsement is a high accolade for the school's new $6.5 million science, arts, technology and general learning facility designed by architects Hayball, which has won awards for innovative educational design in Victorian schools since 2000.

The two-level centre includes four ultra-modern science labs that open to external learning spaces and indoor breakout study nooks with an upper level dedicated to learning and study areas for senior students. The ground-level science laboratories connect to the school's refurbished technology and design centre, creating a multidisciplinary centre of excellence and resources.

With a roll of 1200 students, Brighton Secondary College offers the state-accredited Select Entry Accelerated Learning program and has a long student waiting list from surrounding suburbs. The school caught public attention in 2007 as the set for ABC television mockumentary Summer Heights High, an involvement that gave its media studies students the opportunity to work alongside ABC staff and paid for an IT multimedia centre.

Podbury has campaigned for new facilities since she became principal in 1996. Like most government schools built in the 1950s and 60s, Brighton Secondary College was in real need of renewal.

"Our methods and principles for teaching and learning have substantially outgrown the school's original environment. Yes, quality teaching can happen anywhere, but children respond to their surrounds. Our old classrooms are obsolete and not conducive to quality learning."

Podbury and her staff began thinking about the da Vinci Centre in 2008. When funding was confirmed in 2010, Hayball immediately began the consultation required for a school master plan. In early 2012, the project went to tender and was completed earlier this year.

Hayball director David Tweedie says the dramatic changes mean learning now takes place throughout the school rather than solely in classroom lessons.

"Brighton Secondary College didn't have spaces for students to study outside class times, or for contemporary teaching and learning. Educators want learning to be highly visible as part of the development of a learning culture within their school and to have flexibility in how teaching and learning takes place."

"Students don't just sit somewhere with a pen and paper. In a contemporary environment, they may be working in a group with tablets or laptops hooked into a large interactive screen, or in a group discussing a topic and referring to online resources, or they may be working individually but with teachers immediately accessible."

A comfortable, environmentally sustainable environment was a key requirement, as the site’s north-south orientation meant original classrooms had been exhaustingly hot. Hayball managed this aspect using deeply recessed windows with performance glazing and external fins angled to keep out hot sun while allowing light and views. Windows on the building's north and south open for natural cross-ventilation supported by automated louvres linked to the building’s management system.

Sunny yellow walls and flooring light up the new ground-level science labs with extensive glazing onto outdoor learning areas and internal study spaces. Flexible, mobile furniture means teachers and students can rearrange to suit topics of study and preferred learning styles. Decked outdoor learning areas double as informal gathering and studying spaces outside lesson times. A light well along the building’s central spine draws further light throughout both levels, with long central study tables directly below.

The upper-level teaching spaces can open up using moveable walls and full-width sliding doors. Students have a wide choice of group and individual study spaces from boardroom-style tables with large screens, to more informal groupings and nooks for individual work. A central teaching area has the option of theatre-style seating and tilt-top tables for flexibility in use. Red accents in finishes and furnishings in central study and learning spaces create a red “heart”, adding warmth and energy to the zone.

With acoustic control critical for open spaces, Hayball’s interior design made extensive use of soft and absorbent finishes from perforated plaster and plywood to fabric panelling and pinboard walls.

Podbury says the school is working towards redeveloping its northern wing, which accommodates years seven and eight students.

"My staff and students deserve nothing less," she says. lmclachlan@theweeklyreview.com.au

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» Open night – Wednesday, May 7. SEAL information session from 6.30pm; 2015 intake from 7.30pm. For a college tour, phone 9592 7488.