

BIOGRAPHIES OF THE CONTRIBUTORS

Robert Adams joined the Associated Examining Board (later to become part of the Assessment and Qualifications Alliance) in 1977 as Statistics Officer, having been since 1969 a lecturer and senior lecturer in Probability and Statistics at Thames Polytechnic. At the AEB he was inducted into some of the mysteries of public examinations by, principally, Dr Jim Houston. Having received this rigorous initiation, he went overseas to assist in the setting up of a diagnostic examination system in Mauritius. Reluctantly returning to Britain in 1984, he worked briefly in the Somerset Technical and Vocational Education Initiative project, liaising with AEB over the design and assessment of a modular curriculum. This gave place in 1985 to the position of Head of Research at the Welsh Joint Education Committee, the schools examination board for Wales. Robert occupied this position for twenty years until 2005 when he got itchy feet and left Wales for brief sojourns with nferNelson, the assessment publishers, and latterly the AQA, from where he retired in August 2007. He now lives in Cardiff.

Dr Ayesha Ahmed has a degree in Psychology and Philosophy from the University of Warwick and a PhD in Cognitive Development from the University of Sussex. She held a research post at the University of Cambridge Local Examinations Syndicate from 1997 to 2006. In 2007 she set up Cambridge Exam Research with Alastair Pollitt, to provide research and training services in educational assessment.

Her particular interests are in the cognitive psychology of assessment, and how this can be used to improve exam validity. She has focused on the effects of context on question answering, the effects of question structure on demands, the development of an interactive formative assessment tool and the development of a theoretical model of the psychological processes involved in answering exam questions.

Dr Jo-Anne Baird works at the University of Bristol's Graduate School of Education, where she teaches assessment, management and research methods. She is an Executive Editor of the journal *Assessment in Education: Principles, Policy and Practice*. Previously, Jo-Anne was Head of Research at the Assessment and Qualifications Alliance, where she managed the research programme and was responsible for the standard setting systems for public examinations. Her first degree was in psychology, from Strathclyde University and her PhD from Reading University was on human reasoning. Over the years, Jo-Anne has taught psychology from A level to Masters level.

Her research interests include examination standards, e-assessment and human judgment in assessment. She is a member of the Professional Affairs Board of the Association for Educational Assessment – Europe and the Independent Reviewer for the standard setting process for England's national Key Stage tests.

Tom Bramley is the Assistant Director of Cambridge Assessment's Research Division. He has a degree in Experimental Psychology from Oxford University and an MSc in Operational Research from Lancaster University. He has been at Cambridge Assessment for twelve years and during that time has worked on a wide range of projects, including: studying the factors affecting question difficulty and the psychological processes used by pupils in answering test questions; the initial pilot of the test for medical and veterinary applicants to Cambridge University (now the BMAT); item analysis, test equating and standard setting for the national tests at Key Stage 3 in Science and English; simulating different kinds of marker aberrancy in order to evaluate statistical marker monitoring models.

His main areas of expertise are Rasch measurement, and the psychometric issues surrounding test development and standard setting. He has developed a new method of judgmental test equating based on rank-ordering.

Dr Robert Coe is Reader in Education and Director of Secondary Projects in the Curriculum, Evaluation and Management (CEM) Centre, Durham University. He has overall responsibility for the CEM Centre's work with secondary schools and colleges, including the ALIS, Yellis and MidYIS projects, which support thousands of schools in monitoring their own performance.

Before embarking on an academic career, Robert was a teacher of mathematics, with experience in a range of secondary schools and colleges. He left teaching in 1995 to study full-time for a PhD at Durham University, and then stayed on as a Research Associate and Lecturer.

His research interests are wide-ranging and include evaluation methodology; Evidence-Based Education and the involvement of practitioners in research; school effectiveness and improvement, including the methodology of school effectiveness research; the use and effects of feedback, especially in performance monitoring information systems and the statistical comparability of examinations in different subjects and over time.

Victoria Crisp has a degree in Psychology from the University of Birmingham and a Masters degree in Education from the Open University. She has worked as a researcher at Cambridge Assessment from 2000 to date. Areas of research have included: issues in question difficulty and examination validity; investigating the potential for new marking methods to reduce restrictions on the way questions are written and hence improve validity; investigating how answer spaces in examinations affect student responses; developing and evaluating a prototype online formative assessment in pedagogical psychology; investigating the judgement processes underpinning A level marking decisions. She has also been involved in providing training for examiners on issues in question writing.

Victoria is currently undertaking part-time doctoral research with the University of London Institute of Education alongside full-time work. The research aims to investigate the cognitive judgement processes involved when teachers mark their

students' work in the context of GCSE coursework assessment.

Professor Carol Fitz-Gibbon started a research career after 10 years teaching physics and mathematics in both privileged and inner-city schools in the UK and the US, and after taking time out for children. Whilst working on a masters' degree at The University of California, Los Angeles, she obtained a grant from the US Office of Education to study the identification of mentally gifted, inner-city students. She obtained a grant on the design of compensatory education and co-authored a best-selling series of textbooks on *Evaluation* (Sage, 1977), re-published in a second edition in 1987. Her book *Monitoring education: indicators, quality and effectiveness* (Cassell, 1996) was awarded 'best book by an established author' by the Standing Conference on Studies in Education.

She has long advocated the use of cross-age tutoring, particularly to benefit the tutor. Returning to the UK in 1978, she continued work on cross-age tutoring (with a Social Science Research Council award), published an early article on meta-analysis, and developed the project that came to be called ALIS, the A-level Information System. This formed a model for the subsequent growth of the Curriculum, Evaluation and Management (CEM) Centre into the largest educational research group in a UK university, with over 60 staff on site and working with thousands of schools that voluntarily join projects (illustrated on the website). The limitations of indicator systems have always been stressed and the need for experimentation as a guide to practice is encouraged by biennial conferences on Evidence-Based Policies and Indicator Systems.

She objected, on scientific grounds, to the inspection system designed by the Office for Standards in Education (Ofsted) and subsequently established the Office for Standards in Inspection (Ofstin), to challenge the use of unvalidated methods.

Professor Harvey Goldstein was Professor of Statistical Methods at the Institute of Education, University of London, from 1977 to 2005, and is presently Professor of Social Statistics at the University of Bristol. He is a chartered statistician, has been editor of the Royal Statistical Society's Journal, *Series A*, a member of the Society's Council and was awarded the Society's Guy medal in silver in 1998. He was elected a member of the International Statistical Institute in 1987, and a fellow of the British Academy in 1996. He was awarded an honorary doctorate by the Open University in 2002.

There are four main foci of his research interests. The first is the use of statistical modelling techniques in the construction and analysis of educational tests. The implications of adopting such models have been explored in a series of papers since 1977. In a number of papers he has also explored the ideas of criterion referenced assessment, comparability of assessments and the interaction of assessment modes and the purposes of assessment. The second interest lies in the area of 'educational (school) effectiveness'. He is involved in a number of longitudinal studies of 'value added indicators' for comparing institutions and the use of such indicators for school improvement purposes. The third interest is in studies of the effects of class size on

student achievement and other outcomes. He has been particularly concerned with issues surrounding the kinds of inferences which can be drawn from observational studies as opposed to randomised controlled trials. The fourth, and most important, research interest is in the methodology of multilevel modelling. He has had research funding for this since 1986 and has supervised the production (with Jon Rasbash) of a widely used software package (MLwiN) and made a number of theoretical developments. The major text on multilevel modelling is his book *Multilevel Statistical Models* (London: Edward Arnold, 2003).

Dr Dougal Hutchison is Chief Statistician at the National Foundation for Educational Research, where his work focuses on measurement error, randomised control trials, international comparisons, multilevel modelling, item response theory, and methodological development generally.

During his career, he has worked as a volunteer teacher in Africa, a university lecturer, a civil servant, and as a statistical researcher in a range of academic research organisations. He has a particular interest in the process of mathematisation, and the interface between statistical techniques and the world out there, and has published, inter alia, theoretical papers on the conceptualisation of measurement error and biasing effects of measurement error, as well as practical papers on value added, international comparisons, and computer marking of essays. This is his first excursion into the analysis of public examinations, though, with Ian Schagen, he has jointly edited a book on the reliability of National Curriculum assessment.

Sandra Johnson graduated in mathematics from the University of Manchester, where she also took an MSc in Mathematical Statistics. Short periods in marketing research and secondary mathematics teaching preceded educational research in the Universities of Manchester and Leeds. In Manchester she worked on two Schools Council projects, investigating, respectively, examination reliability (a first encounter with generalizability (G-) theory) and reading development. The move to Leeds was to join the Assessment of Performance Unit Science Monitoring team, where, as Deputy Technical Director, she promoted domain sampling and generalizability theory as the measurement methodology of choice. It was during this time that she worked as consultant on another Schools Council project, using G-theory to evaluate the cross-moderation methodology in grade comparability investigation. A move to Switzerland in the late 1980s saw a switch to statistics teaching within international management programmes, and research collaborations in vocational and distance education. It was from here that she gained an MA in distance education from the University of London. Since the late 1990s she has been working from France as an independent consultant, principally for Scotland's national assessment programmes, and distance teaching for the University of London (online MA).

Dr Mike Kingdon, during 13+ years as a science teacher, taught in a grammar, a secondary modern and a comprehensive school, the last two as head of science. He gained a BA in Maths and Education and his MED in Maths and Science Education. He began his career in educational research with a science curriculum review for Hertfordshire. During this work he noted consistent space/time patterns in schools'

curriculum choices that became the inspiration for his PhD.

He joined the University of London School Examinations Board (ULSEB) as 16+ research officer in 1979, became acting Head of Research a year later and was confirmed in post soon afterwards. His work for ULSEB, and its successors, ranged across 16+ and 18+ examinations, university and professional qualifications and Commonwealth examination systems. As Director of the assessment consultancy arm of the University of London Examinations and Assessment Council and then as General Manager for Edexcel, he managed National Curriculum assessment projects at KS1 to KS3, the KS2/3 national data collection project. Since leaving the latter he has worked as an assessment consultant to UK and overseas regulators, professional institutes and awarding bodies. He is currently Principal Assessment Consultant to the Entity Group.

Mike's specialisms include the mathematical modelling of educational and supporting infrastructure systems using stochastic, spatial and business process models. He holds an MBA degree and is both a chartered mathematician and a chartered scientist. He is also a lifelong student of the history of education.

Dr Iasonas (Jason) Lamprianou is a Research Fellow at the University of Manchester and an Examination Officer at the Cyprus Testing Service. He has obtained an MEd in Assessment and Evaluation and a PhD in Educational Measurement.

Jason has participated in research projects involving educational assessment and measurement, test equating, item banking, computerized adaptive testing, etc. In recent years Jason has offered his services to many organizations, like the Qualifications and Curriculum Authority (UK), the National Assessment Agency (UK), the Assessment and Qualifications Alliance (UK), the University of Manchester (UK), the University of Malta, the Agha Khan University in Pakistan, the Cyprus Testing Service etc. Jason is also a Consultant to commercial products like the 'MaLT: Mathematics for Assessment, Learning and Teaching' software provided by Hodder Education.

His publications are of quantitative nature, usually involving item response theory, and have been published in diverse journals such as the *Journal of Educational Measurement*, the *Journal of Applied Measurement*, the *International Journal of Testing*, the *Australian Journal of Educational and Developmental Psychology*, *Australian Educational and Developmental Psychologist*, *Physical Education and Sport Pedagogy*, etc.

Professor Roger Murphy is Professor of Education and Director of the Centre for Developing and Evaluating Lifelong Learning (CDELL) in the School of Education at the University of Nottingham. He is a past-President of the British Educational Research Association, and he has for much of the last 30 years been actively involved in research related to educational assessment and examinations. In a career which started in the research unit of a UK awarding body, and which has involved substantial periods in higher education, he has led a large number of major investigations relating to the design, conduct and impact of educational assessments.

A defining theme throughout his research has been the impact of assessment and examinations on the educational experiences of students. This interest has been pursued in highly different contexts within schools, colleges, universities, work-based and informal learning. The work has also involved collaborations and consultancies in countries throughout the world. From this work many ideas for innovations in educational assessment have emerged and Roger has been the author of a number of influential reports. He has also written a large number of academic books and journal articles including *The Changing Face of Educational Assessment* (Open University Press, 1987), *The Impact of Graded Tests* (Falmer Press, 1988), *Effective Assessment and the Improvement of Education* (Falmer Press, 1995), and *Grades of Uncertainty* (Association of Teachers and Lecturers, 2004).

Dr Paul Newton is Head of Assessment Research in the Regulation and Standards division of England's Qualifications and Curriculum Authority, where his work focuses on issues related to the design and evaluation of large-scale educational assessment systems (including GCSEs, A levels, National Curriculum tests, diplomas, etc.).

Paul originally trained as a developmental psychologist and has held education research posts within academic, local authority and charitable organisations; but he has spent most of his professional life conducting research for assessment agencies. Paul is a Visiting Fellow of the University of London Institute of Education and a member of the Assessment Reform Group. He serves on the Editorial Board of *Assessment in Education: Principles, Policy and Practice*.

Paul has a particular interest in the relationship between assessment theory, policy and practice. He has published papers on a range of assessment topics, including: comparability theory; marking reliability; the defensibility of England's National Curriculum assessment system; systems for appealing against results; assessment purposes; and the public understanding of measurement inaccuracy.

Tim Oates is Group Director of Assessment Research and Development at Cambridge Assessment, leading a 40+ research group which focuses on national and international research on assessment and measurement. He started his career as a Research Officer at the University of Surrey. He moved to the FE Staff College in 1987 where he helped run the Work-Based Learning project. London University's Institute of Education then appointed him as National Council for Vocational Qualifications Research Fellow. In 1993 he joined one of the QCA's predecessor bodies, the National Council for Vocational Qualifications (NCVQ), as Head of General National Vocational Qualifications Research and Development. Promotion to Director of Research followed two years later and, on the merger of the School Curriculum and Assessment Authority and NCVQ to form QCA, he was appointed Head of Research, a position he held from 1997 to 2006 - at which point he moved from QCA to join Cambridge Assessment. He has a first from the University of Sussex in Philosophy with Literature and an MA in Philosophy from the same institution. He was a member of the 2004 Research Assessment Exercise (RAE) panel for education, was co-author with Mike Coles of the new pan-European Qualifications Framework, and

has advised a number of governments and agencies on qualifications strategy.

His research background/interests include: vocational and professional learning (pedagogy; assessment; concepts of competence; generic/key skills; analysis of participation, including international comparisons); policy studies (research-policy relation; management of change; transnational comparisons); development of qualifications and national qualification frameworks; evaluation and research methods; impact of social background on attainment and life chances.

Dr Helen Patrick graduated in history from the University of Aberdeen, where she also took her MEd. She trained as a teacher at Aberdeen College of Education. After teaching at Bankhead Academy, she became a researcher at the University of Leicester School of Education, where she gained her doctorate. Her work at Leicester included projects on initial teacher education, staff in university departments of education, teacher supply, small primary schools and the teaching of history. In 1987 she took a research post at the University of Cambridge Local Examinations Syndicate (UCLES, now Cambridge Assessment), where she was involved in a range of research, evaluation and monitoring studies in the field of public examinations. She was seconded to the research team at the Qualifications and Curriculum Authority in 2001-2002, to work on developing a code of practice for National Curriculum assessment and on projects evaluating new technologies in assessment. She returned to Cambridge as a Senior Research Consultant, investigating standard setting issues and developing assessment training resources. She is now combining early retirement with consultancy. Her specific interests are comparability, particularly standards over time, and standard setting.

Anne Pinot de Moira joined the Assessment and Qualifications Alliance (AQA) as a Senior Research Officer in June 1996 following a number of jobs in the social statistics field. At AQA her work has been varied and has included comparability studies, investigation of theoretical and operational aspects of assessment, policy advice and general research. She is a Chartered Statistician, having graduated firstly from Plymouth Polytechnic with a degree in Mathematics and Statistics and subsequently from Southampton University with a Masters in Medical Statistics.

Alastair Pollitt graduated from the University of Aberdeen with degrees in Chemistry, Education and Psychology. He learned test development and analysis in the Godfrey Thomson Unit for Educational Research in the University of Edinburgh, where he became Assistant Director in charge of assessment research and test development. He developed many tests for commercial publication, and led government-funded projects in item banking, researching question difficulty and the national monitoring of standards in English.

In 1990 he moved to the Research Centre for English and Applied Linguistics in the University of Cambridge, in order to pursue interests in language testing and psycholinguists. After four years there he was appointed Director of Research in the University of Cambridge Local Examinations Syndicate (UCLES, now Cambridge Assessment). In 1995 he restarted research into the causes of question difficulty,

constructing with Ayesha Ahmed a theoretical model of the psychological processes involved.

He left UCLES in 2004 to work as an independent consultant and set up Cambridge Exam Research with Ayesha Ahmed in 2007. He is a member of the Professional Affairs Board and Professional Development Committee of the Association for Educational Assessment – Europe.

Colin Robinson graduated in Old, Middle and Modern English from the National University in Ireland and went on to obtain the Higher Diploma in Education at the University of Dublin (Trinity College) specialising in teaching English and mathematics to children with special needs. After teaching at Archway School, Stroud in Gloucestershire, he joined the staff of the National Foundation for Educational Research, initially developing test materials for the LEAs' and Schools' Item Bank and later advising on test development and use as Deputy Head of Test and Research Services.

He joined the newly formed Secondary Examinations Council in 1983 as Principal Professional Officer with responsibility for research and in this capacity oversaw a variety of research including work on the development of grade criteria and the revision of the A level grading scheme. As Head of the Evaluation and Monitoring Unit of the School Curriculum and Assessment Authority he was responsible for the evaluation of assessment models for the National Curriculum, the establishment of the School Coordinating Unit and the management of National Evaluations. In the Qualifications and Curriculum Authority he supervised the National Value Added Project and the Monitoring National Curriculum and Assessment Project. He has been an active member of the International Association for Educational Assessment, the Association of Commonwealth Examinations and Accrediting Bodies and the British Educational Research Association, serving as Honorary Secretary and Treasurer from 1993 to 2002, for which he was awarded Honorary Life Membership. He retired from QCA at the end of 2006 and is now an independent consultant with QCA, the Department for Children, Families and Schools and Cambridge International Examinations amongst his clients.

Dr Ian Schagen is Head of Statistics at the National Foundation for Educational Research with previous experience in industry and as a university lecturer. He is a Chartered Statistician and a member of the editorial board of *Educational Research*, and is currently a member of the Research Committee of the Assessment and Qualifications Alliance examination board. Ian has published a book, *Statistics for School Managers* (Courseware Publications, 2000), aimed at helping school staff to make use of statistical information, as well as being joint editor of a book on the use of effect sizes in educational research, *But What Does It Mean?* (NFER, 2004).

Recently Ian has been involved with advising the Department for Education and Skills (DfES) on methodology for analysing the National Pupil Database (NPD); in particular, as a member of the Value Added Methodology Advisory Group. He has also recently acted as external consultant to the DfES on their review of data systems

underpinning their Public Service Agreement targets. He was Project Director for the analysis of combined NPD/ILR data for the Learning and Skills Development Agency, looking at the impact of local patterns of post-16 provision on participation, retention and attainment, and has recently directed a project for the Learning and Skills Council to evaluate the robustness of their value-added models.

Kathleen Tattersall, a graduate of Manchester University, began her career as a teacher, working in both primary and secondary schools before joining a Certificate of Secondary Education board, the Associated Lancashire Schools Examining Board (ALSEB), in 1972. Just prior to becoming its Chief Executive in 1982, Kathleen was seconded by ALSEB to the Schools Council to conduct research into differentiated examinations – a freedom which she later claimed she paid for dearly by being responsible for running organisations and assuring standards rather than indulging in research. Until her retirement in 2003 she was Chief Executive of four other boards, the North West Regional Examinations Board, the Joint Matriculation Board, the Northern Examinations and Assessment Board and the Assessment and Qualifications Alliance. Between 1982 and 2003 she also chaired various national bodies of examination boards. She was also a member of the initial School Examinations and Assessment Council.

At the time of her retirement Kathleen was a member of the Tomlinson 14-19 Working Party and played an active role in its Assessment Group. She is currently a member of the Board of Manchester University and chairs the University's Audit Committee. Kathleen is the first Chair of the Institute of Educational Assessors, which was launched in May 2006 and granted a Royal Charter in July 2007. Kathleen was awarded an OBE in 2003 for services to education and assessment.

Professor Peter Tymms is Director of the Curriculum, Evaluation and Management (CEM) Centre at Durham University and, as Director, he is responsible for projects monitoring the progress and attitudes of a million pupils across the UK and beyond each year. The CEM Centre is the largest educational research group in a UK university with a staff of 70. His main research interests include monitoring, assessment and research methodology. Work in these and related areas have produced more than a hundred publications. He devised the PIPS project, which is designed to monitor the affective and cognitive progress of children through primary schools starting with a computer adaptive on-entry baseline assessment, which is used in thousands of schools.

He started work as a teacher in Central Africa with a degree in natural sciences, and after teaching posts in England at a secondary modern school, a comprehensive school and a tertiary college he moved to an academic career and was the first Research Associate to work on the A Level Information System (ALIS) the first of the CEM Centre's monitoring projects.

Alison Wood is Deputy Head of Standards in Assessment at the National Assessment Agency, the organisation which is responsible for National Curriculum assessment and aspects of general qualifications in England.

Her work focuses on methods of setting, maintaining and monitoring standards in National Curriculum assessment and her particular area of interest is in developing approaches which can be used when curriculum and assessment arrangements change. Her more general interests lie in qualitative methods of test validation, exploring issues around novice/expert judgement and developing methodologies to enable students to contribute to test development and evaluation.

Alison's first degree was in philosophy and she has worked on assessing high-level constructs, such as reasoning and problem-solving skills. She trained as a teacher and taught in sixth form colleges and schools. She retains a strong interest in pedagogy, working with classroom teachers to develop approaches to formative assessment.