



MACQUARIE
UNIVERSITY ~ SYDNEY

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MACQUARIE University NEWS

The phenomenon of mindfulness
Management jargon – rhetoric of
power or new religion?
What workers want



AUSTRALIA'S INNOVATIVE UNIVERSITY

Cover picture: Mindfulness meditation – a practice that teaches people how to step back, be aware, let go of pain and the worries of life – is taking the world by storm. See story page 4. Image by Fernando Guerreiro.

Inside

NEWS

- 3 | Carrick Institute recognises outstanding teachers at Macquarie University
- 3 | Accounting lecturer wins trans-Tasman teaching award

FEATURES

- 4-5 | Learning to let go – the phenomenon of mindfulness
- 6-7 | Management jargon – rhetoric of power or new religion?
- 8-9 | What workers want

CENTREFOLD

- 10-11 | Centrefold

COMMENT

- 12 | It only takes a second for a tragedy to happen... even at home
- 13 | The battle of the bugs – resistance is futile

SECRET LIFE

- 14 | The secret life of Judith Dickson

ACROSS CAMPUS

- 15 | Prestigious fellowship for Macquarie scholar
- 15 | Macquarie to RAMP up Australian research collaboration
- 16 | New PhD scholarship program with Fudan University
- 16 | Scholarships help rebuild Aceh
- 17 | Diamonds are forever? You have to know where to look...
- 17 | A rare chance to view *The Chroma Collection*

WHAT'S ON

- 18 | Healing ourselves through mindfulness
- 18 | Macquarie University: What's on

BOOKS

- 19 | *Sign Language Interpreting: Theory & practice in Australia and New Zealand* by Jemina Napier, Rachel McKee and Della Goswell
- 19 | *Teaching English From a Global Perspective* edited by Anne Burns

THE BACK PAGE

- 20 | Three-second memory? It's a fishy fallacy

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Carrick Institute recognises outstanding teachers at Macquarie University

Four Macquarie University academics had their status as outstanding teachers recognised on the national stage recently when they received Citations for Outstanding Contributions to Student Learning from the Carrick Institute for Learning and Teaching in Higher Education.

The Carrick Citations recognise and reward the diverse contributions that individuals and teams make to the quality of student learning. They are granted to people who have made a significant contribution to the quality of student learning in a specific area of responsibility over a sustained period. The awards are worth \$10,000 each to be used for a specific teaching and learning project, and this year 210 citations were granted Australia-wide

Details of Macquarie University's Carrick Citations follow:

Professor John Croucher, Macquarie Graduate School of Management: for inspiring thousands of students for over 30 years with an excellent ability to communicate ideas and making outstanding contributions to learning and teaching practice.

Associate Professor Peter Petocz, Department of Statistics, Division of Economic and Financial Studies: for enhancing learning and teaching in the discipline of statistics through scholarly

investigations into students' ideas about statistics and learning and their pedagogical application.

Mr David Spencer, Department of Law, Division of Law: for enthusing students to love learning the law and for motivating them to maximise their potential by providing a framework for learning excellence.

Associate Professor Leonie Tickle, Department of Actuarial Studies, Division of Economic and Financial Studies: for the creation of innovative learning resources and assessment tasks that enhance student learning and develop skills in presentation, research, teamwork and professional judgement.

All four have been awarded for their excellent teaching before, with Croucher, Tickle and Spencer receiving Macquarie University Outstanding Teaching Awards in previous years, and Petocz receiving a teaching award from the University of Technology, Sydney where he worked prior to joining Macquarie two-and-a-half years ago.

Macquarie University's Carrick Citation winners (from left): David Spencer, Leonie Tickle, Peter Petocz and John Croucher.



Accounting lecturer wins trans-Tasman teaching award

While the Carrick Citation winners were receiving their awards in Sydney, another significant teaching award was being presented to Senior Lecturer in the Department of Accounting and Finance Dr Renee Radich in Wellington.

Radich won the Pearson Education Australia Accounting/Finance Lecturer of the Year Award for 2006 at the Accounting and Finance Association of Australia and New Zealand's (AFAANZ) conference dinner in New Zealand. She received a prize of \$3000 and a plaque.

The aim of the award, which was created in 2001, is to encourage and recognise innovative teaching practices in accounting or finance at a university level. It is the second year in a row that the winner has come from Macquarie University's Division of Economic and Financial Studies, with Dr Kim Hawtrey winning in 2005.

Dr Renee Radich (right) being presented her award by Karen Hutchings of Pearson Education.





Learning to let go – the phenomenon of mindfulness

Mindfulness meditation – a practice that teaches people how to step back, be aware, let go of pain and the worries of life – is taking the world by storm. And the storm is about to hit Macquarie, when international mindfulness expert Dr Jon Kabat-Zinn comes to the University in November for a series of talks and workshops.

From its clinical applications in psychotherapy, to the management of anxiety, worry and depression, and helping cancer patients and their carers cope with their treatment, Macquarie University researchers are leading the way in mindfulness research across different domains.

Initiated by the Department of Psychology's Drs Belinda Khong and Andrew Baillie, a Sydney-wide mindfulness research interest group will soon be established at Macquarie to bring together and support researchers who are currently working individually in this area.

Khong believes that Kabat-Zinn's work and research are highly relevant to the issues currently facing many Australians, and that his presence will act as a catalyst for further research and applications of mindfulness in Australia.

From its roots in ancient Buddhist traditions, Khong describes mindfulness as moment to moment awareness.

"We are usually preoccupied with the past or worried about the future, and we mostly only reflect on our experiences in hindsight," she explains. "Mindfulness helps us focus on the present, to let go of the internal dialogue that tends to happen when our minds start to wander. Mindfulness meditation trains the mind to pull back and focus."

Khong's PhD research was on coping with change and the concept of responsibility in Buddhist psychology. Since graduating in 1999 she has been teaching part-time at Macquarie, operating her own counselling practice and travelling the world presenting papers and conducting workshops on the integration of Buddhist psychology and philosophy in psychotherapy. Last month she presented a paper on *Buddhism and psychotherapy: A symbiotic relationship* at the International Congress of Psychotherapy held in Japan.

"One of the reasons that mindfulness has taken the world by storm is because research has shown the powerful effect that a positive mind-body interaction, such as mindfulness, has on healing and personal growth," she says.

"Mindfulness has been shown to have benefits for individuals across different contexts. Mindfulness programs are now used in medicine, hospitals, schools, corporations, prisons and professional sports."

Kabat-Zinn is the world leader in this field. An internationally renowned scientist (his PhD was in molecular biology), he developed the mindfulness-based stress reduction (MBSR) program at the University of Massachusetts. Since then more than 1000 studies on the program in peer-reviewed journals have shown that it can reduce chronic pain, high blood pressure, serum cholesterol levels and blood cortisol, and alleviate depression, anxiety, post-traumatic stress disorder and eating disorders.

In short, Kabat-Zinn has brought what was once considered 'hippy, mystical mumbo jumbo' into mainstream medicine and society.

Khong adds that in the field of psychology, co-researchers from the universities of Toronto, Wales and Cambridge have successfully used MBSR in conjunction with cognitive-based therapy (MBCT)

to help patients prevent the relapse of depression without relying on medication.

“In Australia, MBCT is currently being trialled by *BeyondBlue* for a similar purpose,” she says.

According to Khong the aim of mindfulness is to become continually aware of, and to label our thoughts, feelings and emotions objectively, and to accept them for what they are without needing to change or justify them.

“One of the reasons that mindfulness has taken the world by storm is because research has shown the powerful effect that a positive mind-body interaction, such as mindfulness, has on healing and personal growth.”

So how does it work? Khong explains that meditation involves right effort, right concentration and right mindfulness.

“Right effort involves putting the right amount of effort into preventing negative thoughts from rising and enabling positive ones to develop,” she says. “Right concentration means directing attention to one object of focus (such as breath, candle, mantra) to the exclusion of others. The purpose of right effort and right concentration is to quieten down the mind and help the meditator to let go of negative thoughts and feelings.

“However, in order to let go, one has to be mindful of whatever enters the mind. Right mindfulness – the most important factor in meditation – helps people to reduce the internal dialogue and freely observe and experience what unfolds without needing to change or justify it. In this way we learn to separate our reactions to the situation from the situation itself and to respond appropriately.”

Macquarie University PhD student Dolores Foley is investigating the therapeutic use of mindfulness-based techniques for cancer patients and their carers. Foley works as a clinical psychologist at the Sydney Cancer Centre and has been practising mindfulness meditation herself for nine years.

“The biggest change that mindfulness meditation brings for clients that I have noticed is the ability to step outside the patterns that lead to deterioration, anxiety and depression – the negative thinking which then leads to inactivity, lethargy and not feeling well on the inside,” she says.

“By using mindfulness they become more aware of their own patterns and able to step outside that if they want to. This leads to them being better able to cope with their illness and enjoy an improved quality of life.”

Foley’s research is supervised by Dr Andrew Baillie from Macquarie University’s Department of Psychology, Dr Melanie Price from the University of Sydney, and Buddhist psychologist Malcolm Huxter, and funded by a NSW Cancer Institute Psycho-oncology Clinical Fellowship.

In the future, Khong plans to expand her research to look at the ways that mindfulness impacts on our psychological and physical wellbeing through qualitative research, including in-depth interviews.

“Up until now most mindfulness research has focused on quantitative methodologies and while the statistics attest to the efficacy of using mindfulness we need to understand further *how* and *why* mindfulness is proving to be beneficial,” she explains.

“Take the example of stress-related disorders. People who practice mindfulness and have learned to let go of stress report an improvement in their physical and mental health. However, it could also be that by being more mindful of the impact that their behaviour has on others, people are able to communicate and relate to other people more effectively. The subsequent improvement in interpersonal relationships may have contributed to a reduction of their stress level.

“By seeing how people have employed mindfulness in different areas of their lives, and how this has contributed to their reduced stress levels, we will be better able to understand the interdependence between mind and body, and develop specific treatment plans that help them to cope better,” she adds.

Kabat-Zinn will discuss the practice of mindfulness and its far-reaching benefits to the mind, body, health and well-being at a public talk at Macquarie University on November 23 (see page 18 for details).

Story by Kathy Vozella



Dr Belinda Khong



Management jargon – rhetoric of power or new religion?

“Due to internal efficiencies mushrooming and a paradigm shift in the adhocracy the chainsaw consultants have suggested that in order to create a win-win out of the financial drag and keep the vulture capitalists happy we have no choice but to jettison employees.” Welcome to the new way of communicating with management, which has one Macquarie University expert so hot under the collar that he’s written a book about it in protest.

Professor of Management Robert Spillane is an outspoken critic of the language of management – bamboozling jargon that dominates the management profession the world over. Calling management-speak “obfuscating language designed to confuse and bewitch”, Spillane has registered his disdain for the proliferation of its use by co-authoring *The Management Contradiction* – essentially a devil’s dictionary for management.

Spillane is a strong believer that jargon is the rhetoric of power and that managers frequently use jargon to legitimise their upper-level positions in an organisation.

“The question needs to be asked: ‘is management language simply jargon or is it an important and useful technical language?’ he says. “I don’t think it is either important or useful – it is ideological and it is used to legitimate power, giving people the appearance of substance when there is no substance. This is a case of the emperor having no clothes, or perhaps there is no emperor. If managers want to legitimise their power they have to send out messages that they deserve to be in their positions, and to accomplish this, they use jargon.

“The legitimacy of airline pilots, pastry cooks and pathologists is resolved by appropriate training and examination, but when it comes to managers certain doubts about their legitimacy arise. How do we train managers? Nobody knows. We can educate managers in, say history or philosophy, and we can train them in accounting and economics, but nobody knows how to train a manager.”

Spillane likens management to a religion: there are bibles, temples, priests, heretics, and people who get symbolically crucified. And he says that like any good religion, management needs its own language.

“All religions need a specific language so that people can identify with it,” he says. “Management is following in the tradition of other religions, it opens its doors to some and closes it to others, and it fights with other religions – non-managers or unions or government – which use different languages.

“My experience is that some managers actually believe that their jargon is useful and important while others are cynical and know it’s all rubbish, but believe it helps promote the religion.”

Spillane also believes that jargon, rather than being noble rhetoric which uses language to give people better versions of themselves, is base rhetoric which pulls people down and gives them inferior versions of themselves. He also argues that most managers would disagree with this view saying: “When they talk about things such as ‘team spirit’, ‘managers as leaders’, ‘having an appropriate fit with the corporate culture’ or ‘having vision and commitment’, they will say that they are using language to motivate others. I would say it’s obfuscation. Vision about what? Commitment to what? Excellence with respect to what? This half-sentence style of writing aided by a powerpoint mentality is all part of management jargon.”

“My experience is that some managers actually believe that their jargon is useful and important while others are cynical and know it’s all rubbish, but believe it helps promote the religion.”

A particular sticking point for Spillane is the term ‘managers as leaders’ and the jargonised language of leadership. He argues that contrary to popular opinion leadership has very little to do with management and that leadership is actually not a word that means leaders. It is his view that rather than studying leaders, students of management should be looking at why people follow managers, and believes that managers get their following from either the law or their technical competence.

“There are two main reasons why people follow others,” he says. “One is because the law requires it. You follow a policeman for example because the law requires it, but we don’t call him a leader. The other reason is technical competence. We follow the advice of a car mechanic because he’s technically competent but again, we don’t call him a leader. In the case of the policeman or the mechanic it doesn’t matter who he or she is, it’s the role of mechanic or

policeman that is crucial. So people follow managers for legal and technical reasons.”

Spillane goes on to suggest that if managers are not technically competent they often try to shift the basis of their following to themselves by postulating that people should follow them because they have appealing personalities and some even go so far as to believe they are charismatic.

This type of mentality will be familiar to fans of the hit British TV series *The Office* in which ostentatious and incompetent manager David Brent spouts such comments as “When people say to me would you rather be thought of as a funny man or a great boss? My answer’s always the same, to me, they’re not mutually exclusive”. According to Spillane however, they are indeed mutually exclusive and the mark of a great boss should always be competency not personality.

“I think it’s a positively bad thing to follow a manager because of his or her personality,” he says. “It runs the risk of going against what the whole hierarchy is there for which is for technical competence. I wouldn’t cross a road to follow a manager if he or she were technically incompetent. Some managers try to get around their incompetence by saying ‘You should follow me because I have vision, I can see the big picture and I’m taking you on a journey’.”

So what does the future hold for those of us who regularly find ourselves on the receiving end of management gobbledegook? According to Spillane, it’s unfortunately here to stay.

“Will management jargon be stamped out?” he says. “That’s like asking if Christian jargon or Marxist jargon or feminist jargon will ever disappear. Now that it’s here it’s here for good.”

Story by Fiona Crawford



Professor
Robert Spillane



What workers want

Marketers, psychologists, management consultants and the media all say that Australians want shorter working hours and a more even work/life balance. However, new Macquarie University research suggests these things are the least of our concerns.

In recent times, the issue of work/life balance has been a hot topic in the Australian media. Supported by a range of studies and observations, commentators have argued that Australians are becoming increasingly dissatisfied with the inequity between the time they spend at work and the hours devoted to other aspects of their lives.

As a result, many companies have been advised by management consultants and organisational psychologists that in order to avoid staff turnover and to increase motivation, productivity and profit, they must make take a new approach to the hours worked by their employees.

“Work/life balance is getting a lot of coverage in the press nowadays and it’s being held up as the pin-up boy of the moment: people are saying ‘get work/life balance right and you’ll solve all your staff attraction and retention problems’,” says Dr Peter Langford, Director of the Voice Project, a research and consulting team based in the Department of Psychology at Macquarie University which specialises in using organisational surveys to diagnose leadership, culture and human resource management.

Langford, together with Macquarie colleague Dr Louise Parkes and the Australian Catholic University’s Joanne Abbey, recently published the surprising results of a major workplace study in the Australian Psychological Society journal *InPsych*.

The team compiled data from more than 10,000 employees from 876 business units across 700 organisations, who each completed a 102-question survey. To make their findings meaningful for managers in the workplace, the researchers then grouped this enormous amount of data into 31 different categories – three for the critical area of ‘employee engagement’, encompassing commitment to the organisation, job satisfaction and intention to stay – and 28 for a variety of workplace characteristics, including everything from training and supervision to perception of management, safety, performance appraisal and diversity.

The survey’s first big surprise was that the majority of employees reported being satisfied with their current levels of ‘work/life balance’ (74 per cent favourable), ‘peace’ (70 per cent favourable), and ‘wellness’ (66 per cent favourable). Even more importantly, the link between ‘work/life balance’ and ‘employee engagement’ was insignificant when compared to other workplace characteristics.

“The fascinating thing was that of all the 28 characteristics of the workplace, work/life balance was the single worst predictor of ‘employee engagement’,” Langford says. “It showed a weak

positive relationship, but had no real significance or practical importance.”

The researchers believe the incorrect assumptions that have been made in the past about the importance of work/life balance to employee satisfaction and commitment stem from the fact that previous research has focused on this weak positive relationship without comparing it to the other things that motivate us as workers.

“There’s not actually a lot of research that’s been done on the effects of work/life balance,” says Parkes. “The research that does come out often looks at work/life balance in isolation, and when you do that you do get a small correlation, but when you look at it across a whole range of practices, relative to those it’s negligible.

“The more hours people work, the more their satisfaction with work/life balance goes down, especially for people working more than 50 hours a week. But it’s the things that also come with long hours that people enjoy – like increased satisfaction with career development and involvement in decision-making in the organisation. It’s those kinds of things people will sacrifice work/life balance for.”

Langford says one of the most surprising results came when they analysed the answers given by ‘Generation Y’ workers – those currently in their late teens to mid-20s.

“A lot of the hype in the media suggests that work/life balance is particularly important for Generation Y,” he says. “But they’re the ones who actually want it least according to our data. It’s more important for the middle-aged and also the older folks who are nearing retirement. But the younger folks are quite happy to bust a gut. They’re excited about their careers and they want to get up the ladder.”

Separate research into work/life balance by Department of Psychology postgraduate students Megan O’Brien and Portia Bridges suggests that even this weak positive result for work/life balance may be overstating its importance.

“The one thing that was clear from both of those studies was that the most important part of work/life balance is flexibility: people want control over their time,” Langford explains. “They don’t necessarily want to work fewer hours, but they want to be able to leave early in the afternoon if they have to go pick up kids or do banking, but they’re willing to work at night or on the weekends.

“‘Balance’ is the wrong word I think, it’s not that we want fewer hours or that we want greater separation between ‘work’ and ‘life’, we’re actually quite happy with the chaos, with it all intermingling. But if we want anything, it’s

alignment – working for an organisation that has similar values to our own. If what you want can be got from both ‘work’ and from ‘life’, then it doesn’t matter if it’s all messed up.

“A lot of the hype in the media suggests that work/life balance is particularly important for Generation Y. But they’re the ones who actually want it least according to our data.”

“But even though ‘flexibility’ is more important than work/life balance, it’s still not nearly as important as a lot of more traditional management practices. My advice to employers would be: give people recognition, participation, decision-making, make them feel as though they’re working for an organisation where they like what it’s doing to the community and like its values, manage change well in the organisation, make it innovative.”

Despite this finding, the researchers believe that work/life balance may still be important in two discrete areas, the first of which is in attracting new staff.

“I think the jury is still out on whether work/life balance is important for attracting staff – people like the idea of it, so they’ll go for it if it’s offered,” says Parkes.

“There are things that sound good, that you ‘think’ are important, and you might apply those when you’re going for a job,” agrees Langford.

The second area in which work/life balance may be important is in controlling burnout.

“Work/life balance is important because it correlates very strongly with stress,” explains Langford. “Stress has negative consequences of its own, such as high workers compensation payouts. Work/life balance is a means to managing stress. But passion is the key to productive, profitable organisations.”

Story by Greg Welsh



Dr Peter Langford
and Dr Louise Parkes

For details of upcoming events at Macquarie University visit www.pr.mq.edu.au/events

macquarie



During his visit to Australia, the Australian Ambassador to Egypt His Excellency Dr Robert Bauer visited the Australian Centre for Egyptology at Macquarie University and met with members of the Centre excavating in Egypt as well as with Dr Andrew Vincent from the Department of Politics. Dr Bauer is very interested in the Centre's work and has visited its different excavation sites.

Pictured above (seated from left): Dr Bauer, Dr Christiana Kohler, Dr Ann McFarlane, Elizabeth Thompson; (standing) Alex Woods, Dr Andrew Vincent, Associate Professor Boyo Ockinga, and Professor Naguib Kanawati.



Last month the Genes-to-Geoscience (G2G) Research Centre at Macquarie University held its inaugural Postgraduate Visiting Day, which included everything from pancakes to bocce and "intellectual speed dating".

G2G is a coalition of scientific research groups and individual researchers at Macquarie who believe exceptionally interesting and important science over the next couple of decades will arise through bridging the very small (from molecular technologies and biological detail) with the very large (up to world-scales in space and geology-scales in time).

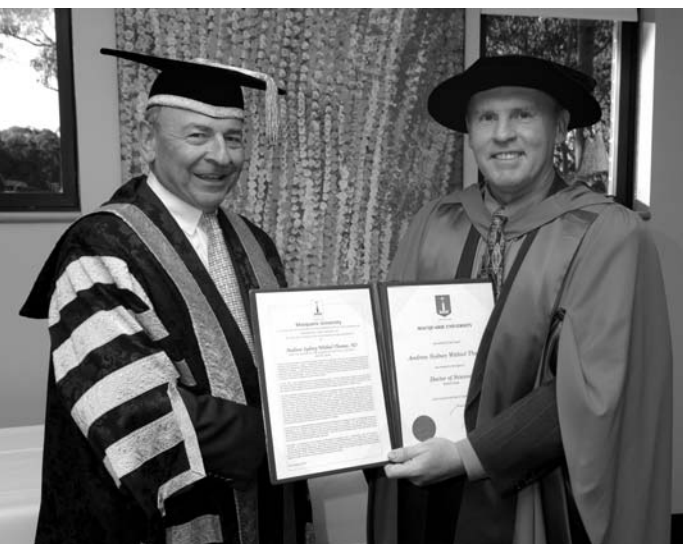
The idea behind intellectual speed dating is that potential postgraduate students spend four minutes chatting to each academic, asking questions that will quickly give them an impression of their personality and research style, before moving on to the next one. Students were later able to talk at more leisure with the academics that particularly interested them.



Last month the Division of Law held a morning tea to celebrate the 90th birthday of Macquarie University's Emeritus Deputy Chancellor, His Honour Dr John Lincoln, who is also a founding father of the University and long time supporter of Macquarie Law. The former Vice-Chancellor Emeritus Professor Di Yerbury; Registrar Dr Brian Spencer; and recently retired Dean of Students Dr Judith Dickson also attended the gathering, hosted by the Dean of Law, Professor Rosalind Croucher.

Pictured (from left): Dr Judith Dickson, Dr Brian Spencer, Dr John Lincoln and Professor Rosalind Croucher.

centrefold



Last month Macquarie University awarded the first Australian in space, Dr Andy Thomas, a Doctor of Science *honoris causa* in recognition of his ongoing support for the University's work in astrobiology and astronomy and for his support of education more broadly.

From his childhood dream of becoming an astronaut, Thomas knew that education was the key to realising that dream. It took a Bachelor of Engineering in Mechanical Engineering (with first class honours) followed by a Doctorate in Mechanical Engineering at the University of Adelaide, and then more than 15 years of work as a research scientist with the Lockheed Aeronautical Systems Company in the United States and later at the NASA Jet Propulsion Laboratory, to work towards his goal.

In 1992 Thomas was selected to join the NASA Astronaut Corps and trained to become a mission specialist astronaut. In May 1996 he flew his first flight in space on *Endeavour*, a 10-day mission which completed 160 orbits of the Earth while travelling a distance of 4.1 million miles.

In 1997 Thomas completed training at the Gagarin Cosmonaut Training Centre in Moscow and became a qualified cosmonaut. He then completed a further three space missions, the most recent flight just last year on the *Discovery's* Return-to-Flight mission – NASA's first shuttle flight following the *Columbia* accident.

Thomas is an Associate Member of Macquarie University's Australian Centre for Astrobiology. On his last mission he offered to take something into space for the Centre and consequently a 948 gram section of a 3.43 billion-year-old stromatolite from the Pilbara (one of the Centre's research areas) was returned from space accompanied by its official space traveller certificate.

Thomas is pictured above right with Macquarie University Chancellor Mr Maurice Newman AC.

A snapshot of campus life by Macquarie University's photographers.



Honouring Judge Lincoln.
Image by Effy Alexakis, CFL.



Image by Irena Conomos, CFL.



Image by Fernando Guerreiro, CFL.

Macquarieinfocus

It only takes a second for a tragedy to happen...even at home

Young children are explorers. They want to learn. They want to be where the action is. They also want to be with the people they love – to welcome them and to wave them goodbye. These are the very characteristics that we encourage in young children to support their personal and social development and to help establish strong foundations for lifelong learning. Yet, writes Maureen Fegan, these are also the same characteristics that can lead them into danger so quickly and place them at risk of injury or death. Especially in their own home driveways.

Most people don't realise the risks young children face in off-road locations. Off-road refers to locations other than public roads and includes home driveways, car parks and farms. Off-road injury to young children happens in urban, rural and remote areas and involves cars and other vehicles. We now know that off-road injury is most likely to happen to young children, especially the under-threes, in home driveways.

Most off-road injuries occur when the child has slipped away from an adult's supervision without the adult realising. The vehicle is usually moving at slow speed, usually reversing, but can also be moving forward. It is often a large family van or four-wheel drive but can also be a smaller car or sedan. Typically

Image supplied by the Kids and Traffic Program.



the driver is a parent, family member or friend and the tragedy has a devastating and long lasting effect on everyone involved.

A three-pronged approach is needed to reduce off-road injury to young children. Physically separating play areas from all vehicle access with barriers such as fences or child proof locking gates can help keep children a safe distance away from moving vehicles. Driveways are not safe places for children to play.

Secondly, engineering solutions can help. Drivers, fleet car managers and car manufacturers can make best use of those advances in vehicle technology and engineering that enable us to detect near objects, including children. All vehicles have blind spots behind them and the severity of these varies according to the model and make of each car. A reversing visibility index which measures how well a driver can see out of the back of a car is now available for many popular vehicles (www.nrma.com.au/reversing). Before you buy, check the rating of any car you intend to purchase!

Fitting a combination of proximity (parking) sensors and a rearward view video camera to cars reduces some risks of reversing over a child. However, research has shown that fitting either of these options alone is not enough (www.maa.nsw.gov.au). Children have also been hit by the front and sides of reversing vehicles as well as by vehicles driven forwards. Even when sensors and cameras are fitted to cars, active supervision is still the best way to keep children safe – *bold their hands or hold them close to keep them safe!*

We advise all families with young children to always expect the unexpected. Adults who understand how the developmental characteristics of young children can put them in danger so quickly and unexpectedly will be more likely to actively supervise their child.

I believe active supervision messages should be integral to every driveway safety discussion, policy announcement, political safety initiative and engineering strategy.

Maureen Fegan is Director of the *Kids and Traffic*, Early Childhood Road Safety Education Program, Macquarie University and was a participant in the NSW Government's School Road Safety Round Table, June 2006. The *Kids and Traffic* Program is a partnership between the NSW Roads and Traffic Authority and Macquarie University (www.kidsandtraffic.mq.edu.au).

The battle of the bugs – resistance is futile

The discovery of antibiotics and their introduction in the treatment of bacterial infections is undoubtedly one of the greatest scientific achievements of the 20th century. It is an achievement with a strong Australian connection given the pioneering efforts of Howard Florey in isolating penicillin and in assisting in its commercial production. But, writes Professor Hatch Stokes, with the evolution of antibiotic resistant bacteria, the golden age of antibiotics is well and truly over.

In the early years of the 'antibiotic era', beginning in about 1940, infectious diseases effectively ceased to be a cause of death in developed countries.

In contemporary Australia, there are few of us left who can remember the impact that the use of antibiotics had, and continues to have, on our lives. Today, bacterial infections are considered an inconvenience that most of us do not think about. Prior to 1940 though we lived under the constant threat of even a minor infection ending our life quickly. No one was free of this possibility and bacteria could overwhelm us at any age.

Given the connection, it is a sad indictment of science education that most Australians do not know who Howard Florey is despite the fact that many of us would not be alive without his pioneering work.

In 1969, the then Surgeon General of the United States stated that "We can close the book on infectious disease". To today's microbiologists this 'howler' is particularly ironic since the timing approximately corresponded to the end of the golden period of antibiotics.

After this time, the efficacy of antibiotics began to decline significantly as a consequence of pathogenic bacteria becoming resistant to the armoury of antibiotics in clinical practice. In contemporary society, the problem of managing antibiotic resistant bacteria in a clinical setting is a constant challenge. In Australia, nosocomial (hospital acquired) infections impact on about six per cent of patients. A substantial number of these infections contribute to patient death as a consequence of being mediated by an antibiotic resistant pathogen.

What went wrong? I believe three things conspired against us, two of which we could have anticipated and at least managed better.

Firstly, we failed to remember the basic tenets of evolution and natural selection as they apply to microorganisms. Micro-organisms are extraordinarily abundant – every human has about 10 times more bacteria in them and on them than they have cells in their own bodies – and potentially can reproduce in as little as 20 minutes in contrast to our 20 years or so. Bacteria, thus collectively, represent a large population of individuals that can give rise to variants even when they are extremely rare.

Secondly, and following on from the first point, we have tended to use antibiotics with gay abandon. Not just in a medical context but in areas such as agriculture and animal husbandry. Putting aside the fact that the benefits of some of these practices are marginal at best, it has effectively increased the pool of bacteria that have been exposed to antibiotics and from which resistant variants can be selected. A more prudent use of antibiotics may have seen less resistance finding their way into the clinical context where they are the greatest problem.

Finally, we now know that bacteria have the ability to share genes in a way that is both infectious and promiscuous. This means that a resistance gene present in a pathogen in a seriously ill patient in a Sydney hospital may have had its origins a few months previously in a benign soil bacterium resident in an apple orchard in rural England.

If or when new types of antibiotics are developed it can only be hoped that we will use them intelligently and sparingly.



Professor Hatch Stokes is a Personal Chair in Molecular Biology in the Department of Chemistry and Biomolecular Sciences.

The secret life of Judith Dickson

The legacy of recently retired Dean of Students Dr Judith Dickson will remain at Macquarie University in the successful Transition Program for new students, which she co-founded with Dr Kerri-Lee Krause (now at the University of Melbourne) in 2000.

The Program was informed by Dickson's PhD research on the first year experiences of students who had undertaken a TAFE early childhood diploma and entered a Macquarie University early childhood degree in the second year.

From its beginning as a traditional academic orientation program it has broadened to include a university mentoring program, a high school mentoring program, and specialised orientation programs for former SIBT students as well as Jubilee and non-award students. There is also a program for new postgraduate students.

Dickson, who retired early from Macquarie to spend more time with her family, has worked in tertiary education for her entire career. She began at the University of Newcastle where she did her undergraduate degree in geography and modern history and worked as a tutor during her third year of study. She continued to work at the university during her first Masters degree, and then after she got married she worked at the Sydney Kindergarten Teachers College Waverley, then the Sydney College of Advanced Education until it became the Institute of Early Childhood at Macquarie University in 1990.

Along the way Dickson completed a second Masters degree in early childhood education and a PhD.

In 1994 Dickson was appointed Dean of Students and continued in that role – one that she loved – until the end of July.

"A job helping people really appealed to me," she says. "I've worked a lot with people with disabilities in the past [Dickson has an intellectually disabled daughter], and I have always had a student focus in the academic roles I have held. So the Dean of Students job was a natural progression for me.

"Student issues are many and varied – just when you think you've seen everything, there is always something new."

What was your first job?

As a casual in the hosiery department of a large department store over Christmas. This was during the days when women wore suspender belts and very fine stockings.

What do you like most about Macquarie?

The friendly atmosphere and the green campus.

What is your favourite lunch spot on campus?

Having a sandwich and a takeaway coffee behind the SAM Building overlooking the lake.

Who inspires you?

My daughter and son-in-law and their friends for the disabilities they overcome.

What do you hate?

Insincerity.

What are you addicted to?

Reading – I would read the back of a Cornflake packet if I couldn't find anything else.

What is your ideal way of relaxing?

Gardening, sitting in the sun, and walking on the beach.

What do you do best?

Helping and supporting other people.

What are you reading at the moment?

The Da Vinci Code by Dan Brown – just because everyone else has read it.

What movie have you enjoyed recently?

I'm not a movie goer but people are encouraging me to see *10 Canoes*, *Jindabyne* and *49 Up*.

What's a good Sunday?

Relaxing at home with family and friends.

Is there life after Macquarie?

I am just beginning to find out.

What would people be surprised to learn about you?

That I get very nervous when I have to speak in public. Everyone thinks I can just get up and do it as I have done it so often, but I still get nervous.



Prestigious fellowship for Macquarie scholar

Recent Macquarie University PhD graduate in soil science Dr Marshall Wilkinson is now getting his hands dirty at the University of Kentucky courtesy of a prestigious Sir Keith Murdoch Fellowship granted by the American Australian Association.

The Association launched its educational fellowships program in 2002 to assist Australian postgraduate scholars in undertaking research and study at top American schools, with the aim of facilitating intellectual interchange and ongoing collaborative research between the two countries.

Marshall, who was awarded his PhD in April this year, completed his research under the supervision of Associate Professor Geoffrey Humphreys from the Department of Physical Geography. He was one of only 10 scholars Australia-wide selected in 2006 for an American Australian Association Fellowship.

“This year’s Fellows are top scholars who stood out amid a formidable field,” said Malcolm Binks, Association Chairman.

For his part, Marshall is relishing the opportunity to expose the ideas developed by himself and his predecessors at Macquarie to a wider audience for critique and appraisal.

“The Fellowship will enable me to study processes of soil formation in south-eastern USA, an area which has soils that are, at face value, similar to those we’ve studied in south-eastern Australia,” he says. “Should similar processes be responsible for the dominant soil characteristics in the two regions, it would suggest the understanding of soils developed by Macquarie University researchers may well be a powerful explanatory model for soil formation in many parts of the globe.”



Dr Marshall Wilkinson

Macquarie to RAMP up Australian research collaboration

Australian universities, government departments and other institutions will be able to perform collaborative research and share their work with each other more easily thanks to two innovations developed at Macquarie University that are enhancing education and research around the world.

With Australian Government funding, the Macquarie E-Learning Centre Of Excellence (MELCOE) developed the Meta Access Management System (MAMS) to help institutions “talk to each other” in a trusted and secure way despite their technological differences.

In a parallel project funded by Macquarie University and international partners including Oxford and Cambridge Universities and the New Zealand and UK Education Departments, MELCOE developed the Learning Activity Management System (LAMS) – a workflow system for collaborative online learning activities.

These two successful systems will now be further developed and expanded to help Australia’s combined research effort under the Government’s *Systemic Infrastructure Initiative*. The Research Activityflow and Middleware Priorities (RAMP) project, to be led by Macquarie, is one of six new projects to receive a combined \$15m to support greater research collaboration.

RAMP, which will receive \$2.9m in funding, will tackle two major infrastructure challenges – sharing information stored in protected repositories across different institutions; and developing an eResearch workflow system to help structure collaborative research tasks across organisations.

“Sharing information securely across disparate organisations is currently inefficient and costly, however work on MAMS has demonstrated that an ‘open standards’ and ‘open source’ approach can be effective using a distributed authentication process which maintains security and privacy,” says MELCOE Director, Professor James Dalziel. “The RAMP project will take this work to the next stage and develop robust technology solutions that can be adopted by a wide range of digital repository systems.

“Likewise, the ‘Learning Design’ approach that forms the basis of LAMS, which enables educators to share, re-use and adapt lessons electronically, will give us an excellent starting point for examining and modelling the range of workflow processes involved in conducting collaborative research.”

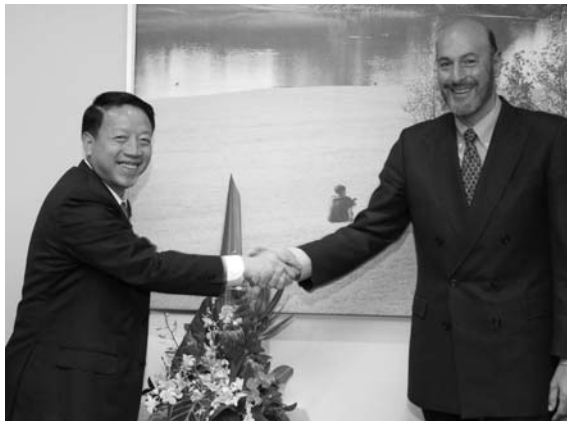


Professor James Dalziel

New PhD scholarship program with Fudan University

Macquarie University recently signed new agreements with a leading Chinese university.

Professor Qin Shaode, Chancellor of Fudan University, Shanghai, flew from China to sign the agreements with Macquarie Vice-Chancellor Professor Steven Schwartz in May.



Fudan University Chancellor Professor Qin Shaode and Macquarie University Vice-Chancellor Professor Steven Schwartz celebrate the signing of the new agreements.

“After 100 years, Fudan has become a research-oriented university... Macquarie and Fudan have the same destiny, the same aims – this is a very good foundation for the two universities,” Qin said.

The first agreement enables a new Macquarie-Fudan PhD Scholarship Program, whereby 12 Fudan PhD scholars will study at Macquarie, and encourages research collaborations between the universities.

Another agreement will allow Macquarie students to undertake exchange programs at Fudan University, and vice versa. Students will be able to take subjects in Chinese business and culture, and study for four weeks or a whole semester.

The Chinese Ambassador to Australia, Madame Fu Ying, was a special guest at the signing ceremony.

“I am very happy that Macquarie, a very prestigious university in Australia, and Fudan, which prides itself on its international efforts, have come together,” she said. “I think Australia will soon become the number one destination for Chinese students... (and) I hope to see many more endeavours like this very soon.”

Scholarships help rebuild Aceh

Most people undertake postgraduate study to specialise within their profession or to advance their careers, but two new Macquarie University masters students have an even greater motivation.

Iskandar Abdul Samad and Siti Sarah Fitriani are both English teachers at Syiah Kuala University in the Indonesian province of Banda Aceh, which lost 217 staff and 961 students to the 2004 tsunami.

The married couple arrived at Macquarie in August to each begin a Master of Applied Linguistics. Siti is supported by a Macquarie University Tsunami Peace Scholarship, and Iskandar by an Australian Government Australian Partnership Scholarship. Both scholarship schemes are designed to help Indonesian reconstruction and development efforts with a long-term emphasis on economic and social development.

The couple was fortunate to avoid the tsunami, as they were making the pilgrimage to Mecca when it hit.

“I thought I had lost all my family and all my friends,” says Siti. “When we left Banda Aceh everything was normal,” Iskandar says. “When we

came back everything was horrible. That was the saddest moment.”

Both are now determined to help rebuild their city using their own skills.

“Our university is the oldest on Aceh and it was known as the heart of the island,” Iskandar says. “I hope I can gain knowledge at Macquarie and transfer it to my students.”



APS and Tsunami Peace Scholars Iskandar Abdul Samad and Siti Sarah Fitriani.

Diamonds are forever? You have to know where to look...

Australia – once a world leader when it came to producing diamonds – is now facing a diamond drought as our biggest mine starts to dry up. But if Macquarie University's Dr Craig O'Neill – who has just been named Young Scientist of the Year 2006 – has anything to do with it, our diamond industry could soon return to its former glory.

By studying how and where diamonds form, disappear, and re-form, O'Neill and his colleagues at the National Key Centre for Geochemical Evolution and Metallogeny of Continents (GEMOC) are gaining valuable insights into where new diamond deposits are likely to be found.

By combining laboratory results on the behaviour of rocks and diamonds under pressure, GEMOC have been able to simulate using computers the conditions deep under the Earth's continents, where diamonds form. Their results suggest that diamonds may be much more widespread than previously thought.

"The challenge is actually getting them to the surface," says O'Neill. "That requires a very violent type of volcanism called kimberlites. These are like geological atomic bombs. Fortunately they're pretty rare.

"In order to find diamonds at the surface you need both diamonds deep underground and kimberlite volcanism. That seems to happen mostly where thick and thin pieces of continent are sandwiched together."

In Australia, this occurs in a broad swathe from the Kimberleys in Western Australia, across the Northern Territory to southwest Queensland.

In the past, Australian mining companies have wasted many millions of dollars looking for diamonds in all the wrong places, but those days may soon be over.

"We hope our work can help the Australian industry find more diamonds and grow to become the biggest in the world again," says O'Neill.

O'Neill recently presented the team's findings in Melbourne as part of an annual national program called Fresh Science, which helps early career scientists promote their discoveries to the media and the public.

Dr Craig O'Neill



A rare chance to view *The Chroma Collection*

This exhibition is a rare opportunity to not only celebrate works by famed Australian contemporary artists, it is also a celebration of paint itself.

From the personal collection of Jim Cobb, who is the founder of innovative paint company Chroma, each of the works have been painted using products created by Chroma.

Cobb is an artist's dream – committed to producing paint of the highest quality, he has spent 40 years experimenting with the making of paint so that it adapts to the changing needs of artists.

The first public viewing of many of the pieces from this collection, the exhibition features works from Elisabeth Cummings, Emily Kngwarreye, Euan Macleod, Idris Murphy, John Peart, Rollin Schlicht, Louise Townsend, John R Walker, Roy Jackson, Adrian Lockhart and Dick Watkins.

Artist John R Walker echoes many of the sentiments expressed by artists familiar with Cobb saying:

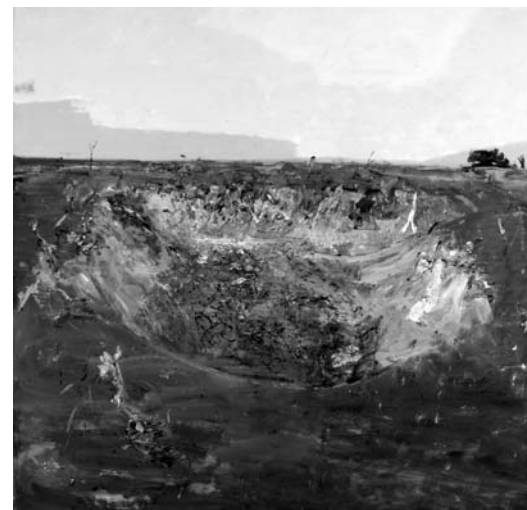
"Being able to collaborate with a man obsessed with making paint and passionately interested in

listening to the needs of someone like me has been a great privilege. Jim has often provided me with test batches to try, has at times personally formulated special types of paint to try to match the sort of thing I can imagine but not make and of course, has been a very active buyer and supporter of Australian painting."

The Chroma Collection is on display at the Macquarie University Art Gallery until 6 October.

For further information visit www.artgallery.mq.edu.au

Dry Dam by
John R Walker



Healing ourselves through mindfulness

Dr Jon Kabat-Zinn, a scientist, writer and meditation teacher engaged in bringing mindfulness into the mainstream of medicine and society will be giving a special public talk at Macquarie University on his first Australian visit.

In the talk, titled *Coming to our senses: Healing ourselves in ways little and big through mindfulness*, Kabat-Zinn will discuss the practice of mindfulness and its far-reaching benefits to the mind, body, health and well-being. He will also demonstrate the relevance of mindfulness to the struggles we often find ourselves in, and for the embodiment of balance, well-being and wisdom in our lives.

"Mindfulness practice cultivates intimacy with one's own mind and body, and through that, self-understanding, healing and transformation," he explains. "In large measure, it is practiced by literally coming to our senses, over and over again."

Kabat-Zinn is the founding director of the Stress Reduction Clinic and the Center for Mindfulness, Health Care and Society at the University of Massachusetts Medical Center, USA. He is also the Vice-Chairman of the Board of the Mind and Life Institute, a group that organises dialogues between the Dalai Lama and Western scientists.

He is the author of the best-selling books *Full Catastrophe Living*, *Wherever You Go, There You Are: Mindfulness Meditation in Everyday Life* and *Coming to Our Senses*. Books authored by Kabat-Zinn will be available for purchase and signing at the event. He will be giving two other talks and a workshop while in Australia. Visit www.belindakhong.com for further details.

When: Thursday 23 November

Time: 6-8pm

Where: Macquarie Theatre, Macquarie University

Contact: Dr Belinda Khong on (02) 9487 8030 or bkhong@psy.mq.edu.au

Macquarie University What's On

Museum of Ancient Cultures Seminar in conjunction with History Week 2006

Kavita Ayer from Macquarie University's Museum of Ancient Cultures will present an illustrated lecture titled, *Bread and circuses? Plight of the poor in ancient Rome*.

When: Tuesday 19 September, 2pm – 3.30pm

Where: Museum of Ancient Cultures, Building X5B, Level 3

Bookings: Not required, free event

History Week 2006 Seminar

Robyn Arrowsmith, PhD student in Modern History will give a lecture titled, *Love and war: Australian war brides' experiences in Australia and the USA*.

When: Wednesday 20 September, 2pm – 3.15pm

Where: Mollie Thompson Room, Macquarie University Library

Bookings: Not required, free event

Music on Winter Sundays Concert

Performed by Helen Lam Winther, solo pianist.

When: Sunday 24 September, 2.30pm

Where: Macquarie Theatre

Bookings: Not required, free event

The Sir Harold Wyndham Memorial Lecture and Dinner

Laureate Professor Peter Doherty AC will deliver a lecture titled *Education, science, the world and all that: Adventures and concerns of a peripatetic scientist*.

When: Friday 22 September, 6pm

Where: Building X5B, Room 292

Cost: \$45, \$35 IER members

Bookings: Essential by 15 September,

Ph: (02) 9850 8663 or anne.mcmaugh@mq.edu.au

Movies at Macquarie – Fact or Fiction?

View a free screening of *The Manual of Love* with the Department of Italian Studies and after the film, join Dr Kirstin Pilz in a discussion about the state of contemporary Italy, the importance of the deep rooted tradition of family and the truth about romance in Italy.

When: Sunday 8 October, 7pm

Where: Macquarie Theatre

Bookings: Not required, free event

For more information about these or other events at Macquarie University, visit the website: www.pr.mq.edu.au/events or contact the Public Relations and Marketing Unit on (02) 9850 6079.

Sign Language Interpreting: Theory & practice in Australia and New Zealand by Jemina Napier, Rachel McKee and Della Goswell

Sign Language Interpreting is the first book of its kind to address the subject of sign language interpreting from an Australasian perspective.

While the established body of knowledge developed by sign language interpreters from the northern hemisphere offers a solid basis for Australasian professionals, a number of recognisable differences in context and approach has highlighted a need for a more localised publication.

This stand-alone book therefore integrates the best of current international knowledge with an understanding of local languages and communities, and the contexts and conditions that Australasian interpreters work in.

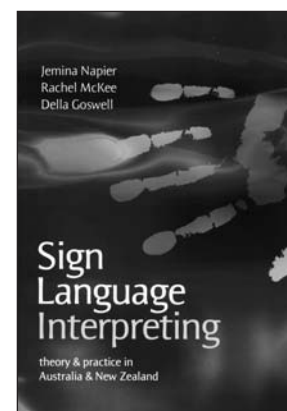
An introductory text, it provides an overview of the sign language interpreting profession in Australia and New Zealand, and introduces current perspectives on theoretical and practical aspects of the profession.

The authors, each of whom are sign language interpreter educators, draw together insights from experience, research findings and a body of

professional knowledge. They discuss topics such as the interpreting process, the role and knowledge base of interpreters, professionalism and ethics, and the challenges and strategies for working in a variety of different settings. Consideration is given to some specialist interpreting skills such as team interpreting, legal interpreting, and telephone and video relay interpreting.

Written in a clear and engaging style, each chapter guides readers through some of the key issues in the profession, and provides 'thought questions' as a reflective tool.

The Federation Press
www.federationpress.com.au



Teaching English From a Global Perspective edited by Anne Burns

Back in 1950 the notion that English would one day become the world language was little more than a theoretical possibility. However, half a century later the global spread of English has been rapid.

To be an English language teacher today is to play an inevitable part in the globalising of English. This volume canvasses some of the major themes and questions challenging the new worlds of English Language Teaching (ELT) that are posed by the phenomenon of a global English. These questions include:

Whose language? English speakers today are more likely to use English with multilingual speakers than with monolingual speakers.

Which speakers? Emphasising the second language user rather than the native speaker shifts the focus to the realities of global uses of English.

Which language? English teachers are increasingly challenged to help learners select the most appropriate variety of English for different circumstances.

Which standard? Learners' rather than teachers' English-language-using contexts will increasingly

be the main reference point for learning.

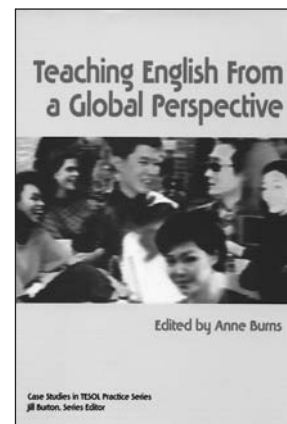
Which teachers? Language teaching professionals should challenge the prevailing dichotomy of native versus non-native-speaking teachers.

Which approaches? Teachers should consider which methods are most appropriate for the varieties learners need and expect in their local contexts.

Which texts? To teach from a global perspective, teachers need to help students navigate evolving forms of discourse, text, and visual image.

The contributors to this volume explore the complex dimensions of teaching English as a global language in interesting and enlightening ways, provide numerous practical suggestions for taking them forward in the classroom and suggest a number of immediate redirections of thinking for practitioners working in the worldwide field of ELT.

Teachers of English to Speakers of Other Languages, Inc
www.resol.org/



Three-second memory? It's a fishy fallacy

Over the years fish have endured an unjust reputation for being essentially no smarter in the water than they are on the dinner plate. However, it seems that humans are finally coming to realise what fish have known all along – that the infamous three-second memory gibe and associated stupidity is nothing more than a fishy fallacy.

Ten years of research by renowned fish expert and Lecturer in Biology at Macquarie University, Dr Culum Brown, is not just helping to close the net on the common misconception that fish are dumb, it is actually going a long way to illustrate that fish are as socially adept as monkeys and elephants.

“The three-second memory theory is a very interesting one,” he says. “I don’t know where it comes from but all around the world people have this idea that fish do a circle of the goldfish bowl and by the time they get round to the other side they’ve forgotten so everything’s always new. It’s completely ridiculous that an animal could survive without a memory!”

Brown’s research has looked at the role of learning and memory in fish behaviour with a particular focus on their foraging and navigation abilities, and their anti-predator responses.

One study involved monitoring the escape responses of rainbow fish to large trawl nets. Brown and his team ran a scaled-down net with a single hole along a set of railway tracks in a three-metre fish tank and noted how long it took the fish to figure out where the hole was.

“Without any prior experience the fish learned where the hole was in about five runs,” he says. “More interestingly, when we tested them a year later their performance was almost exactly the same as it was by the end of their learning trials the year before. This shows that they retained the information regarding the location of the escape route in their memory and recalled it a year later actually performing at peak from the first go.”

A second study also looked at predator escape responses, but this time Brown used intertidal gobies. At high tide these fish leave the safety of their rock pool and forage across the intertidal zone. At low tide they return to their pool to avoid predators. When Brown visited these fish at low tide and scared them out of their rock pool they dived directly into a neighbouring pool.

“They knew exactly the location of all the surrounding rock pools which is pretty impressive,” he says. “This suggests that fish are able to form mental maps similar to those people use when planning a route to a familiar destination.”

Brown is also interested in social learning – how animals learn by observing or interacting with one another – amongst fish. By mapping fish interactions he hopes to be able to predict how novel information moves through schools of fish.

Brown’s research could prove very valuable to the fisheries and aquaculture industry.

“Currently fisheries spend a lot of time estimating fish stocks, which they do from a modelling perspective, but all of these models assume that fish don’t learn which we know is clearly not the case,” he explains. “We know for example about gear shyness, where fish learn to avoid nets, but they can also learn to recognise vessel noise and avoid them. This has implications for estimating fish stock numbers.”

To help increase post-release survival of captivity-bred fish, Brown hopes to train fish to recognise predators and wild food.

“Using social learning protocols fish can be trained en masse and then used to train other fish,” he says. “What we’ve found is that the latter groups of fish learn more rapidly when they are placed with trained fish.”

Brown has co-authored a book – *Fish Cognition and Behaviour* (Blackwell Publishing) – which will be available from October.

