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BREAKING NEW GROUND IN INNOVATION

Ormiston College was already at the forefront of cutting-edge technology in learning. But, as **Brett Henebery** reports, it's now taken its innovation to a whole new level

ORMISTON COLLEGE, located in Brisbane, has been a school at the forefront of innovation, continually reviewing its practice to ensure better learning for students and the development of different skillsets.

The school's principal, Brett Webster, tells *The Educator* that these skillsets will see children cope well with the ongoing disruptions of the 21st century and the changing nature of work and life.

"I read a newspaper article recently about a new report released by the Mitchell Institute at Victoria University, entitled 'Preparing Young People for the World of Work,'" he says.

"The article criticised many schools for being stuck in the industrial era, highlighting the need for young people to learn essential new skills in order to cope with the complex environments and the multiple careers they will experience in the years ahead."

Webster says this suggests there will be fewer full-time employment opportunities available for students, and a growing demand for those who can manage non-routine, cognitive-type roles.

This, Webster says, calls for schools to place a greater focus on developing students' 21st century skills.

"Whilst we cannot predict the future with precision, we can certainly guide our young

people and help them to develop a strong mindset, arming them with the tools required to cope with the dramatic changes that will occur in their lifetime," he says.

Bringing learning to life

In line with Ormiston's focus on next-level innovation, it recently became one of the first schools in the world to trial the Microsoft

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HoloLens – a groundbreaking device allowing students and teachers to reimagine the ways they collaborate and learn.

The innovative resource lets students overlay holographic digital content into their real-time environment. It also allows 3D content to look and behave like real objects, enabling abstract concepts to become visible and tangible.



"The world has experienced a rapid acceleration in digital technology. Such advances continue to disrupt and influence the way we live and work," Webster says.

"The most effective schools have the capacity to respond to these shifts, reimagine the learning process, and ensure that students are future-ready."

Webster says 21st century technology has



created new opportunities to “enrich engagement, learning and active participation” with a range of communication modes and tools.

“At Ormiston College we continually assess the opportunities that emerging technologies bring to the process of teaching and learning. It seems certain that mixed-reality devices are going to have an impact on education,” he explains.

“Hence, recently, the college purchased the Microsoft HoloLens to investigate how we can transform abstract concepts into 3D experiences in the classroom.”

This term, Ormiston’s Year 8 science students used the holographic computer to study the human body and organ systems in a tactile and visual environment. During the unit, students were able to step inside the human heart to see its inner workings, and view and interact with the circulatory system.

Using a live stream to a computer, they were then able to create multimedia videos using the 3D content to promote organ donations in the community.

The college has also used the device to create a virtual art gallery of Year 11 student artwork.

Using the device to create a 3D map of the real environment, parents and students were able to walk through augmented holographic artwork pinned around the room.

“This year, our students will also be exploring how to create their own holographic content,” Webster says.

“Students will be able to take their 3D designs created on a computer and turn them into holograms so they can view their creations from different angles and perspectives and bring them to life.”

Webster says one of the unique capabilities of the HoloLens is the ability it gives students

PROUD PAST, PROMISING FUTURE



Ormiston College opened in 1988 as an independent, co-educational non-denominational Christian school.



Over the next 10 years, the school’s grounds grew from 16 acres to 26 hectares, and student enrolments from 162 to 1,317.



In 2015, Ormiston College was identified as a Microsoft Showcase School, an honour that only a small number of schools in Australia have ever been given.

The same year, the school launched its Learning Innovations Leadership Committee, fully integrating technology into the curriculum.



In 2016, the Centre for Learning and Innovation was opened, providing improved opportunities for student-driven activities and the collaboration of small and large groups working on various projects.



In 2017, Ormiston became one of the first schools in the world to use the Microsoft HoloLens in its classrooms.

ORMISTON COLLEGE



“At Ormiston College we continually assess the opportunities that emerging technologies bring to the process of teaching and learning. It seems certain that mixed-reality devices are going to have an impact on education”

to interact with the digital content using hand gestures and word commands.

“We are excited about the possibilities of mixed reality and how the pedagogy and technology can be weaved together to provide a more visual and tactile approach for teaching abstract concepts rather than just using 2D imagery and text,” he says.

In 2016, Ormiston College created a new campus-wide Teaching and Learning Framework focusing on the key elements needed for success at school and in the world beyond.

In an environment of innovation, Webster says, the goal is the development of

transferable skills that equip learners with the ability to engage in a rapidly changing global community.

“Our framework continues to capture the most productive elements of our professional practice, and in addition now incorporates 21st century skills.”

The six skills driving innovation

So what exactly are 21st century skills and how are they being used to drive improved teaching and learning outcomes in classrooms?

Webster says these skills are a set of transferable capabilities that are required for long-term success in life and work.

With the aim of helping every one of its students acquire these skills, the school’s new framework is assisting its teachers in designing learning activities that explicitly develop them.

“In our framework, we support students to develop these essential capabilities in six key dimensions,” Webster says, adding that the first of these skills is collaboration.



“In this dimension, we provide opportunities for our students to work together in online and face-to-face environments. Learning activities focus on how to work collaboratively in partnership with others, and in teams.”

Webster says these skills have a particular focus on listening to the ideas of others; considering another perspective; developing negotiation skills; negotiating task distribution; recognising individual expertise; transforming ideas into a coherent product; and developing conflict resolution skills.

Another key 21st century skill Ormiston’s students are learning is self-regulation, Webster says. This involves providing opportunities for students to think critically and creatively, make their own decisions and take ownership of their learning.

“To achieve this, we use explicit learning intentions and success criteria to assist in planning, monitoring and assessing work.”

Webster adds that this skill also includes using feedback to improve learning and work products, and managing time effectively in

individual and group tasks.

The team at Ormiston College recognises that increasingly complex problems must be solved through creative answers, and it is this that requires real-world problem-solving skills.

“In this dimension, we provide opportunities for our students to create ideas, solutions, services and products for authentic situations and users,” Webster says.

“The focus here is on engaging with real-world issues, opportunities, challenges and problems, as well as generating multiple ideas and options from which to create, design and test solutions and ideas.”

As more industries and services become automated, there have been calls for students to be given access to improved digital skills. This has motivated Ormiston College to focus on using ICT for learning – another key 21st century skill.

“This means giving students the opportunity to use digital technologies to construct knowledge and to create new ideas, products and solutions for authentic audiences and users,” Webster said.

“Our students are learning how to use a range of digital technologies to construct knowledge when investigating, collaborating and communicating individually and in groups.”

Webster says students also use these technologies to create new products and solutions to real-world issues and problems.

While the term ‘communication’ is often included in the list of essential 21st century skills, it is ‘skilful communication’ that is being promoted at Ormiston College.

This skill, Webster says, gives students opportunities to communicate effectively using a range of communication modes and tools.

“Our focus on skilful communication involves allowing students to select and use a range of communication modes and tools to produce coherent communication,” Webster says.

This also means planning how to communicate for a particular audience and demonstrating substantive thinking in the content of the communication, using different modes and tools.” 

ORMISTON'S FOCUS ON 21ST CENTURY SKILLS



Collaboration:

working together in online and face-to-face environments



Self-regulation:

thinking critically and creatively; using explicit learning intentions and success criteria to assist in planning, monitoring and assessing work



Innovation:

creating ideas, solutions, services and products for situations and users



Real-world problem-solving:

engaging with real-world issues, opportunities, challenges and problems



ICT for learning:

using digital technologies to construct knowledge and to create new ideas, products and solutions for audiences and users



Skilful communication:

communicating effectively using a range of communication modes and tools