Smart Classroom – bringing learning into the digital economy

Digital is having a profound impact on education. It’s changing the way people learn, blurring classroom boundaries and transforming the jobs we are preparing people for. Smart Classrooms are at the core of Smart Digital Campuses and are increasingly being used to increase student and staff engagement, improve retention and differentiate institutions in a competitive market.
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What makes a classroom smart?

1. Learning is the focus, and technology just the conduit

The Optus Smart Classroom powered by Cisco is designed to enhance the needs of the teacher, student and institution.

- Don’t need to wonder where the camera is – just teach – and one-touch set-up
- Create, record and share content easily – including the 'teachable' moments
- Able to make class more interactive (real-time voting, collaboration, crowd-sourced content)
- A better experience for both traditional and contemporary teaching methods
- Create, record and share content intuitively; just focus on teaching, not the tech
- Promotes team-based, collaborative learning
- Embraces social learning such as chat, temporary spaces, omni-channel, user-generated content
- Intuitive – doesn’t feel like a corporate system
- Real-time feedback and analytics to track academic progress

2. The technology is almost invisible

The smarter the classroom, the less you know the technology is there and the greater the chance it will be adopted by students and teachers. A Smart Classroom has:

- One-touch initiation: no moments of panic for the teacher wondering if it will work
- An intuitive form factor – like using an iPhone, it’s simple, interactive and understandable
- One platform – a predictable, consistent experience in any room, and on any device
- Mobile first for a bring your own device (BYOD) environment
- Walk in and go: no wires and cords, no interoperability issues between video, wireless and hard-wired networks

3. Always connected, always secure

Built on an enterprise network that is:

- Robust: always up, always on
- High-definition and immersive
- Scalable: cloud-based and easily scaled up and down to meet the institution's growing student experience requirements
- Secure: able to protect the institution’s (and students') data and intellectual property from malicious cyber threats

...and a network that can support much more than Smart Classrooms, allowing the institution to create a great employee experience and meet the ongoing challenges in the education sector.
What’s driving interest in smart classrooms?

**Improved student engagement and outcomes**

Generation Y and new millennials learn in different ways and respond to different teaching models and content. Students increasingly expect institutions to adopt social learning models in an education setting.

- Richer content, access to new media and remote experts improve engagement
- Students help to curate their own learning experience
- Improved engagement improves learning outcomes and drives retention

**Learning**

**Employability**

**Rapid staff adoption and buy-in**

Intuitive design reduces barriers to staff uptake. This enhances the employee experience to ensure the institution can maintain and attract talent and reduce the time and costs associated with change management. Teachers are able to focus on innovating their own practice rather than worrying about how to get the technology to work.

**Reduced technology complexity**

Smart Classrooms take the complexity out of technology operations, not just cost. The Spark Board allows institutions to consolidate a range of discrete technologies / providers / contracts: audio visual, whiteboards / Smart Boards, video conferencing, cameras, messaging / chat, file sharing, lecture capture and the cost of on-the-ground tech support. The administration and learning functions are often separated, but shouldn’t be.

**Productivity savings**

- Capacity to scale scarce teaching resources across multiple sites
- Reduced travel between campuses, saving time and money
- Productivity for students who no longer have to travel long distances for class

**Productivity**

**Sustainability**

- Reduced fuel consumption from staff and student travel
- Connectivity deployed for Smart Classroom can also be used for energy management

**Increased flexibility**

Smart Classrooms are not necessarily fixed spaces. The portability of Cisco Spark Boards and mobile-first design means the Smart Classroom can easily be re-configured for different learning models. It supports students whether they are collaborating with industry professionals, working in project based learning teams or receiving direct instruction.

The Smart Classroom gives institutions the capacity to serve thin markets, remote clients/students and the flexibility to source experts from anywhere around the world, which enable them to expand their reach and create additional revenue sources. Students are able to access classes and potentially entire courses from regional areas, and allows institutions to bring in scarce teaching resources via video.
There are four 'layers' to the Smart Classroom:

- Cloud
- Network/access
- Platform
- The classroom

Optus provides a single point of contact for all managed services and delivery options. Specific services include:

- Project and transition management
- Systems integration and engineering for designing, building and deploying technology
- Enterprise mobility and business applications
- End-to-end integrated ICT solutions such as Smart Classroom
- Change management
Smart Classrooms allow institutes to innovate and continue improving student engagement, learning outcomes and productivity.

Smart Classrooms are:

• **Capturing and delivering advanced analytics:** The Cisco Spark platform, wireless sensors, tracking cameras and Spark Boards are able to track interactions with learning materials, recognise faces, count people, track movement and even monitor students’ reactions to content.

• **Equipped with artificial intelligence (AI):** Spark Boards have the same AI platform used in autonomous cars and is currently used for voice recognition and noise suppression but will be capable in the future of automatically authenticating anyone who attends a class or meeting.

• **Virtual reality capable:** Cisco Spark can be delivered in virtual or augmented reality where people interact with each other as ‘avatars’. The use of virtual reality in education and training is likely to increase as institutes look to make learning as flexible, effective and engaging as possible.

• **Integrated into learning management systems:** enable integration between collaboration software and the world’s leading Learning Management Systems such as Moodle, Canvas, Blackboard and others.
There is no single learning model and there are multiple variations on the 'classroom'. A Smart Classroom is designed to support multiple scenarios of instructional delivery as well as providing extension beyond day in, day out teaching and learning.

**Use case #1 - Teacher and students in same classroom**

<table>
<thead>
<tr>
<th>Standard classroom scenario</th>
<th>Smart Classroom scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher has to load content and connect – often with tech support</td>
<td>Materials pre-shared in Cisco Spark (via LMS)</td>
</tr>
<tr>
<td>Whiteboard, AV, video all managed discretely by teachers</td>
<td>Spark Board recognises teacher device – one-touch set-up</td>
</tr>
<tr>
<td>Interactions between students not stored or secure (Facebook)</td>
<td>Camera follows the teacher</td>
</tr>
<tr>
<td>Teaching to the technology</td>
<td>Teacher records and shares 'teachable moments', not the whole session</td>
</tr>
<tr>
<td>Content from class uploaded at the end and entire session recorded (which few access)</td>
<td>What's on the Spark Board is also on students' mobile/laptops</td>
</tr>
<tr>
<td></td>
<td>Real-time polling/interaction</td>
</tr>
<tr>
<td></td>
<td>Content uploaded during lesson – not separately after class</td>
</tr>
</tbody>
</table>

Particularly valuable for:

- Teachers wanting to improve their practice, but not change fundamentally
- Students who can’t make class regularly (Cisco Spark gives them what they need in a way that’s efficient to process)

**Use case #2 - Bring remote teacher or expert into the classroom**

<table>
<thead>
<tr>
<th>Standard classroom scenario</th>
<th>Smart Classroom scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Generally avoided because it presents risk</td>
<td>Remote delivery becomes standard</td>
</tr>
<tr>
<td>AV technician on standby to ensure connection is made</td>
<td>One-touch initiation of sessions</td>
</tr>
<tr>
<td>Quality of experience is poor – not seen as authentic by students</td>
<td>High-quality experience every time – including for practical/visual tasks</td>
</tr>
<tr>
<td>Video element is discrete – often challenging to upload session into LMS seamlessly</td>
<td>The content and learning – not the technology – becomes the focal point</td>
</tr>
<tr>
<td>Whiteboards at either end of connection are discrete</td>
<td>Whiteboard is interactive / collaborative</td>
</tr>
<tr>
<td>Patchy quality of connection</td>
<td>Video elements easily uploaded</td>
</tr>
</tbody>
</table>

Particularly valuable for:

- Maximising value of teachers in hard to source domains/trades
- Mature-age students/those with other time commitments
- Courses that require contemporary industry perspectives that are hard to source
- Serving thin markets
Use case #3 - Learners across multiple sites

<table>
<thead>
<tr>
<th>Standard classroom scenario</th>
<th>Smart Classroom scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>• AV technician on standby to ensure connection is made</td>
<td>• Learners in remote locations can participate fully they can speak, annotate, share</td>
</tr>
<tr>
<td>• Quality of experience is often poor leaving the remote students disadvantaged</td>
<td>• Easy to initiate multi-site sessions and seamless to manage</td>
</tr>
<tr>
<td>• Whiteboards at either end of connection are discrete</td>
<td>• Content, interactions and conversations uploaded during class</td>
</tr>
<tr>
<td>• Patchy quality of connection – can’t be relied upon as a core mode of delivery</td>
<td>• Whiteboard is interactive/collaborative</td>
</tr>
<tr>
<td></td>
<td>• Interactions by individual students are recorded and provide insight into student engagement/behaviours</td>
</tr>
</tbody>
</table>

Particularly valuable for:
• Institutions with disparate campuses
• High proportion of students wanting to join from home/remote
• Enabling delivery partnerships between multiple TAFEs, or TAFEs and universities
• Serving thin markets

Use case #4 - Workplace-based instruction

<table>
<thead>
<tr>
<th>Standard classroom scenario</th>
<th>Smart Classroom scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Quality of experience is often poor using consumer-grade tools</td>
<td>• Portable Spark Boards can be used for larger sessions at the worksite</td>
</tr>
<tr>
<td>• Relies on having access to discrete meeting rooms with connections at worksite</td>
<td>• Learners in remote locations can participate fully; speak, annotate, share</td>
</tr>
<tr>
<td>• Patchy quality of connection – can’t be relied upon as a core mode of delivery</td>
<td>• Easy to initiate and manage sessions</td>
</tr>
<tr>
<td></td>
<td>• Supports learners coming in via standard mobile connections using smart caching</td>
</tr>
</tbody>
</table>

Particularly valuable for:
• Workforce development/industry training – TAFE comes to the learners
• Students who work a long way from a campus
• Where learning and assessment needs to be demonstrated on specialist equipment
Beyond the classroom

The Smart Classroom can be easily repurposed to generate other use cases and benefits for the institution. The portability, usability and scalability of the platform can be used to support internal business requirements, staff training and industry outreach.

### Use Case # 5 - Professional development/peer-to-peer learning

<table>
<thead>
<tr>
<th>Standard classroom scenario</th>
<th>Smart Classroom scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Professional development tends to fall into two categories:</td>
<td>• Smart Classroom infrastructure supports small or large-scale professional development and learning</td>
</tr>
<tr>
<td>• In person and expensive</td>
<td>• Supports observational teacher instruction</td>
</tr>
<tr>
<td>• Via video and poor experience</td>
<td>• The mobility of Cisco Spark encourages more regular peer-to-peer exchange and collaboration, particularly useful for sustaining communities of interest and</td>
</tr>
</tbody>
</table>

Particularly valuable for:

- Teachers and staff in rural, regional and remote areas
- Institutions implementing change programs

### Use case #6 - Smart Classrooms to smart meeting spaces

**Opportunities presented**

**Repurpose Smart Classroom infrastructure to create:**

- Smart meeting rooms for executive and staff across multiple campuses and sites
- Immersive training facilities for teachers
- Co-working spaces that can be made available to industry (e.g. outside traditional hours) and sessional staff

<table>
<thead>
<tr>
<th>Standard classroom scenario</th>
<th>Smart Classroom scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Remote participants disadvantaged and can’t participate fully</td>
<td>• One-touch set-up</td>
</tr>
<tr>
<td>• Time lost in set-up of meetings, which often requires tech support</td>
<td>• High-quality experience for all participants</td>
</tr>
<tr>
<td>• Sharing documents, images and work is limited</td>
<td>• Supports team-based tasks and collaboration</td>
</tr>
<tr>
<td></td>
<td>• Major meeting items and outcomes can be uploaded during meeting (e.g. easy to record the part of the meeting dealing with actions)</td>
</tr>
</tbody>
</table>

Particularly valuable for:

- Institutions wanting to experiment with activity-based working
- Demonstrating to teaching staff that the entire institute is embracing the technology
- Saving costs associated with travel (time, money and environmental impact)
- Regional locations where access to collaboration tools is limited for industry
- Maximising utilisation of spaces
Optus Smart Classroom powered by Cisco is an end-to-end model from design through to benefits realisation and tracking. It recognises that TAFEs do not want a ‘technology drop’ – they need a service they can rely on.

The focus on adoption starts with the scoping process, where we will work with nominated teaching and learning staff to identify unique use cases related to teaching, engagement and collaboration. High-value use cases can be prioritised and trialled on a limited deployment basis so that investments in institution-wide training and support can be validated prior to a full Smart Classroom roll-out.

### What is entails

<table>
<thead>
<tr>
<th>Business case support</th>
<th>Requirements mapping</th>
<th>Smart Classroom blueprint</th>
<th>Benefits identification</th>
<th>Implementation</th>
<th>Support</th>
<th>Tracking</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Data gathering</td>
<td>• Scoping workshop/sessions</td>
<td>• Core elements</td>
<td>• Creation of a benefits/impacts framework</td>
<td>• Transition support</td>
<td>• Managed service desk/single point of contact</td>
<td>• Analytics</td>
</tr>
<tr>
<td>• Financial TCO modelling</td>
<td>• Use case identification</td>
<td>• Optional elements:</td>
<td>• Cascading KPIs and measure</td>
<td>• Training and coaching</td>
<td>• Incident management</td>
<td>• Benefits reporting</td>
</tr>
<tr>
<td>• ROI modelling</td>
<td>• Identifying highest priority use cases</td>
<td>• Degree analytics</td>
<td></td>
<td>• Change management</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Attendance tracking</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

### Benefits

- Robust and transparent modelling
- Saved time to assemble fact base
- Bespoke results for institution environment
- Clear understanding of how it will be used
- Prioritisation of use cases/value
- Learn from others’ experience
- Proven reference architecture
- Customisable to institutional requirements
- A genuine solution – not collection of tech
- Working backwards from the outcome
- Clear line of sight to benefits
- Quick wins and momentum
- Staff buy-in and commitment
- Rapid uptake and value capture
- Productivity savings that free up resources for core business
- Reduce complexity and cost
- Simplification of IT administration
- Proof that the investment has paid off
- Focus on outcomes – not just the plan
Where to from here

Request a demonstration, digital readiness assessment or deep dive workshop

There is also capacity for Optus to undertake a digital readiness assessment as part of the scoping process to ensure process, people and technology issues are identified early.

Undertake a TCO and ROI assessment

Institutions will need to develop a business case to understand the full costs and projected benefits. Optus and Cisco have developed a commercial modelling tool that allows institutions to calculate the Total Cost of Ownership (TCO) and Return on Investment of the Smart Classroom. The tool is easy to use and your Optus account manager can provide the tool to your institution and support to use it.

Learn more – contact your Optus account manager

If you would like to know more about the Smart Classroom, including pricing details and specifications, contact your Optus account manager.

Don’t just take it from us...

“The results have been dramatic and I am bullish about the future for our Smart Classroom investment. It’s changed attitudes, it’s provided opportunities and, most importantly, it is providing SW TAFE with a sustainable model on which it can build.”

– South West TAFE CEO Mark Fidge

Read the story and view the video at optus.com.au/enterprise/customerstories/collaboration-customer-stories/south-west-tafe
Give us a call

To discuss how Optus can help you through innovative ICT solutions; contact your Optus Account Manager or call the Optus Business hotline on 1800 555 937

Join the conversation

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@optusbusiness    yesopt.us/blog