While it may be pretty obvious that learning takes place in the brain, we know surprisingly little about the neuroscience of learning. A new high-tech classroom is helping to change all that.

Our understanding of learning as a social activity is fairly limited, particularly in settings as complex as the conventional classroom. But the Science of Learning Research Classroom, based here in the Melbourne Graduate School of Education, offers an exciting new way for researchers to discover what is really going on.

Part of the Science of Learning Research Centre (SLRC) – a cooperation led by the Queensland Brain Institute at the University of Queensland, the University of Melbourne and the Australian Council for Educational Research – this high-tech classroom will enable researchers to examine exactly what happens in classrooms at a level of detail never before possible.

"The Queensland Brain Institute’s core business is neuroscience," said Chief Investigator Professor David Clarke. "Our core business here in Melbourne is education. But there is such a thing as educational neuroscience and it is part of our mission to unpack just what that might mean and how it might inform classroom teaching and learning," he said.

"Creating a new and powerful narrative linking these two fields is a critical aim of our work."
The new ‘super classroom’ will enable researchers to examine exactly what happens in classrooms at a level of detail never before possible, providing an essential research link between authentic school classrooms and the clinical laboratories of the educational neuroscientist.

“Early studies of classrooms naively tended to focus on the teacher – as though the teacher could control everything taking place,” explained Professor Clarke. “Of course, what he or she does is only one element of what’s going on in any classroom at any given time.

“There’s also what the students are doing, who they’re interacting with, how they’re responding to what the teacher is saying, how they are completing their tasks – the list goes on. Learning is taking place in all these interactions.”

In the new classroom, researchers sit behind a one-way mirror to observe the class. Up to 32 fixed and portable radio microphones and 16 high-definition video cameras are controlled by the technical team to ensure everything the researchers need is captured – all without distracting the students or teacher.

The huge amounts of data this project is generating will provide researchers with a wide range of opportunities.

“We can now try out new learning techniques and technologies and study every aspect of the students’ responses,” Professor Clarke explained. “We can use the facilities to demonstrate innovative new teaching and learning approaches, and we can live-stream this to anywhere in the world. We will build a huge digital database of classroom interactions that will provide a rich resource for researchers for years to come.”

The high-tech classroom is capable of capturing huge amounts of data in real time, all to a high speed disk array, from where it can be accessed by the national Science of Learning Research Centre team, as well as international collaborators, to unpack the secrets of effective classroom learning.

The SLRC comprises 25 Chief Investigators from nine research institutions across Australia and is supported by $16m of Commonwealth funding from the Australian Research Council.

For more information, visit slrc.org.au

Adapting to life in Saudi Arabia was a challenge for Peter Robert, but now his clinical teaching skills are helping deliver a shock to the education system there.

Master of Teaching alumnus Peter Robert said he began to acclimatise to the weather and culture in Riyadh after he’d been there for about a year.

“It’s character-building,” Peter laughs. “There are a lot of shocks to the system. You’ve got between 45 and 50 degrees every day for eight months of the year, and there’s no greenery around.”

Peter teaches primary school science in the desert kingdom, and is part of an eight-year initiative to boost the status of teachers and raise academic standards.

“You’ve got a very restricted society – even men can’t wear shorts outside in the heat. You can’t show any skin, it’s just not polite. Restaurants are segregated between family and non-family.”

Peter enrolled in the Master of Teaching at the Melbourne Graduate School of Education (MGSE) in 2011 after a career in biotechnology and medical research that spanned decades.

After graduation, Peter accepted a position at Riyadh Schools in the Kingdom of Saudi Arabia.

Riyadh Schools comprises eleven separate schools with over 3,400 students and 780 staff in the Saudi capital. The Board of Directors is chaired by Crown Prince Mohammed Ibn Salman Ibn Abdelaziz, and many of the schools’ pupils hail from royal or influential families.

In 2012, the schools’ leaders employed the Boston Consulting Group to devise a plan to raise academic standards and transform the schools into the highest performing in the Middle East.
Thanks to a generous grant from the Alfred Felton Bequest, MGSE is helping to establish a highly effective early learning program for disadvantaged families in Broadmeadows.

The Alfred Felton Fellow in Early Childhood Education, who will be appointed this year, will work with vulnerable families attending the Dimboola Early Learning Centre to implement the Abecedarian Australia Approach (3a), an early learning program based on the work of MGSE staff member, Professor Joseph Sparling.

Research shows the approach has positive immediate effects on vulnerable children’s early development as well as, importantly, long-term effects that include improved rates of university graduation and improved health in young adulthood.

The 3a program sets out four daily activities:

• Turning random and spontaneous events in the day into opportunities for educational talk (called Language Priority)
• Interactively reading books to children every day, either one-on-one or in pairs (called Conversational Reading)
• Playing educational games every day that introduce and progressively build children’s school readiness skills (called LearningGames®)
• Infusing positive emotion and educational content into the day’s necessary and repeated routines (called Enriched Caregiving).

The Alfred Felton Bequest provides funds in support of catalytic projects taking place in Victoria.

Launched last year, the University of Melbourne Network of Schools is a peer-led collaboration between diverse schools from across Victoria.

With representation from Government, Independent and Catholic sectors, the network provides an opportunity for primary and secondary schools to work together to improve student learning.

In 2014, the network chose to focus on a range of issues including feedback, data and evidence, writing and improving high performing students’ outcomes. In 2015 there are two networks, comprising seventeen and nineteen schools respectively. There are two groups in each network – a leaders’ group and a success coordinators’ group – who each meet at least eight times a year to work with each other and researchers here in the Graduate School.

Schools interested in joining the new network group commencing in 2016 should contact Katherine Henderson at katherine.henderson@unimelb.edu.au or (03) 9035 6302.

Join us for our ever-popular Dean’s Lecture Series, covering some of the biggest issues in education today. In 2015 we are hearing from some of our very own leading thinkers; email education-events@unimelb.edu.au to join the mailing list and keep up to date. We also run free seminars on a wide range of topics throughout the year. Check out our website for the latest listings.
Leadership skills from the desert to the department

ALUMNUS PROFILE LOUKA PARRY

Educators are coming from all over Australia to study instructional leadership, even if it means a 4am start, a five-hour drive and a flight from Alice Springs.

The kids in Mimili didn’t want to ask Louka Parry’s name when he first arrived in the tiny community in north-western South Australia. They just wanted to know how long he was staying.

“To me, that said: “I want to know if you’re going to commit to the community before I make any commitment with you,” Louka reflects.

That first day in town, when questioned by a little boy, Louka’s answer was that he’d be around for two years, and then he was going travelling. “So of course two years became three, then four then five,” he remembers. “It was somewhere that I made a huge connection with; it’s been a fantastic journey.”

Louka’s experience in Mimili inspired him to study the secrets of leadership.

“When I landed in the middle of Australia, I was very fortunate to have a great leader at that school and she developed my capacity in a big way,” Louka explained.

He decided to study a Master of Instructional Leadership that was offered in weekend intensives, even though it meant a formidable commute.

“Initially, it was a 4am wakeup, a five-hour drive to Alice Springs then a flight to Melbourne,” he said.

“So it was quite a logistical challenge, but one of the benefits was the intensive modules so you can continue to work in your school setting.”

Louka was one of an increasingly large cohort of professionals willing to travel interstate to study the Master and Professional Certificate in Instructional Leadership. More than 40 per cent of enrolments over the past two years have been interstate students.

Louka is now working as Manager of Literacy, Primary Years at South Australia’s Department of Education and Child Development.