

# MANSW CONFERENCE

## 8-10 September 2006

### PRESENTERS in alphabetical order

Karen Ahearn Carla Gagliano	Primary K-6	Is What You Know the Way to Go?	As classroom educators many primary teachers will reflect on their personal experiences as a learner in order to make sense of the knowledge and understandings that they wish to impart to their students. Reflection will often form the basis of instruction. However, can the remembered experiences of a learner translate to effective teaching practice or does one need to look beyond their own learning experiences to develop as an educator of Mathematics? This workshop is designed to encourage teachers to ponder their own mathematical journey and to consider how their own learning may impact on the students in their classroom.
Karen Ahearn Georgina Havadjia	Primary K-6	Looking Back and Moving Forward	Providing a differentiated curriculum is recognised as an essential component of addressing the individual needs of students. However, what is the basis on which we as teachers explore prior learning experiences so that a connection is established between student understanding of concepts and the development of more refined and abstract methods of mathematical process? This workshop looks at a Year 3 teacher's journey from an Infants classroom to Year 3 and how her teaching experiences have enhanced the development of Stage 2 outcomes. Specific student worksamples will be explored.
Tony Allan	Secondary 7-12	Arithmetika - TestMaker and Cheetah - TestTaker. See for yourself the difference they make!	Delegates will have the opportunity to see for themselves how Arithmetika or the Homework Cheetah are making a real difference in strengthening and building students' maths skills whilst remaining an enjoyable and captivating activity. Teachers select ready made tests and worksheets or design their own and assign them to students to take on a PC anywhere - at home, in the lab or classroom. Students learn from their mistakes, teach each other and prefer the anonymity of the computer as "the test administrator".
Tony Allan	Secondary 7-12	Individualising Assignments whilst reducing marking	The presenter hates marking assignments where copying cannot be ruled out so has developed a range of techniques using spreadsheets to generate 'different' questions of equivalent difficulty for each student - with solutions automatically calculated. He will bring examples and share the techniques that have made assignment marking once again 'enjoyable'.
Judy Anderson	Secondary 7-10	Bright Ideas in the Years 7-10 Syllabus: Implementing Working Mathematically	There are many "bright ideas" in the new syllabus that support student engagement when learning mathematics Have you explored the possibilities yet? In the Working Mathematically column, there are many good suggestions which will. be explored during the workshop
Richard Andrew	Secondary 11-12	Graphics calculators in General Maths - The beginners journey (2006)	Graphics Calculators in General Maths - The Beginners Journey (2006) Should you, or should you not introduce Graphics Calculators in General Maths ... THAT is the question!! Well, if that is your question, this session is for you. This session is also for teachers who are using Graphics Calculators but are only moderately confident with using them. I will cater for both absolute beginners AND teachers who have a moderate understanding of them. If you are a relatively confident user this session will be too basic for you! We will cover both 'How to drive the thing' and issues in regard to the decisions which need to be made when considering introducing Graphics calculators. NOTE: CASIO Graphics Calculators will be used in this session.

Richard Andrew	Secondary 7-12	Investigating Mathematics with Graphics Calculators (Casio Graphics Calculators, General Mathematics mainly)	I believe there are 2 distinct stages that teachers move through when first learning to teach using Graphics Calculators. The first stage is learning to 'drive' the Graphics Calculator. At this stage teachers are on a steep learning curve and hence tend to stick to using Graphics Calculators to answer questions. The second requires more competence. In this stage Graphics Calculators can be used to investigate, inquire ... to better teach maths. It would be a great pity if a teacher, competent with the functions of a Graphics Calculator, never progressed to the second stage with his/her students. This session is for teachers who are 'moderately familiar' with Graphics Calculators and who are looking for examples of investigations especially relevant to General Maths (but also to Years 9 and 10).
Janine Angove	Secondary 7-10	Open investigations and practical activities from HOTmaths	Many classrooms have limited access to technology, so many online resources are not able to be used. However, the flexible nature of the HOTmaths Learning System allows for a wide range of uses in your classroom. This workshop will look at open tasks and practical activities from HOTmaths, and explore how they can be used in the classroom. Participants will receive a variety of tasks, and ideas on how to incorporate them into their program.
Stephen Arnold	Secondary 7-12	Exploring algebra - geometrically!	Interactive geometry software has been around now for over a decade, but did you know that it can be a powerful tool for the teaching of algebra at all levels. This workshop presents some popular algebraic modeling problems which are approached in an active, experimental way using geometry software.
Stephen Arnold	Secondary 7-10	Integrating Mathematics and Science in the Middle Years	The growing popularity of middle schooling brings with it many challenges. Importantly for teachers of mathematics and science is the question of how to bring a truly integrated approach to middle school classrooms. This presentation explores some of the issues associated with this challenge: Is integration desirable? Is it even possible? How should we plan for the most effective learning experiences for our students?
Paul Ayres Suzanne Walker	Secondary 11-12	Should Graphics Calculators Use be Compulsory in Stage 6 Mathematics Courses?	Many advocates of graphics calculators believe that they should not only be a mandatory teaching and learning aid, but also be used in examinations, consistent with some other States in Australia. This presentation explores some of the issues connected to graphics calculators, and critically examines the research base supporting their use.
Paul Ayres Peter Brown Milan Pahor Catherine Wong	Secondary 11-12	The Value of HSC Mathematics Courses in Preparation for Tertiary Study	To assist in the review of the Stage 6 mathematics courses, a survey of University Mathematicians in NSW and the ACT was completed. Participants were asked to comment on the value of the content in each of the calculus- based courses, as well as other key issues such as technology and assessment. Academics were also asked about the required and preferred level of mathematics study as appropriate preparation for a wide range of tertiary mathematics courses, and what topics, if any should be added to the Stage 6 courses. The results of this study will be presented.
Mary Barnes	Secondary 11-12	Financial Maths with a Graphics Calculator	Now that graphics calculators can be used in the General Maths HSC exam, it's time to look at how they can help with financial maths. The Finance Application on the TI-83/84 Plus allows students to carry out, quickly and easily, calculations of compound interest, depreciation, annuities and loan repayments. It is easy to change one or more parameters to investigate different scenarios. This session will introduce teachers to the Finance Application, discuss practicalities, and suggest learning activities. Calculators will available for participants' use, and notes will be provided. No previous experience with TI graphics calculators is necessary.

Mary Barnes	Secondary 7-10	Dynamic Geometry and Trigonometry on a Graphics Calculator	There is now an application for graphics calculators that enables you to carry out, using hand-held calculators, geometric investigations that formerly required access to a computer lab and special software. In this session, participants will be introduced to CabriJr on the TI-83/84 Plus, and try out some activities suitable for Junior and Intermediate students, including investigative in coordinate geometry and trigonometry. Calculators will be available for participants to use, and notes will be provided. No previous experience with TI graphics calculators is necessary.
Dawn Bartlett	Secondary 7-10	How come you're the only teacher in maths that gives assignments?	A workshop using students' assignments to show how students can be challenged and extended mathematically in a small rural high school. The students' use of marking criteria will be discussed, and the question, "How come you're the only teacher in maths that gives assignments?", commonly asked by students will be answered.
Janette Bobis	Primary K-6	Empty Numberline: Computational tool or meaningless procedure	The empty number line is a relatively new tool for assisting children to acquire mental computation strategies. This presentation will examine the ways it is introduced and understood by teachers and children to determine if it is effective or just another procedure for children to learn.
John Brodie	Primary K-6, Secondary 7-12 and Post-secondary	So what's wrong with geometry?	A report on research into background factors affecting success in geometry.
Jenny Brown	Secondary 7-12	Developing a Technology Integration Program for the Mathematics Classroom	The presentation will cover my journey in developing a very comprehensive technology program that is now in its third successful year. How and why it was developed, the problems experienced in the developmental stages and catering to the needs of staff, students and the curriculum, and the ongoing evaluation of the program.
James Burnett	Primary K-6	Using visual models to develop number fact strategies	Simple visual aid and models should be used to help students form a mind picture that links to the thinking strategy. This session will demonstrate the use of these aides and show how the thinking strategies can be generalised and extended beyond the number fact range.
Douglas Butler	Secondary 7-12 and Post-secondary	Making WORD Mathematically Friendly	A look at making the best use of characters in the Unicode font, taming the magic of Auto-correct, customising the toolbars for mathematics, and getting the best results from the drawing toolbar. Creating hyperlinks and saving graphics and text off the web
Douglas Butler	Secondary 7-12 and Post-secondary	Autograph for teaching probability and statistics	Autograph is used extensively in UK schools to help visualise basic concepts in probability and statistics through discrete and continuous distributions. A wide variety of diagrams can be created from raw data and grouped data, including the correct representation of histograms and the option of frequency or frequency density. All objects dynamic and parameters can be varied to create very effective learning environments.
Douglas Butler	Secondary 7-12 and Post-secondary	Autograph for teaching pure mathematics in 2D and 3D	Autograph is used extensively in UK schools to help visualise basic concepts in pure mathematics using dynamic dependent objects on screen. This workshop will look at the quadratic function, trigonometry, calculus - and some fun things to do in 3 dimensions, including Volumes of Revolution.
Maree Camilleri Nichola Perkins	Primary K-6	Online learning materials supporting Maths K-6	An overview of learning materials available through the Centre for Learning Innovation (DET), including print and multimedia resources.

Emma Campbell	Secondary 7-12	Using Word for Worksheets and Assessments	Learn about advanced features and shortcuts when using columns, tables, breaks, tabs, outline numbering, Equation Editor and the drawing toolbar. See how to save time by creating auto-corrections, customising toolbars and setting your own shortcut keys. Other useful tips discussed for creating professional looking worksheets and assessments Detailed class notes provided..
Michael Cavanagh	Secondary 7-10	Secondary teachers' responses to the new syllabus	In 2005 I investigated how teachers were using the new Mathematics 7-10 Syllabus and what they thought about it. Questionnaires were sent to approximately 480 schools across the state and 39 teachers were interviewed. In this session I will present some of the important findings of the study.
Anita Chin	Secondary 7-10	Developing a Stage 4 unit of work to cater for students in a mixed ability class	This hands-on workshop will provide practical ideas for implementing a unit of work which caters for the full range of abilities in Stage 4 classrooms. Our adventure will begin with bright ideas for lesson starters and nifty topic starters incorporating literacy activities! We will then venture into the wonderful world of concrete materials in the Number strand where teachers will participate in activities which only require one resource for their whole class - what a bright idea! Tips and tricks for managing resources as well as students will be discussed. Black line masters and a CD of resources will be included in the workshop package.
Anita Chin	Primary 3-6 and Secondary 7-8	Fun for tomorrow with concrete materials today	This hands-on workshop will provide practical ideas for implementing concrete materials (including dice and counters) into your mixed ability classroom tomorrow. The focus will be on strategies for using concrete materials effectively in the Number and Patterns and Algebra strand to support learning in the middle years mathematics classroom. Teachers will participate in activities which only require one resource for their whole class. Tips and tricks for managing resources will be demonstrated so teachers can learn today and use tomorrow. Black line masters and a CD of resources will be included in the workshop package.
Nick Connolly	Primary K-6, Secondary 7-12 and Post-secondary	The Word Worlds of school Mathematics	Mathematics might not be quite the universal language it is sometimes portrayed as. This session will look at how we use some words in maths teaching and how those words shape what we think, how we teach and what students actually know. <i>Nick Connolly designs mathematics tests and competitions for Educational Assessment Australia</i>
Tobias Cooper	Secondary 7-12	Teaching Secondary Mathematics on an Interactive White Board	The interactive white board (IWB) is a dynamic new teaching tool. The creative possibilities are limited only by your imagination. I will show you how concepts spanning from Y7 to Y12 Extension 1 can be presented in a unique and dynamic way that has not been possible before. You will see how an IWB can make your teaching easier and more efficient
Tobias Cooper	Secondary 7-12	FX DDraw 3 - The newest, most amazing software for maths teachers you could imagine (Part 1)	Fx Draw 3 is incredible. The improvements from FX draw 2 are immense. The new features are simply mind blowing. FX draw 3 is software with dynamic geometry and graphing capabilities. It also does virtual geometric constructions. The possibilities are limited only by your imagination. This software is so well designed it is dummy proof. Come and have some fun. (2 hour workshop)
Tobias Cooper	Secondary 7-12	FX DDraw 3 - Part 2)	2 hour workshop

Peter Coutis	Secondary 7-12 and Post-secondary	Crossing the chasm: What should we be teaching in Extension Mathematics?	With a review of the HSC Extension courses now underway, it is an opportune time to engage in discussion and debate about the content, emphasis and assessment of the revised courses. In this presentation I will draw upon insights gained as both a university academic and high school Head of Mathematics to propose an alternative vision, one that has modelling at its core, a heavy emphasis on applied Mathematics and the efficacious use of technology. I will put forward a case for inclusion of methods and thinking, traditionally reserved only for university students as a means for winning the hearts and minds of our best and brightest over to Mathematics.
Stuart Crawford Kala King Toula Takins Trish Trivas	Primary K-6	Quality Teaching in Maths; One School's Journey	Trish Trivas, Toula Takis, Karla King and Stuart Crawford from Coogee Public School, present their journey to date in developing rich Maths tasks, embedded in the QT Framework. Participants will benefit from hearing about their experience in developing and using open-ended questions and narrative, to promote student engagement.
Angela Curnow	Secondary 7-10	Maths teaching in an isolated rural school	The positives and negatives of being the only maths teacher in an isolated (CAP) funded school. An outline of what CAP funding does for its schools and how to incorporate it into the Mathematics syllabus. Ideas on how to deal with small class numbers, incorporate primary years occasionally and generally what has worked, what hasn't worked and why these students are different to city students.
Stephen Curtis	Secondary 7-12	Mathematics Examinations in NSW at the end of secondary schooling from 1850 to 2005	High Stakes examinations used to gain entry to universities have been a formal process in New South Wales since University of Sydney was founded in 1850. This paper reviews mathematics examinations used at the end of secondary schooling from 1850 to 2005 with a special focus on the Leaving Certificate from 1939 to 1962. Relevant examination papers were analysed to identify changes that took place during this period; furthermore reasons for these changes will be discussed.
Allison Davis	Secondary 7-8	Investigations and Projects in Stage 4	An investigation may be the spur for getting students involved and interested in Mathematics. In this session I will be showing you what I think are the benefits of doing an investigation or project in Mathematics. I will talk about how to get started and give some hints to motivate your class. I will show you some successful projects that have been entered into MANSW's Investigating: Mathematics
Lloyd Dawe David Tynan	Secondary 7-10	Thinking mathematically: developing manageable tasks for teachers	One of the difficulties in teaching and encouraging students to think mathematically is the demand to "get through" content in a restricted period of time. This demand is closely tied to assessment and reporting. Teachers need enjoyable, purposeful and manageable tasks that work within such constraints. This session addresses that need, sharing some recently written innovative tasks for teachers interested in increasing the effectiveness of their students to think mathematically. The tasks are written for students in stage 4, but easily adapted for stage 5. Teachers will have opportunity to work through the tasks, and assess their suitability for their students.
Trish Fisher Judy Anderson	Primary K-6	Assessing the Working Mathematically in Students' Responses to Rich Tasks	This workshop will present a range of strategies for assessing Working Mathematically. In addition, student work samples will be used to ascertain the usefulness of a generic rubric for assessing Working Mathematically.
Peter Fox	Secondary 11-12	An area to investigate	This is a hands-on workshop that incorporates technology to investigate areas bounded by curves. Students generate data, determine equations and subsequent maximums. The nature of the activity provides for independent student exploration and enormous potential for further investigations.

Peter Fox	Secondary 11-12	Explorations with a difference	This is a hands-on workshop introduces students to a range of calculus concepts. Students use technology to explore and model functions and develop a deeper understanding calculus. Numerical data, difference tables, geometry and algebraic manipulative tools provide a range of representations and cater for a large range of learning styles.
Peter Fox	Secondary 7-12	A little piece of PI	Ever thought of using basic probability to teach students about PI? The Monte Carlo technique is a great way for students to discover the formula for the area of a circle. A combination of hands-on activities and computer simulations provide for greater understanding. The technique can also be used to introduce Integral Calculus.
Thomas Garvey	Secondary 7-12	Playing some games on Geometer's Sketchpad	The idea with games is to motivate children to engage with he concepts and to learn and practice concepts. These are files I composed for the program myself.
Kevin Gosbell	Secondary 7-12	Applications of Spreadsheets	Participants will use Excel spreadsheets in a class type situation to solve traditional calculus problems, to understand parametric equations, solve time payment problems and rotate triangles.
Jim Grant Jan Glazier Ed Lewis	Primary K-6	Investigating the voices of students in the planning of future learner-centred programs in Mathematics	This joint project involved a survey of Stage 3 students in Western Sydney schools in order to determine their perceptions of current teaching and learning and their classroom environments. Information gained from the survey has enabled focus on pedagogical change since the advent of the NSW K-6 Mathematics Syllabus (2002).
Tal Greengard	Secondary 7-10	Creative use of technology for Stage 4 students	We will explore some interactive and creative mathematics activities for students in Stage 4. Each activity involves the use of technology, group work and involves some creativity on the part of students.
Boris Handal	Secondary 7-12	My Pascal's Triangle	<i>My Pascal's triangle</i> is a multimedia resource which consists of several modules on various applications of Pascal's triangle in numbers and patterns (Stage 4 and 5), binomial expansion and binomial probability (Stage 6 –Extension 1). Pascal's triangle acts as the central theme around which curriculum topics are organised. Learning activities are highly interactive and are designed to supplement and enrich classroom activities for junior students as well as for Extension 1 students. The activities provide visual representations of cognitive tasks associated with the topic within an autonomous, engaging and investigative learning environment. Participants will get a free CD.
Anthony Harradine	Primary 3-6 and Secondary 7-8	Can your students go on the ride?	Discover how your students can transform a basic measurement class into a fun and engaging problem solving activity. Learn how students can survey their class heights and compare their results with the heights of students across Australia, using CensusAtSchool data and MS Excel. They can use the data to investigate who can go on a ride that has a height limit. This session covers basic Excel skills and is suitable for the novice Excel user and for any teacher wanting to incorporate statistics more meaningfully into their mathematics program.
Anthony Harradine	Secondary 7-10	Engage your students in bivariant relationships using CensusAtSchool data	Turn your classroom into a forensic headquarters and explore whether a foot print left at a crime scene belongs to the person in the camera image. In the session you will use MS Excel to draw a scatter plot of the relationship between belly button height and height. The data used will be real, raw data from students across Australia. Teachers do not need to be familiar with Excel. This is an opportunity to for you to use the CensusAtSchool data that will be available to your students.

Anthony Harradine	Secondary 11-12	Making Sense of the Fundamental Theorem of Calculus	A learning sequence that assists students to develop an genuine understanding of the Fundamental Theorem will be presented. A hands-on workshop in which the sensible inclusion of electronic technology makes some previously not possible for many students - possible.
Anthony Harradine	Secondary 7-12	Mental Algebra - how can we support students to develop it.	Certain algebraic manipulations (expanding, solving equations etc.) are as important as mental arithmetic, but many students find it hard. Algy 1 is a piece of software in which students can enter successive lines of algebraic working and have Algy 1 check the working. The feedback is immediate and focuses on the working, not the final answer. Algy encourages students to experiment and persevere as they can edit their working and have Algy check it again and again. Come and experiment; Algy 1 is freeware.
Peter Hickey	Secondary 11-12	Technology in my General Maths classroom	This session will showcase some of the technology I use in my General Mathematics classroom. I'll use graphing calculator wireless networking with TI Navigator and PowerPoint.
Kate Highfield	Early childhood and Primary K-2	Using ICT to develop early patterning and algebraic reasoning with young children	This presentation presents current ideas arising from research into young children's use of ICT tools, such as KidPix and Virtual manipulatives, and the development of patterning skills. Developing Mathematics K-6 outcomes of Early Stage 1 and at Stage 1, this session presents some problem solving tasks that promote patterning and algebraic reasoning skills in an open-ended, working mathematically approach.
Samantha Hornery	Primary K-6 and Secondary 7-12	Numeracy Based Learning Difficulties	Children in classrooms often experience difficulty with mathematics. One of the reasons this may occur is that the child has a learning difficulty. Learning difficulties make it challenging for children to cope with the complex concepts in mathematics. This session will present good teaching ideas and address the following questions: What is a learning difficulty? Why is Maths hard? How do you identify a learning difficulty?
Rebecca Hudson	Secondary 7-12 and Post-secondary	Bridging the Gap between High School Mathematics and First Year University Mathematics	This paper will explain why most students lack the basic skills in Mathematics when enrolled in university degrees. The basic skills test in first year university Mathematics result conducted by the University of Wollongong will also highlight the areas of concern of majority of students. To the secondary school teachers in Mathematics, this presentation will give an eye-opener of what areas or topics to address in high school Mathematics teaching and learning. My experiences as a secondary Mathematics teacher and university Mathematics tutor/lecturer will be shared to the participants. My intention is to guide secondary school teachers to better prepare students to embark on university degrees like sciences, medicine and engineering courses.
Karen Hughes	Primary 5-6 and Secondary 7-8	FLEXIMATHS - A new approach to middle school learning	A lively look at a flexible new resource for teachers of Year 7 content. Issues addressed include teacher time pressures, interruptions to classes, teaching junior classes without knowledge of senior school content, needs and issues of weak mathematics students, provision of enrichment and extension, developing consistency between classwork, homework, revision, assessment, diagnosis and reporting, dealing with student and teacher absence, and practical ways to address acceleration/modification of content. Participants will use sample resources and may choose to take trial copies at the end of the session.
Janet Hunter	Secondary 7-12 Gifted and Talented	Fibonacci, the Golden Ratio and other Curiosities	This session will explore the relationships between the Fibonacci sequence, the Golden Ratio and a variety of other areas of mathematics including Chaos Theory, Continued Fractions, Constructions and Complex Numbers. Activities suitable for gifted mathematics students from Years 7 to 12 will be presented.

Ian Iredale Peter Garside	Secondary 7-12	New Ways to Think Spatially	Simple software, designed for the surveying profession is being used in the mathematics classroom. Features of this program will be presented (bearings, map design, scale, field work, etc). The Institution of Surveyors website has been modified to link teachers to a variety of spatial resources to assist them in their teaching role. This will also be presented.
Rosemary Irons	Early childhood and Primary K-2	Young children learn about Patterns and Algebra	Don't be afraid of the idea of algebra for young children. This session supports teachers to learn how pattern work leads to algebraic thinking. Development of pattern experiences and the review of repeating relationship and growing types of patterns will be the focus of this session. Activities with concrete materials and pictorial examples help children learn to generalise.
Calvin Irons	Primary 3-6	Using patterns to develop algebraic thinking	The concept of a function is fundamental to algebraic thinking. This session will demonstrate how the idea of function can be developed from 3 types of patterns - repeating, growing and representational. Participants will learn how patterns are used to develop rules based on the position of "terms" within a pattern.
Nagla Jebeile	Secondary 11-12	Making General Mathematics meaningful	This session aims to provide teachers with teaching strategies and practical activities to engage and motivate General Mathematics students and improve student learning.
Anne Joshua	Primary 1-2	Catering for able students in Stage 1	During this presentation, practical ways to meet the needs of able students will be covered. These include: <ul style="list-style-type: none"> <li>. working mathematically and problem-solving strategies, which enable students to solve non-routine problems,</li> <li>. experiments involving the use of concrete material,</li> <li>. open ended problems,</li> <li>. creative and recreational topics.</li> </ul> The practical teaching ideas in this presentation will enable teachers to teach mathematics in a captivating way in order that the creative and intellectual potential of the more able students in their class may be fully realised.
Anne Joshua	Primary 5-6 and Secondary 7-8	Fun, Recreational Maths, suitable for Maths clubs and Maths lessons	In this session teachers will have a chance to explore and investigate amazing mathematics such as: Curves from Straight lines . Knight's Tour . Happy Numbers . Triangular Numbers . Pascal's Triangle . Spirolaterals.. What is my rule? . Some mathematical curiosities . Billiard tables and the number of times a ball will hit the sides . The four 4's problem . Power cycling . Repeating Cycles . The Tower of Hanoi . Strange Maths Symbols . Square puzzles . Prime patterns and Goldbach's conjectures . Exploring magic squares . Congruence and Modulo Arithmetic . Different bases . Polyominoes. Fallacies These topics are fascinating and will create fun and enjoyment for students while at the same time requiring problem solving at a sophisticated level in some cases. Students of all ability will benefit from being given the opportunity to see the lighter and recreational side of mathematics.

Anne Joshua	Primary 3-6	Practical ideas for teaching able students in Mathematics	During this presentation, practical ways to meet the needs of able students will be covered. These include: challenging questions on all topics of the Primary mathematics curriculum providing opportunity for students' mathematical intuition to be strengthened and to apply higher order thinking skills. working mathematically on challenging problems enabling students to develop strategies and flexibility in problem solving investigations and open ended problems providing students from a wide range of ability to be challenged at their own level. creative and recreational topics like number theory, polyominoes "mathemagic" so that children's curiosity will be aroused and they will enjoy exploring new ideas and be motivated to continue learning on their own From this presentation it is hoped that teachers gain assistance in catering for the needs of able students so they can reach their creative and intellectual potential.
David Keanan-Brown	Secondary 11-12	Working Mathematically at sea	Simpson's Rules (yes there are a few) were taught to merchant seamen who wanted to study the stability of ships. This workshop deals with what was taught, including how Simpson's Rules were applied to ships, why the rules were considered appropriate and how this might be incorporated into a Stage 6 Mathematics lesson as part of the integration topic.
Steve Kelly	Secondary 7-12	Computer based training (CBT) to support class teaching	The talk will cover the rationale for using (CBT) to support class teaching. A brief discussion on the use of LAMS (Learning Activity Management System) will be followed by examples of using LAMS to provide tutorials and exercises using Geometers' Sketch Pad, Excel and Autograph. The talk will conclude with some anecdotal evidence of the effectiveness of this process.
Mick Kerin	Primary K-6	There are three types of Mathematicians	Maths attitudes are often set by the first educators of the children. We often hear a parent say I was no good at maths so I don't think my child will be any good either. Then time is spent trying to reverse the negative attitude. At Ss Peter and Paul's Primary School Goulburn we try to develop a positive attitude from kindergarten by offering a four-phase improvement program. It consists of a Maths Club, Maths Bag, Maths Lessons and Maths Promotion.
Kuldip Khehra	Secondary 7-12	Little ideas for those 'tough students'	Ever got one of those classes that you dread going into? Well here are some little things (all mathematical of course) that have actually worked so you will hopefully end up smiling by the time you leave the room.
Barry Kissane	Secondary 7-12	Bright Ideas about spreadsheets on a calculator	Over recent years, spreadsheets have been increasingly recognised as having a role in teaching and learning mathematics, but have continued to suffer the limitation of requiring access to computers. In this hands-on workshop, we will use the spreadsheet module on the new Casio fx-9860G AU graphics calculator to explore the opportunities it offers for both students and teachers. While extensive spreadsheet experience will not be assumed, those familiar with spreadsheets may see this session as a chance to see which of their bright ideas can be translated to the hand-held context, while spreadsheet beginners are also welcome. No previous experience with this graphics calculator will be assumed.
Barry Kissane	Secondary 7-12	Bright Ideas about geometry on a calculator	Teaching in geometry and space have been less affected by technology to date than other strands of the mathematics curriculum, partly because computer access has been necessary for the use of (excellent) dynamic geometry systems such as Cabri Geometry and The Geometer's Sketchpad. In this hands-on session, we will explore some of the ways in which the focussing on aspects of geometry and coordinate geometry. No previous experience with this graphics calculator or the dynamic geometry systems will be assumed.

Rod Krause	Primary 3-6 and Secondary 7-8	Diagnostic and skill building learning tools for Stages 2, 3 and 4 Number Strand	This session will demonstrate the use of a set of learning tools developed by the presenter to diagnose a student's level of mastery of number skills in Stages 2, 3 and 4 of the NSW Mathematics Syllabus. The software applications also provide extensive support for remediation of areas of weakness. The packages use random number technology bound to strict parameters (Syllabus outcomes) to generate a diagnostic test for each stage so that tests are renewable. Each question is supported with on-line practice and activity sheet generators.
Brian Lannen John Springall Geoff Dix	Secondary 7-12	The Graphics Calculator PD program that worked for our school	This session reports on a professional development initiative that has helped schools incorporate graphics calculator technology into their teaching. The program involved an initial workshop day followed by in-school consultancy support and on-going communication among the learning team. Participants in this session will find out about the program and also workshop some of the activities that we developed in our classes.
Anthony Lantry	Secondary 11-12	Teaching 'Difficult' Extension 1 Topics	Students find Inequations and Induction 'difficult' to grasp - the 'I' topics. Some of my experience will be shared in helping to make these less difficult for students
Anthony Lantry	Secondary 7-12	Curve Sketching: Quick and Easy	Using a Mathaid or template can greatly both speed up and help neat presentation of graphs of all common functions. A Mathaid will be loaned for the workshop.
Janice Lawrenz	Secondary 7-12	Practical Lessons Adapted From The Internet	Why reinvent the wheel? Adapt and use lesson ideas from the Internet. This session will showcase some practical lessons that have been adapted from the Internet and used in the classroom this year. Sample lessons will include building a scale model of an Egyptian pyramid, growing plants from seed and creating 'stained glass windows'. Workshop participants will need to bring a calculator, pencil, ruler, eraser, geometry set, scissors and glue.
John Ley	Secondary 7-10	Spreadsheets Stage 4 and Stage 5	A three year project at Caroline Chisholm College has resulted in the publication of workbooks and CDROMS that cover all the spreadsheet skills and many of the other skills required for the year 10 exam. The books are in over 200 schools. The interactive CDROM demonstrates all the skills, has a glossary of terms and interactive multiple choice tests. Some free copies available as lucky door prizes.
Bruce Llewellyn	Primary 5-6 and Secondary 7-8	Numeracy vs Mathematics	Are the words numeracy and mathematics synonymous? Can numeracy be taught? I am a good mathematics teacher. Does this mean I am a good teacher of numeracy? If numeracy is different to mathematics what can I do in the classroom to reflect this difference?  Throughout the workshop strategies to assist teachers of mathematics to become teachers of numeracy will be explicitly demonstrated. Use will be made of past BST questions and past SNAP short answer questions.
Sharon London	Secondary 7-10	HOTmaths - exciting teaching and learning ideas	Discover a wealth of resources on the HOTmaths website, and how to use them. For teachers, students and parents - practical, informative, motivational and effective. Covers the curriculum and includes investigations, animations, interactives, computer-marked assessment items. Come and find out how to get free teacher accounts.
Christopher Longhurst	Secondary 7-12	Aplets make all the difference	Hewlett Packard graphic and CAS calculators have ready made e-lessons that can be downloaded from the web with worksheets to make mathematics come alive for the students. This technology is available now to all students and it is the way mathematics will be taught in the future. Demonstration, hands-on, teacher resources and a few surprises will be available.

Christopher Longhurst	Secondary 7-12	Technology and the General maths course - How to improve our students marks!	The technology is now readily available at an affordable price for all students from Year 9 to Year 12 to regularly use. Graphic and CAS calculators, used properly, are a great tool for investigation, learning and bringing life to mathematical concepts that students previously learnt but did not understand. Learning maths is not all about passing the exam, but an increase in understanding and confidence leads to this. At this workshop I will provide resources that can be used by teachers and teachers in years 9 - 12 with particular focus on General Mathematics. Plus a few surprises!
John Mack	Secondary 7-12 and Post-secondary	The Tree in Pythagoras' Garden	Pythagoras' result on right-angled triangles is fascinating in itself and becomes even more so when one discovers there are lots of integer triples (a,b,c) giving side lengths for right-angled triangles. More surprising still is learning that all such triples form a tree with three branches at each new fork! And, each branch has a purely geometrical description!! Attendees should bring ruler and compasses.
Peter Maher	Primary 3-6	Making mental arithmetic mighty	This practical workshop will present a structured mental arithmetic program suitable for Years 3-6 students. Strategies to develop addition, subtractions, multiplication and division facts, rounding and estimating, measurement, space and chance skills will be covered as well as the presentation of a range of automatic response games suitable for children in the middle and upper primary school years.
Anthony Mahoney	Secondary 7-12	Practical ideas for teaching Algebra, Probability and Number	A collection of teaching ideas on Algebra, Probability and Number that have worked for me in the classroom. The activities presented include games, puzzles, investigations and interesting ways to introduce a lesson. <i>Anthony is the author of the Motivating Maths Series Blackline Masters</i>
Anthony Mahoney	Secondary 7-12	Practical ideas for teaching senior mathematics	A collection of practical ideas for teaching 2 unit and Extension 1 Mathematics will be presented. All ideas have been tested in the classroom and I have found that they have worked for me. <i>Anthony is the author of the Motivating Maths Series of Blackline Masters.</i>
Colin Marr	Primary 5-6 and Secondary 7-8	An individualised system for an Outcomes-based Curriculum	An overview of an individualised and unitised system for teaching Stages 3 and 4 of the outcomes-based Mathematics curriculum. This is an entire system which allows for school-based referencing ( so no additional costs ); individualised tracking of each students' program; assessments and classroom management procedures. This has been particularly relevant to upper Primary schools and small Secondary schools with wide-ranging ability levels. This system is an essential way that outcomes can be taught and assessed effectively.
Jennie Marston	Early Childhood and K-2	Early Patterning using "Tower Tasks"	TBA
Rachel McCann	Primary K-6 and Secondary 7-8	Make Maths Fun Through Easy Differentiation - Bloomsmath	For each grade (K-8), Bloomsmath is an extension program which augments the existing syllabus. It is a differentiated program for Mathematics which assimilates Benjamin Bloom's six hierarchical cognitive domains with the NSW Board of Studies Mathematics Syllabus. By providing simple lesson outlines in a compact format Bloomsmath will extend students laterally while keeping them on task so teachers are able to spend more time with the students who need individual support.
Karen McDaid Cathy Attard	Primary K-6	Where do I begin? Planning a unit of work in Mathematics	This workshop offers a practical guide to planning an outcomes based unit of work in Mathematics that looks at the curriculum content, possible processes by which that content can be delivered and gives participants an opportunity to create their own product.

Carolyn McGinty	Secondary 7-10	Trigonometry with a twist	Do you remember the first time you taught trigonometry to a class? Reflecting on my own experience , I wonder whether my students gained a sense of the big picture or saw trigonometry as the three buttons on the calculator - sin, cos and tan - that had something to do with triangles. It was time for trigonometry with a twist. This practical workshop will look at twisting trig teaching to cater for all types of learners, focusing on measurement skills and similar triangles. Bring your calculator along! Participants will receive a CD of the unit of work.
Jamie McKenzie	Primary K-6	Solving Maths Mysteries	Following up on his keynote, Jamie will engage the group in hands-on maths challenges that can be used with young children to develop inferential reasoning skills as they are asked "What is the story here?" He will ask participants to wrestle with databases and puzzling situations meant to spark curiosity and inspire a sense of wonder.
Jamie McKenzie	Secondary 7-12	The Power of Numbers to Explain and Predict	Following up on his keynote, Jamie will engage the group in hands-on maths challenges that can be used with older children to develop inferential reasoning skills as they explore relationships between variables. Participants will wrestle with databases to determine the level of association between key factors. He will introduce the group to the notion of slam dunk digital lessons as an effective way of involving students with rich data sets.
Michael Mitchelmore Heather McMaster	Secondary 7-10	Working Mathematically with Patterns and Algebra	Patterns and Algebra is essentially a process strand embedded in every strand of the syllabus. Patterns are seen in the Space and Geometry strand, graphed in the Data strand, and used to derive formulae in the Measurement strand. In fact, mathematics has been called "the study of patterns". Finding a pattern is finding a generalisation. Algebra is simply a method of writing a generalisation. To make a generalisation, the same mathematics needs to be seen in a variety of contexts. If we don't give students opportunities to use algebra except in relation to matchstick patterns and cups and counters, they will never appreciate its value or be able to use it in problem solving. In this workshop, participants will experience a variety of activities designed to lead students into thinking about patterns and using algebra to express their thinking.
Jack Mock Elizabeth Stone	Secondary 7-12	Pythagoras revisited	The first half of the presentation will be an investigative approach. It will include a hands-on interactive proofs of Pythagoras and some simple algebraic proofs. The second half will apply Pythagoras to 3D diagrams, "t" formulae and complex numbers. It is useful for both Year 8 and Extension 1 and 2 classes.
Joanne Mulligan	Primary K-2	Pattern and Structure in the K-2 Classroom	This workshop presents practical class activities drawn from a pattern and structure Mathematics Awareness Program (PASMAT). These activities integrate Early Stage 1 and Stage 1 concepts in number, space, measurement, data, patterns and working mathematically. Emphasis is placed on students' ability to observe, recall and represent numerical and spatial structures in processes such as counting, partitioning, substituting, grouping and unitising. Examples of student work are discussed.
Morris Needleman	Secondary 7-12	Lovely Problems and Elegant Solutions	This talk will focus on beautiful problems where the solutions will bring delight to those who encounter them. The problems are accessible at a variety of high school levels and are focused on number theory. We will look at ways that mathematical software (in particular Mathematica) can be used to shed light on the path to enlightenment. Morris is the winner of a National Award for Quality Schooling in 2006 for Outstanding National Achievement and has recently been announced as an Apple Distinguished Educator.

Delvene Neilson Andrew Smith	Primary K-6	Mathletics	Students are inspired by Mathletics! Engagement is key to the outstanding results achieved. 30,000 students log into Mathletics each day. Mathletics has revolutionised the way Maths is taught in more than 800 Australian and NZ schools. Using cutting edge technology, Mathletics adapts to student's ability. It enables teachers and parents to manage individual strengths and weaknesses.
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Bing Hiong Ngu	Secondary 7-10	Algebra Equations Instruction: a comparison of Balance scale method and Inverse method	Cognitive load theory (Sweller 1988; Sweller and Van Merriënboer, 1998) proposes the need to design instructions to avoid overloading cognitive capacity to assimilate information. In two experiments, the use of inverse method have facilitated solving equations more than the balance scale method. Inverse method emphasizes the use of inverse operation to remove numbers associated with the pronumerals by sequence. Whereas the balance scale method requires learners to write down numbers to balance the equations. Differential performance between the two methods was interpreted in the light of extraneous cognitive load associated with the balance scale method.
Mark O'Brien	Secondary 7-12	Exploring and Applying Exponential Functions	This session will be based around activities and applications from the Integrated Maths Modules. It will look at both activities to immerse students in and explore exponential functions, as well as applications to allow students to apply the concepts in non-routine, contextual situations The aims of the session will be two-fold: * To familiarise participants with some resources they can use with exponentials * and also to promote the ideas of immersion of students into their learning and the subsequent application of understandings. A graphics calculator may be useful for this session.
Mark O'Brien	Secondary 7-12	Focussing On Learning in the Maths Classroom	Changes in our society, changes in the attitude of our students and a rapid increase in knowledge of how people learn have made it necessary for teachers to examine their teaching methodology and look for new ways to increase student learning and motivation. This session will look at how the presenter has changed his classroom structure over the last four years to better facilitate student learning. Its aim is to suggest ways and means of making a classroom environment more student centered, making learning more constructivist based, and allowing students to work cooperatively The session would be of interest to people who are trying to make changes in their own classroom or their own department and are looking at how an alternative learning process can be managed. The session will be in the form of a presentation followed by discussion.
Christopher O'Brien	Secondary 7-12	Teaching through PowerPoint	I am developing teaching modules for the 7-11, NSW Mathematics curriculum, where I use PowerPoint to teach, with accompanying word booklets. I have also developed several excel tasks in basic algebra and fractions.
Richard Porter	Secondary 11-12	Maxima and minima - a cascade approach	Curve sketching by curve sketching Graph of $f(x)$ , Graph of $f'(x)$ , Graph of $f''(x)$ Forward/backward approach.

Anne Prescott	Secondary 11-12	Misconceptions about projectile motion	Misconceptions about projectile motion make it very hard for students to understand what is happening. They resort to learning the techniques of solving projectile motion questions without understanding the processes. This presentation will show ways students can be helped to make sense of projectile motion.
Cyril Quinlan	Secondary 7-10	Educational responses to cognitive challenges identified by research into early algebra	Classroom teachers and textbook writers should be aware of research findings which identify cognitive challenges for students and indicate educational procedures that help them avoid pitfalls. The author has been involved in algebra research over the past two decades and was consulted regarding the preparation of the current NSW Mathematics Years 7-10 Syllabus. Several recommendations for teaching sequences, now included in the "Background Information" of the algebra syllabus are presented here, partly by a Quinlan-designed interactive CD. They address the cognitive challenges of the notion of a numerical variable, the use of algebraic symbols, and expressing generalisations about patterns.
Ken Rodwell Chris Bartley Jennifer Brady Jan Colmer Donner Wade Kate Gibson	Primary K-6	ASISTM Outback Maths Project (Part 1)	The teachers involved with the Outback Maths Project, Cris Bartley (Nyngan), Jennifer Brady (Condobolin), Jan Colmer (Narromine), Donna Wade (Hay) and Kate Gibson (Diocesan Office, Forbes) will discuss and describe their involvement with the Project. The Outback Maths Project, an ASISTM innovation, aims to develop sets of Mathematics materials based on the approach to learning developed by Robert Sternberg, and written using language familiar to students in western NSW. The work of Sternberg supports the presence of three intelligences: analytical, creative and practical. While all people have and use all three intelligences, they tend to prefer one or two of them. When teachers develop tasks which allow students to learn and express learning in their intelligence preferences and set within their own context, it is likely that learning is more efficient and effective.
Ken Rodwell Chris Bartley Jennifer Brady Jan Colmer Donner Wade Kate Gibson	Primary K-6	ASISTM Outback Maths Project (Part 2)	See Part 1 synopsis
Marty Schmude	Secondary 7-12	See the latest in handheld CAS technology	This workshop is to give you a hands-on demonstration of the latest technology used by schools in Victoria and New Zealand - the Casio ClassPad 300 - and is the latest in CAS (computer algebra system) technology. This session will give you an insight into the direction mathematics teaching is moving in other parts of the world.
Shane Scott	Secondary 7-10	Solving algebraic equations by crossing over the bridge	The method I have used to solve algebraic equations is a bridge method where I maintain a story line to ensure they select the best step to use each time.
Thanom Shaw	Secondary 11-12 and Post- Secondary	Introducing LaTeX - the easiest (and cheapest) way to type beautiful mathematical documents	If hours, days, even months of your life have been lost processing mathematical documents in Word, inserting symbols here and there, working out correct spacings, working out why Word is not doing what you think is obvious it should be doing, etc. etc., and up until now you've known of no alternative, then you need to discover the beauty of LaTeX - a package that, unlike Word, was designed specifically for writing mathematics. Let me introduce you to this tremendously powerful and friendly package and let me describe to you just a little of what makes LaTeX great.

Beth Southwell	Primary K-6	Product vs. process: A bright or tarnished idea for planning?	For many years after it was first issued, the Cockcroft Report (1982) was regarded as a key to teaching mathematics. While we might think that any report as old as this one is no longer relevant, I would draw your attention to one particular paragraph in which the Report lists three elements in the teaching of mathematics, viz. facts and skills, conceptual structures and general strategies and appreciation. These can be used for planning lessons or sequences of lessons. They also raise the almost perennial debate as to which is more important - product or process. Aspects of this dilemma will be examined particularly in relation to the transitions experienced when moving from Primary to Secondary education and the type of planning that is possible in mathematics at that stage.
Liz Speilman Jennifer Turnbull	Secondary 7-12	Have Maths Degree, Will Travel	Take the opportunity to travel by teaching overseas. Given the world-wide shortage of mathematics teachers, the time has never been better. Australian trained teachers are well regarded and, if you travel, you will find Australians in most of the international schools. This session will examine the various ways to apply for positions and also give an insight into the similarities and differences of the British, American and International Baccalaureate systems of education.
Paul Swan	Primary 3-6	Making the most of manipulatives	We often refer to "hands-on" maths. In this session suggestions will be made for gaining the most from manipulative materials. Pattern Blocks will be used to illustrate the potential of manipulatives.
Paul Swan	Secondary 7-10	Mathemagic	In line with the conference dinner theme this session will highlight some magic tricks that are based on mathematics principles. Come along and enjoy learning some magic tricks to use in your classroom.
Paul Swan Kellee Williams	Primary 1-6	The Woodvale primary school T115 project	Will present a calculator workshop (suitable for K-6 teachers) on how the TI 15 calculator was introduced and used throughout Woodvale Primary School (Western Australia). In the workshop participants will learn how to use the calculator and how Kellee introduced the calculator to parents, staff and children at Woodvale Primary School. Participants will receive many activities to get them started and documents designed to show how the calculator may be integrated into the curriculum. You will be amazed at what the children and teachers have learned along the way.
Peter Taylor	Secondary 7-12	Methods of problem solving	Some methods of problem solving which can help develop mathematical thinking will be classified and examples will be given.
Chris Thompson Sharon Phillips	Primary K-6	Aligning work samples to A-E Grades	In this workshop, teachers will simulate the process of aligning student work samples to the common grade scale, used by the Office of the Board of Studies to prepare materials for the Assessment Resource Centre
Steve Thornton Fiona Wymer	Secondary 11-12	Bright ideas with least squares and graphics calculators	This workshop will look at the use of graphics calculators not only to find linear regression equations, but more importantly to develop a conceptual understanding of the idea of least squares. It reports on a practical and interactive learning episode at Canowindra High School as part of Texas Instrument's Making Maths Come Alive program.
Brian Tickle	Primary K-6	A real hands-on approach to mental computation	In this session participants will observe and use activities designed to make the concept of place value visible and comprehensible. The manipulatives used in these activities are designed to help students to see tens, hundreds and thousands as composite units e.g. 100 ones, 10 tens, 1 hundred. This understanding will help them to develop strong number sense and efficient mental computation strategies.

Gerard Tuffield	Primary K-6	Using games to support an inquiry approach to computation	This session will demonstrate how games can be used to consolidate key strategies that assist students to compute mentally. This session is very much “hands-on”. Not only will participants play the games but they will also discuss ways to vary and extend the games to change the Mathematics.
Allan Turton	Primary 3-6	Fantastic Folding Feats	This workshop will engage participants in activities to create familiar two-dimensional shapes by folding metric paper. The simple steps (easier than origami) yield some fascinating patterns and designs. Used in classrooms, students learn about the properties of the shapes they are making and combining. Prepare to be amazed!
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Nikky Vanderhout	Secondary 11-12	Parametrically parabolic	In this workshop participants will be given the opportunity to revisit the Extension 1 Syllabus content which concerns the parametric representation of the parabola whilst considering teaching methods and ideas. The use of dynamic geometry software to develop the concept of locus will provide participants with a powerful teaching and learning tool. This workshop is particularly suitable for beginning teachers or those returning to teaching Extension 1 Mathematics after an absence.
Bunio Vink	Secondary 7-12	Same Same or Differentiated	Based on researched models, we have endeavored to put in place school structures to support the delivery of differentiated programs in mathematics for all secondary students from years 7 through 12. With the timetable and support structures in place, we are able to provide and deliver profiling and identification methods, flexible groupings, and differentiated programs to suit a variety of needs and abilities. This presentation displays a little of the research, the blocking and time tabling structures, the types of programs offered, and the results achieved.
Jenni Way	Primary 3-6	A smarter calculator!	This is a session is a structured hands-on workshop that explores how a calculator designed for upper-primary (TI-15) can be used to develop student understanding in some 'tricky' topics. The activities will include making sense of division remainders, converting common fractions to decimal fractions, working with common fractions, rounding numbers and order of operations.
Allan White John Hastings	Primary 3-6 and Secondary 7-10	Sudoku and Spreadsheets	Have you wondered what this new craze is all about? Do you suspect it may be useful in your classroom? What are some of the common strategies used to solve the puzzles? Can you use spreadsheets with Sudoku? Well this workshop will answer your questions and encourage your students to this wonderful source of mathematical thinking. This workshop is open to participants of all Sudoku user levels: beginner to addict. <i>Note to participants: Bring a USB Memory Stick if you want to take materials home</i>
Allan White Patrick Singh	Secondary 7-12	Linking thinking: Mathematical modelling an ideal tool	Carpenter and Lehrer (1999) identified and described five forms of mental activity that assisted students to gain mathematical understanding. They characterized understanding as a dynamic thing but one that emerges in learners with the five interrelated forms. Mathematical modelling provides an ideal context for these five forms to be cultivated. Participants will have the opportunity to complete a modelling activity using graphics calculators. All levels of ability with graphics calculators are welcome. Those who own a graphics calculator are encouraged to bring it along.

Rhys Williams	Primary 3-6	whiteboardmaths	<p>Whiteboardmaths.com is dedicated to providing the busy teacher with high quality, highly affordable PowerPoint presentations for use in classrooms. This resource is vast and contains over 300 files, 100's of built-in worksheets, and is cross-referenced to the BOS stage 2-5 syllabi. The files make extensive use of animations and sound throughout, enabling even the most difficult of mathematical concepts to become clear. Children and teachers love them. Visit <a href="http://whiteboardpointmaths.com">whiteboardpointmaths.com</a> to see what others are saying about this great resource.</p> <p>This session will demonstrate a selection of lessons specifically for Primary students. The files are designed for Windows and can be adapted for use on Mac.</p>
Rhys Williams	Secondary 7-12	whiteboardmaths	<p>Whiteboardmaths.com is dedicated to providing the busy teacher with high quality, highly affordable PowerPoint presentations for use in classrooms. This resource is vast and contains over 300 files, 100s of built-in worksheets, and is cross-referenced to the BOS stage 2-5 syllabuses. The files make extensive use of animations and sound throughout, enabling even the most difficult of mathematical concepts to become clear. Children and teachers love them. Visit <a href="http://whiteboardpointmaths.com">whiteboardpointmaths.com</a> to see what others are saying about this great resource.</p> <p>This session will demonstrate a selection of lessons specifically for Secondary students. The files are designed for Windows and can be adapted for use on Mac.</p>
Robert Yen	Secondary 7-10	New Century Maths 9 Essentials for Stages 4 and 5.1	<p>In developing New Century Maths 9 Essentials, we have taken the structure of the New Century Maths texts and streamlined it to create a smaller examples-and-exercises book for students progressing at the Stage 4 to early-to-middle Stage 5.1 pathways. Such students often experience difficulties in numeracy and literacy, so we have endeavoured to equip them with the essential knowledge required for success at School Certificate (Year 10) level, including a focus on basic skills and mental computation.</p>
Alexander Young	Primary 3-6	Self assessment of the quality of your pedagogy in real time.	<p>This presentation will demonstrate how you can:</p> <ul style="list-style-type: none"> <li>* Transfer 30 students responses where each have answered more than 50 questions from paper to computer in less than 2 minutes</li> <li>* Reveal gaps in student learning that would otherwise remain hidden</li> <li>* Self assess the quality of your pedagogy in real time</li> <li>* Automatically assess the quality of each question</li> <li>* Automatically assess the reliability of the test overall</li> </ul>
Alexander Young	Secondary 7-12 and Post-secondary	Self assessment of the quality of your pedagogy in real time.	<p>This presentation will demonstrate how you can;</p> <ul style="list-style-type: none"> <li>* Transfer 30 students responses where each have answered more than 50 questions from paper to computer in less than 2 minutes</li> <li>* Reveal gaps in student learning that would otherwise remain hidden</li> <li>* Self assess the quality of your pedagogy in real time</li> <li>* Automatically assess the quality of each question</li> <li>* Automatically assess the reliability of the test overall</li> </ul>