Résumé

Kenneth Patrick WESSEN, BSc *Syd.*, PhD *A.N.U.*, PhD *W.Aust.*, GDipEd *Macq.*

Personal Details

Date of Birth:	4th July, 1968
Home Address:	280 Kissing Point Rd, Turramurra, NSW 2074
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Email:	`ken.wessen@gmail.com`
Family:	Raising 3 daughters, aged from 10 to 17

Education

- Degrees
  - BSc (Hons I + medal), Physics major, *Sydney University*, 1990
  - PhD, Theoretical Physics, *Australian National University*, 1994
  - PhD (with Distinction), Anatomy and Human Biology, *University of Western Australia*, 2003
  - GDipEd, Secondary Mathematics, *Macquarie University*, 2013
- Prizes and other awards
  - Prize winner in the Australian Mathematics Competition, 1983.
  - Julius Sumner-Miller/Cadbury Scholarship for Physics, 1987 & 1988.
  - University Medal for Physics, Sydney University, 1989.
  - Australian Postgraduate Research Award, and ANU Graduate Scholar Assistant Scholarship at ANU, 1990-92
  - PhD with Distinction (top 5% of all theses), University of Western Australia, 2003.
  - Mathematical Association of NSW (MANSW) Student Teacher Prize, 2014.

Teaching Experience

- 5 years university lecturing as a member of the academic staff at The Prince of Songkla University (1994) and the University of Western Australia (1995–1998)
- Mathematics Teacher at Killarney Heights High School (2014–2015).
- Developer of over 100 interactive mathematics learning web applications for desktop and mobile devices, freely available at `http://thewessens.net/`. These are used by hundreds of students and teachers daily in Australia and internationally. I was awarded the Bob Dengate Prize for my presention on the early stages of this work (`http://thewessens.net/MANSW2014.pdf`) at the 2014 Mathematical Assocation of NSW Conference.
- Experience teaching Year 3 students coding with Scratch (`https://scratch.mit.edu/`) and related visual programming languages.
- Prac teaching at Kariong Mountains HS, Riverside Girls HS, Westfields Sports HS, Epping Boys HS.
- Published a paper on using paradoxes in mathematics teaching at the 2015 MANSW conference (`http://thewessens.net/MANSW2015-Bamboozlers.pdf`)
- Member of the Mathematical Association of NSW

Academic Experience

- Adjunct Lecturer, School of Anatomy and Human Biology, UWA (2003–2012)
- Research Fellow, Department of Computer Science, UWA (1998)
- Research Fellow, Centre for Water Research (Dept of Environmental Engineering), UWA (1997)
- Associate Lecturer, Department of Computer Science, UWA (1995–1996)
- Lecturer, Department of Physics, Prince of Songkla University, Thailand (1994)
- Member of the Australian Mathematical Society

Industry Experience (selected roles)

- Director, Algorithmic Execution, NAB Ltd, 2015–present
- Director, Head of Algorithmic Trading, CIMB Pty Ltd, 2012–2013
- Director, Global co-Head of Algorithmic Trading, RBS Pty Ltd, 2009–2012
- Executive Director, Asia-Pacific Head of Product, JPMorgan Pty Ltd, 2006–2009
- Associate Director, Quantitative Analyst, UBS Pty Ltd, 2000–2005

Computer Skills and Experience

- Developer of *Gnomon*, a free mathematical calculation environment for iPhone/iPad, Mac and Windows (http://thewessens.net/gnomon/Help/gnomon.html).
- Expert javascript, Java and C programmer (including Web apps and iPhone/iPad app development).
- Typesetting mathematical documents with LaTeX (printed documents) and MathJax (web pages) – including worksheets, presentations, exams.

Other Information

- I am author of the book *Simulating Human Origins and Evolution*, published by Cambridge University Press in 2005.
- I have published 4 popular mathematics articles in Plus magazine (https://plus.maths.org/) accessible here: https://plus.maths.org/content/list-by-author/KenWessen.
- I am a concert standard pianist in contemporary, jazz and classical styles.
- I am a keen student of computer history and maintain a collection of old computers. (My collection was showcased on ABC TV in an episode of *Collectors*.)
- I have built a Replica 1 – a functional replica of an Apple 1, and wrote the Debugger and Assembler *KRUSADER* that is distributed in the ROM of both this machine and another commercial replica, the A-One (http://thewessens.net/collection/apple1/krusader.htm).
- I played competitive soccer, cricket and badminton in social leagues for several years.
- I am a capable juggler (a surprisingly mathematical activity) – 5 balls and 3 clubs.

One of the most attractive aspects of teaching for me is the opportunity to make use of my broader knowledge, skills and experience as part of both my classroom teaching and overall school involvement.

Referees

Rondalyn Cooksey
Head of Mathematics
Killarney Heights High School
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Kim Jackson
Retired Principal
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Personal Statement

My personal philosophy of education is best described according to the following key principles. It is my hope and belief that I can bring these principles to bear in the classroom.

Equity and Quality I strongly believe every child deserves access to a high quality education. This means teachers need to be both quality educators and experts in their field, up to date and confident in using technology and a variety teaching methods. For this to be achieved, teachers must actively work to create an environment where they can expect and demand the best from students, colleagues, support, and resources. Likewise teachers must always strive to deliver their best, and be accountable according to the highest standards.

Dynamic Subject Matter A subject is much more than just the syllabus. Teachers must be active proponents of their subject material and visibly enthused by it if they expect to create an effective learning environment. For me, as a mathematician, this means linking material to puzzles and history, exploring quirks and connections, and describing aspects of current research (expressed, of course, at an appropriate level). Knowledge is dynamic and students need to be made aware of its ongoing evolution.

Cross-fertilisation It is only through connections that knowledge is integrated and maintained. That mathematics is intricately connected with science and statistics is implicitly understood (though some of the connections can be surprising). But there are many further connections available to explore: with finance and economics, music, language, art, architecture. A teacher should be sufficiently embedded in their field that they can recognise and effectively recount details of such connections when they naturally arise in discussion and problem solving.

Achievement Achievement is clearly an overridingly important goal of education, but the nature and response to achievement can be a very individual experience. As far as possible, consideration needs be given to each student, allowing construction of an approach that engenders satisfaction at the end, beyond simply the attainment of marks. In a classroom this is approached via an appropriate balance of the relative and personal against the absolute or standards-based, recognising the strengths and limitations of each.

Inclusion The increasing focus of inclusion in education is expressed most clearly through the *Every Child Every School* initiative, and I am committed to this in a very personal way. One of my older brothers suffered from severe cerebral palsy and was always schooled apart from the mainstream. Unfortunately he died suddenly in 2000, before any of my children were born, and it is a source of great sadness to me that they never had the opportunity to know and love their Uncle Michael. A child, being so naturally open and accepting, learns a great deal around a disabled person, so when a young boy, Alex, also with cerebral palsy, was included in their classes at school I was delighted that they would have the opportunity to learn from him a little about what life was like for their uncle. Such opportunities are appropriate, valuable, and much to be desired for all students – disabled or otherwise.

Ken Wessen, Oct 21, 2018