

Numeracy Works for Life

6-9 July, 2009

Adults Learning Mathematics (ALM)
16th International Conference
&
LLU+ 7th National Numeracy Conference

at

London South Bank University,
London



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Numeracy Works
for Life

Hosted by

London South Bank University,
London

July 6 - 9, 2009

Local organising committee

Graham Griffiths, David Kaye, Ruth Moulton, Beth Kelly, Ann McDonnell



ALM16 / LLU+7 Welcome

Welcome to

- the 16th International Conference of Adults Learning Mathematics – A Research Forum
- the 7th National Numeracy Conference of LLU+

ALM is an international research forum bringing together researchers and practitioners in adult mathematics/numeracy teaching and learning in order to promote the learning of mathematics by adults.

LLU+ is a department within the Faculty of Arts and Human Sciences of London South Bank University. LLU+ is a national consultancy and professional development centre for staff working in the areas of literacy, numeracy, dyslexia, family learning and English for Speakers of Other Languages. We also have specialists in learning support, language and maths, and the application of learning styles approaches to teaching and learning. Within these fields the unit offers consultancy and advice, project development, trainer education, research and development and professional development networks. The unit also has an extensive list of publications and training videos developed through our work. For more than 25 years, we have been synonymous with good practice and pioneering work in training and advice in these areas. It is the largest professional organisation of its kind in the UK and a centre of international reputation.

London South Bank University is situated south of the River Thames and in walking distance of a number of tourist attractions. We hope you take sometime to enjoy the London experience.

Co-ordinating Committee

Graham Griffiths
David Kaye
Beth Kelly
Ann McDonnell
Ruth Moulton

General Information

Campus map

You will find a map of the London South Bank University campus in your delegate pack. The two main buildings we are using are:

- Pocock House for the workshop sessions after the plenary sessions
- Keyworth Building for the plenary sessions at 9.30

Transport

You will find bus and London Underground (tube) maps in your delegate pack.

The nearest underground station is Elephant and Castle – make sure you follow the signs for South Bank University at platform level rather than heading for the first exit otherwise you will find yourself on the other side of the Elephant and Castle roundabout.

We are also close to Borough station, and a 10-15 minute walk from Waterloo, Lambeth North, Southwark and London Bridge stations.

The transport for London website can help with fares. www.tfl.gov.uk. You will find it cheaper to get an Oyster card and top it up with credit. These can be obtained from many shops as well as underground stations.

Emergency services

If you require the police, ambulance and / or fire services in an emergency please call 999 from any phone.

Health

If you have any health issues, you may find NHS direct helpful.

www.nhsdirect.nhs.uk | tel: 08 45 46 47

The nearest emergency unit is at St Thomas' Hospital near Waterloo.

Post Office

The nearest Post Office is at 136 Southwark Bridge Road, in the supermarket.

Tourist information

In your pack you will find a tourist map for the South Bank centre and some maps of the area to go with the Maths Trails we have put together.

The South Bank Centre includes the Royal Festival Hall, the National Theatre, the British Film Institute (which has the IMAX centre nearby), the London Aquarium and the London Eye amongst other attractions. Further along the river towards London Bridge you will find

Bankside with the Tate Modern, the Globe theatre and the Millennium Bridge (which takes you to St Paul's Cathedral). The whole area has many restaurants.

You will find also some tourist information at registration. This includes the National Theatre guide and some other walks of the area.

Shopping

If you need to get food / drink there are many small shops in the area. There is a Tesco supermarket in the Elephant and Castle shopping centre.

More serious shoppers can head for Oxford Circus (and walk towards Marble Arch), Covent Garden and Sloane Square (for the King's Road).

Hotels

If you require hotel accommodation following the conference our webpage www.lsbu.ac.uk/lluplus/news-events/accommodation.shtml contains details of hotels in the area.

Catering

The conference cost includes tea / coffee at break times and lunch. If you have paid, then the Conference Dinner will be at Cantina Vinopolis on Wednesday evening at 7.30. Other evening meals are not part of the conference.

Restaurants

You will find a selection of restaurants suggested on a separate sheet in your delegate pack.

Internet Access

If you require internet access while at the conference, there are a number of computers around Pocock house that can be logged in with username : visitor and password : threebagsfull. Ask one of the organisers if you would like access to a computer.

Networking

We encourage delegates to set up their own meetings. Please talk to one of the organisers if you would like to book a room.

ALM 16 / LLU+ 7 Programme

Monday 6th July 2009			
5 – 6 pm	Pocock House	Registration	
4 – 5.30 pm	Pocock House	ALM Trustee Meeting	
6 – 7.30 pm	Pocock House	Drinks Reception	

Tuesday 7th July 2009

Sess No.	Time	Location	Activity	Speaker	
All day	10.00 – 5.00	Pocock Grd floor	Posters	Stalls	
Reg'n	9.00 – 10.00	Keyworth	Registration		
Plenary	9.30	Keyworth	Laurence Marlow Welcome & announcements		
A	9.45 – 10.30	Keyworth	Key Note Presentation	Robin Wilson Communicating mathematics -- a historical and personal journey	
	10.35 – 11.00	Pocock Garage	Morning refreshments		
Rooms		P1	P2	P3	P4
B	11.05 – 11.50	Prof. Diana Coben, Meriel Hutton Towards a benchmark in Numeracy for Nursing: Assessing student nurses' performance in medication dosage calculation.	Maria Cecilia de Castello Branco Fantinato Challenges of the Ethnomathematical Approach in Adult Education	John Keogh, Dr. Terry Maguire Prof. John O'Donoghue Looking at the Workplace through Mathematical Eyes – work in progress	David Kaye Using the history of mathematics in teaching
C	11.55 – 12.40	Anestine Hector-Mason The TELL Study in the United States: Raising issues about Numeracy and Transitioning English Language Learners.	Kathy Safford Professional development for middle school teachers		
	12.45 – 1.45	Pocock Garage	Lunch		

Tuesday 7th July 2009

Rooms		P1	P2	P3	P4
D	2.0 – 2.45	Michael Rumbelow BBC raw numbers	Beth Kelly Numeracy at Work - From the Classroom to the Workplace and back again: Developing an understanding of numeracy teaching	Darlinda Moreira, Eugenia Pardal Ethnomathematics' contributes to adults learning mathematics.	Mônica Mesquita, Sal Restivo, Jorge Marques, Trindade Damasio, Margarida Matias, Isaura Matos, Conceição Pires, M^a São José Madeira Six Adult Mathematical Workers on Literacy, Numeracy and Technoracy for Life
E	2.50 - 3.35		Chris Klinger Adult innumeracy and the influence of negative mathematics attitudes, low self-efficacy beliefs, and mathematics anxiety in student primary teachers – an interventionist approach for better practice	Dr. Juergen Maasz Bet and Lose: Learning Mathematics or Losing Money	
	3.40 – 4.10	Pocock Garage	afternoon refreshments		
F	4.15 – 5.00	Pocock Garage	Posters	Valerie Seabright A culinary tour with ALM over 16 years	
			Poster	Catherine Byrne Mathematics and Environmental Education	
		P1	Meetings	Kathy Safford Topic Group 1 An Adjustment of Course: Research and Practice for a Different Economic Climate	
		P2	Meetings	Chris Klinger, Graham Griffiths Topic Group B Mathematics in community service: developing pathways to build mathematical confidence for good citizenship	
		London – out and about	Maths Trail		

Wednesday 8th July 2009

All day					
	10.00 – 5.00	Pocock Grd floor	Posters	various	
	10.00 – 5.00	Pocock Grd floor	Stalls		
Sess No.	Time				
	9.00 – 10.00	Keyworth		Registration	
Welcome	9.30 – 9.45	Keyworth	Noyona Chanda Welcome & announcements		
G	9.45 – 10.30	Keyworth	Key note address	Tine Wedege The problem field of Adults Learning Mathematics	
	10.35 – 11.00	Pocock Garage	Morning refreshments		
		P1	P2	P3	P4
H	11.05 – 11.50	Rachel Stone i, robot: freewill and the role of the maths teacher	Jana Mullen, Jeff Evans, Daniela Maťovčíková Adult Numeracy in Economic Change: The conversion to the Euro in Slovak Republic	Ruth Moulton, David Kaye, Graham Griffiths Aggregate, investigate and organise. The process of mathematical investigation and teachers of adult numeracy	Barbara Nance Using ICT to engage and develop numeracy skills
I	11.55 – 12.40	Keiko Yasukawa Educating Activist Adult Numeracy Teachers?			
	12.45 – 1.45	Pocock Garage	Lunch		

Wednesday 8th July 2009

Wednesday 8 th July 2009					
J	2.00 – 2.45	Jonathan Fletcher Participation of women in mathematics at the university level	Jeff Evans, Silvia Alatorre, Sean Close, Lene Johansen, Terry Maguire Workshop: The new international adult numeracy survey: the design of PIAAC	Joanna Norton Numeracy - 21 st Century Style	Dr. J. Diez-Palomar Family Mathematics Education: Building Dialogic Spaces for adult learning mathematics
K	2.50 - 3.35	Chris Klinger Behaviourism, cognitivism, constructivism, or connectivism? Tackling mathematics anxiety with 'isms' for a digital age			
	3.40 – 4.10	Pocock Garage	afternoon refreshments		
L	4.15 – 5.00	Barbara Miller-Reilly Experiences of educationally disadvantaged adults learning mathematics	Jackie Ashton, Graham Griffiths The SfLIP side of adult numeracy. What numeracy teachers want (in England)	Helen Oughton 'We all play teacher': A study of naturally-occurring student discourse in adult numeracy classrooms	Mark Schwartz "Why Can't we do it this way?"
	5.00 – 5.15	Pocock Garage	break		
	5.15 – 6.30	Pocock 1	Meeting	ALM AGM	AGM
	7.30 -	Restaurant	celebration		Conference Dinner

Thursday 9th July 2009

Thursday 9 th July 2009						
All day	10.00 – 5.00	Pocock Grd floor	Posters	various		
	10.00 – 5.00	Pocock Grd floor	Stalls			
Welcome	9.30 – 9.45	Keyworth	Graham Griffiths			
			LLU+ introduction			
M	9.45 – 10.45	Keyworth	Keynote address	Terezhina Nunes		
				Informal mathematical understandings: implications for further education		
	10.50 – 11.20	Pocock Garage	Morning refreshments			
		P1	P2	P3	P4	P5
N	11.25– 12.40	Kees Hoogland		Rachel Stone	Viv Brown	Daian Marsh, Jackie Ashton
		Beyond word problems		Big thinking about little sums	Ideas from the NCETM	Ideas for teaching number
	12.45 – 1.45	Pocock Garage	Lunch			

Thursday 9th July 2009

O	2.00 – 3.35	Claire Robinson Financial learning and numeracy	Robert Smith, Louise Mariot, Remy Odoeme The transition to Functional Maths: experiences from a secure establishment and the way forward	Martha Whitty Straight from the Student's Mouth: six young women reflect on their difficulties with math	Joanna Norton Numeracy - 21 st Century Style	Zaeed Mohammed, Andre Smith Numeracy Market stalls
	2.00 – 4.30	P6	LLU+ staff Drop in workshop - Materials making			
	3.40 – 4.10	Pocock Garage	afternoon refreshments			
P	4.15 – 5.00	Daniela Matovcikova How adults cope with the conversion to the Euro in Slovak Republic	Ruth Moulton, Jackie Ashton Sharing learners' personal knowledge – numbers in different languages	Kathy Safford, David Kaye Topic Group A An Adjustment of Course: Research and Practice for a Different Economic Climate	Chris Klinger, Graham Griffiths Topic Group B Mathematics in community service: developing pathways to build mathematical confidence for good citizenship	
	5.15 – 6.15	Meetings	ALM Trustees			

Key Note Addresses

Tuesday 7th July

Communicating mathematics - a historical and personal journey

*Robin Wilson
Open University*

Abstract

For the past forty years I have attempted to communicate mathematics to a wide range of audiences — through teaching at the Open University and elsewhere, public lectures, books, articles, television, and other means. This illustrated lecture explores these in the context of the wide range of ways in which mathematics has been communicated over the past 4000 years.

Biography

Robin Wilson is Professor of Pure Mathematics at the Open University, a Fellow in Mathematics at Keble College, Oxford, and Emeritus Professor of Geometry at Gresham College, London (the oldest mathematical Chair in England). He has written and edited over thirty books, ranging from graph theory and the history of mathematics, to sudoku, philately, the Gilbert & Sullivan operas, and the mathematical activities of Lewis Carroll. As a former Chair of the European Mathematical Society's Committee on Raising Public Awareness of Mathematics he is enthusiastic about communicating mathematics to the general public.

Wednesday 8th July

The problem field of Adults Learning Mathematics

*Tine Wedege,
Malmö University, Sweden*

Abstract

In the borderland between mathematics education and adult education a new research field was cultivated, and an international research forum was formed in the 1990's: Adults Learning Mathematics. The subject area encompasses formal adult mathematics education as well as adults' non-formal mathematics learning in the communities of everyday practice, e.g. family and workplace. The key concept is numeracy and the problem field is related to adults, mathematics and lifelong education. This lecture presents a present picture of international research in adults learning mathematics with a focus on – and examples from – the interplay between research and education. These are the three classical key issues – what, why and how: What do adults know and have to learn; why do adults (not) learn mathematics; why teach mathematics to adults; and how to teach or what is “best practice”

in adult mathematics education. But in adult education and research other issues are necessarily intertwined: Who are the adults, when are they (not) learning and where?

Biography

Tine Wedege is professor in mathematics education, School of Teacher Education, Malmö University, Sweden, and professor II, Department of mathematical sciences, Norwegian University of Science and Technology, Trondheim, Norway. Her research interests in the area of adults learning mathematics is motivation/resistance, mathematics in the workplace and the research field as such.

Thursday 9th July

Informal mathematical understandings: implications for further education

Terezinha Nunes

Abstract

There are many opportunities for people to develop mathematical understandings outside school. We develop our thinking about quantities and relations between them even when we might not be able to use numbers to represent the quantities or the relations between them. This presentation will focus on research suggests that informal knowledge of functional relations is often implicit and thus may be incomplete. This presentation will highlight the basis and strengths of informal knowledge about functions and suggest ways of capitalizing on this knowledge in school.

Biography

Terezinha Nunes is Professor of Educational Studies in the University of Oxford and a Fellow of Harris-Manchester College. She started her career as a clinical psychologist in Brazil and moved to a research career by obtaining a doctorate in Psychology at City University of New York, where she was supported by a Fulbright Scholarship. Her work spans the domains of children's literacy and numeracy, including both hearing and deaf children's learning, and her focus of analysis covers cognitive and cultural issues, with a special interest in educational applications.

Her work on "street mathematics" in Brazil uncovered many features of children's and adults' informal knowledge, and her subsequent work in the U.K. investigates how this informal knowledge can be used in education. Her literacy research focuses on the connections between morphological awareness, spelling and vocabulary growth. She currently leads the project Family-School Partnership: Promoting Deaf Children's Education, supported by the National Deaf Children's Society.

Topic Groups

Topic Group A

An Adjustment of Course: Research and Practice for a Different Economic Climate

Katherine Safford-Ramus, David Kaye

Abstract

At ALM-14 and ALM-15 the topic group focused on research projects and opportunities for international collaboration. The intervening year has seen a sea change in global economic conditions. The significance of financial literacy and workforce education has become clear. Funding for research is being re-examined and will, in all likelihood, change emphasis. While some doors have closed new ones are opening.

The first session of Topic Group A will review the research identified in Limerick and Philadelphia. Participants will be invited to discuss the themes identified last year and re-focus the work of ALM in light of the recession. At the second session we will sketch a plan for the role of ALM as a point of convergence for international collaboration and dissemination of research results.

Topic Group B

Mathematics in community service: developing pathways to build mathematical confidence for good citizenship

Chris M. Klinger, Graham Griffiths

Abstract

The problem of functional innumeracy in adults has a long history in the literature yet, in reality, little has been accomplished to address its symptoms at a sufficiently deep level. There is considerable literature on school-based mathematics learning and on mathematics support centres in universities but there is a gap in both the literature and public policy about the provision of mathematics support for the broader community.

Disadvantaged outcomes in adult life, characterised by dependence on others and an inability to 'read the world', follow as a self-perpetuating consequence of under-developed 'basic' skills. This is at odds with notions of 'good citizenship', whereby fully-functioning adults make reasoned and reasonable decisions as responsible, independent members of society.

We aim to prompt debate and generate a renewed interest in aiding the general community to become mathematically literate at a level appropriate (at least) to their needs and aspirations. Specifically, the challenge is to determine ways and means to establish consistent and on-going community support programs. We seek to first identify a practical interpretation of this goal as a means of developing a vision and defining specific objectives. Subsequently, potential models will be explored, along with suggested implementation strategies.

Poster Sessions

Mathematics and Environmental Education

Catherine Byrne

City of Dublin VEC Education Service to Prisons

Abstract

I propose to present a poster presentation on Mathematics and Environmental Education, in a prison education setting. It will include learning goals and strategies to promote environmental awareness through basic mathematical skills.

It will consist of materials developed in the education service and describe learning methodologies. It is proposed to link this project in with the National Accrediting Framework in Ireland, FETAC. The implications of this project for motivating people who have been disempowered as a result of social exclusion are significant, and fits in with the Strategy Statement on prison education. Conventional teaching techniques have proved insufficient for these students in the past and educators in prison have had to develop innovative methods and materials.

-A-

Communicating mathematics - a historical and personal journey

Robin Wilson

Open University

Abstract

For the past forty years I have attempted to communicate mathematics to a wide range of audiences — through teaching at the Open University and elsewhere, public lectures, books, articles, television, and other means. This illustrated lecture explores these in the context of the wide range of ways in which mathematics has been communicated over the past 4000 years.

-B1-

Towards a benchmark in Numeracy for Nursing: Assessing student nurses' performance in medication dosage calculation

*Professor Diana Coben
King's College London*

Abstract

This paper reports on an interdisciplinary project funded by NHS Education for Scotland (NES) which aimed to propose a benchmark for numeracy in nursing. It updates our presentation at the ALM14 conference where we argued the case for such a benchmark and presented our initial research.

The study was undertaken in a sample of Higher Education Institutions with pre-registration nurse education programmes in Scotland. It explored key issues around determining and assessing the achievement of competence in nursing numeracy with specific reference to medication calculation. We tested the efficacy of a computer-based assessment of pre-registration nurses' medication calculation skills by comparing outcomes from this with calculations undertaken in a practical setting. Participants' performance in the assessments together with their evaluation of content have informed our judgements on the suitability of items of assessment for inclusion within a benchmark standard for medication calculations. This study is envisaged as a first step towards a comprehensive benchmark for nursing numeracy, encompassing all aspects of numeracy for nursing, e.g., fluid balance, nutrition, etc.,

-B2-

Challenges of the Ethnomathematical Approach in Adult Education

Maria Cecilia de Castello Branco Fantinato
Universidade Federal Fluminense

Abstract

This paper aims to discuss the challenges of embracing ethnomathematical ideas as a theoretical background to adult education field. This will be done by presenting two experiences that have incorporated ethnomathematical ideas to mathematics education, specifically in young and adult education contexts, in Rio de Janeiro public schools system. Firstly, we will reflect about the collective building process of the document that became part of Rio de Janeiro municipal district basic nucleo-curriculum, intended for Mathematics teachers involved with adult education, that had ethnomathematics as its theoretical and methodological background. Secondly, this paper will discuss the results of a case study, which investigated a middle school maths teacher's practice under an ethnomathematical perspective when teaching a group of students from young and adult education. Finally, we will conclude that both experiences led us to continue investigating the contributions of ethnomathematical ideas to the adult education field, as a significant theoretical approach to any educational context that leads constantly with cultural diversity and/or many sorts of social exclusion.

A continuous educational process, grounded on an ethnomathematical look among teachers, can give these professionals enough support to perform their mediator roles in the diverse mathematical knowledges classroom.

The ideas developed in this article aim at taking ethnomathematics and education relations in terms of teachers' pedagogical practice and teacher development programs into a deeper level, particularly related to the education of young people and adults.

-B3-

**Looking at the Workplace through Mathematical Eyes – work in progress
'Invisible mathematics - more a desirable outcome than a problem'**

*John J. Keogh, Dr. Terry Maguire and Professor John O'Donoghue
Institute of Technology Tallaght, Dublin*

Abstract

In Ireland, the development of the 'knowledge economy' is a national priority (NDP 2007-2013) predicated on a trained, adaptable and flexible workforce. More than ever, problem solving, spatial awareness, estimation, interpretation and communication skills, i.e. numeracy, are valorised in the modern worker, as being essential to support change, reaction and response, given the ubiquity of ICT.

In a project entitled 'Looking at the Workplace through Mathematical Eyes', up to 4 workplaces will be shadowed to identify the mathematics / numeracy skills that are used, however unconsciously, yet often disconnected from their theoretical origin.

That mathematics could become so inextricably bound up in ones work practices as to be invisible, may be problematic. Furthermore, skills deployed from a 'common sense', perspective, may tend to conceal mathematical ability rather than expose it for development.

Nevertheless, this paper will argue, that the ability to learn and integrate numeracy skills so successfully, as to be available for seamless recall and appropriate application, could contain lessons for benefit of mathematics pedagogy. The project hopes to achieve some measure of the potential affects of reflecting back to the participants, their actual command of the numeracy skills, which they previously self-report as being unable to perform.

-B4-

Using the history of mathematics in teaching adult numeracy

David Kaye

LLU+ London South Bank University

Abstract

There is a popular image that mathematics (particularly school mathematics) is unchanging, based on knowing the correct method and all questions have one correct answer. In current teacher education for adult numeracy these images are challenged. For example, trainee teachers are encouraged to be aware of the many ways of doing 'long multiplication'.

One of the most powerful techniques available for challenging these beliefs is by introducing and using topics from the history of mathematics. By exposing trainee teachers and numeracy learners to the mathematics that has evolved over the last 5000 years from all over the world, from many contrasting cultures, makes many aspects of mathematics more accessible.

This workshop will introduce some key themes from the history of mathematics and demonstrate how they deepen an understanding of the nature of mathematical knowledge and provide access to mathematical concepts at all levels.

-C1-

The TELL Study in the United States: Raising Issues about Numeracy and Transitioning English Language Learners (TELLs)

Anestine Hector-Mason

American Institutes for Research

Abstract

The education of English language learners (ELL) who transition from advance English as a second language (ESL) classes into adult Second Education (ASE), General Education Diploma (GED), or adult basic education (ABE) classes is of major concern in the United States today as the need for ESL intensify amidst global economic and workforce challenges. To address this concern, in 2008, the US department of Education funded the Transitioning English Language Learner (TELL) Project to lay the foundation for future works designed to enhance the quality of services that support ELL transition to secondary education credential and ultimately to college. The TELL project aims to examine and describe policies and instructional and programmatic strategies that support advanced adult ELLs continued development of English proficiency, including cognitive academic language proficiency in order to successfully transfer into ABE or ASE, complete a high school equivalency program, and become prepared for postsecondary education and the 21st century workplace.

The project is only in its first year, but preliminary collection of extant data suggests a critical need for programmatic and instructional systems that will enhance educational practices in numeracy for transitioning English language learners. The purpose of this presentation is to report on the TELL research project, describe the state of literature in the US relative to educational practices in numeracy with TELLs, and to prompt discussions about promising practices with similar students in other countries.

-C2-

Professional Development for Middle School Teachers: A Growing Adult Student Audience

*Katherine Safford-Ramus
Saint Peter's College, New Jersey*

Abstract

In the United States there has been a growing call to strengthen the mathematics knowledge of teachers in the middle school grades, that is, teachers whose students who are eleven to fourteen years of age. Several states, New Jersey included, have increased the certification requirements for these teachers and are now requiring that additional university courses be completed. This paper will summarize the national middle school professional development movement and report on a pilot project at Saint Peter's College that addresses the New Jersey licensure requirements.

-D1/E1-

BBC raw numbers

Michael Rumbelow, producer, BBC raw numeracy, Robert Nicolaides and James Conway, BBC

Abstract

BBC raw numbers is a new online informal learning resource aimed at inspiring and supporting adults to increase their confidence and fluency with numbers. The resources are aimed at adults who are not and may never be in formal education – the focus is on enriching everyday life rather than achieving a qualification, and on users’ personal interests and points of need in their everyday lives rather than a curriculum framework. The resources are planned to launch on bbc.co.uk/raw in Autumn 2009.

This hands-on workshop is focused on some of the resources for mobile phones being developed for raw numbers, in particular tools for creating and sharing solutions to everyday numerical problems, and for creating and sharing simple mathematical games. For part of the session we will follow the pattern of a recent workshop carried out with bus-drivers at Holloway bus garage in north London to make mathematical games for passengers to play on their phones during the journey.

-D2-

**Numeracy at Work - From the Classroom to the Workplace and back again:
Developing an understanding of numeracy teaching**

Beth Kelly

LLU+, London South Bank University

Abstract

The Leitch Review of Skills, a major economic review of workforce skills, was published in the UK at the end of 2006. The review specifically identified the skills required to maintain the UK as a global economic force for the next 10 to 15 years. This has resulted in a big shift in policy, people and resources to focus on the delivery of skills training for adults in the workplace.

In response to this policy shift I have had the opportunity to work with and train people from a range of workplaces. Through this work I developed a model that seeks to enable teachers to identify and reflect upon the numeracy skills, knowledge and processes used in the context of education and 'embedded' in the context of work.

This year I have researched the model further in different contexts; a large cake baking company, a white goods company and with a group of teachers on a numeracy specialist teacher training programme.

The workshop shares the findings from the research and briefly identifies the journey from practitioner to research and beyond.

-D3-

Ethnomathematics' contributions to adults learning mathematics

Eugenia Pardal, E.B. 2,3 Ruy Belo, Portugal

Darlinda Moreira, Universidade Aberta, Portugal

Abstract

This paper focuses on professional knowledge that is related to mathematics. It gathers and describes episodes found out in professional practices of masons that illustrate mathematical knowledge embedded in their professional activities. The theoretical frame that guides the research is rooted in Ethnomathematics and in the concept of community of practices. Methodologically, an ethnographic approach was used to gather the data throughout one year during the building of a house where a group of masons and their respective supervisors were working. Semi-structured interviews were also conducted. Thus, the observations were done in the professional context, highlighting mathematical processes and ideas in a contextualized way and interrelated with professional activities, showing the process of their learning experiences.

Independent of schooling, masons daily and implicitly apply mathematics. It is this mathematics that, after being uncovered, is for us educators, of most importance to use in adult learning mathematics contexts, because not only does it approximate school content and curricula to labour market necessities but also it takes advantage of adult long life learning experiences as to make them meaningful and supporting new mathematical learning.

-D4/E4-

Six Adult Mathematical Workers on Literacy, Numeracy, and Technoracy for Life

*Mônica Mesquita and Sal Restivo with Jorge Marques, Trindade Damasio, Margarida Matias, Isaura Matos, Conceição Pires, M^a São José Madeira, Fernanda Marques, Paulo Santos D.A.R. à Costa – Tr@nsFormArte
Costa da Caparica, Portugal*

Abstract

This is an opportunity for some members of a government sponsored community that recognises and validates life experiences as a basis for learning the secondary certificate to share their ideas about mathematics and the world. This presentation includes six essays developed in the context of the community that explore the process of adults learning mathematics. These essays reveal the product of a Friirian educational approach and some thoughts socially constructed in interaction with volunteer educators from different parts of the world and with different experiences and backgrounds. The main objective of this paper is to open a way to bringing voices of the adults learning mathematics through our mutual efforts.

-E2-

Adult innumeracy and the influence of negative mathematics attitudes, low self-efficacy beliefs, and mathematics anxiety in student primary teachers – an interventionist approach for better practice

Chris M. Klinger

University of South Australia

Abstract

The role of primary teachers in the relationship between adult innumeracy and mathematics anxiety is examined via a specific focus on the mathematics attitudes and competencies of pre-service (student) primary teachers commencing their first year of Bachelor of Education (Junior Primary and Primary) degree studies. First, their mathematics attitudes, self-efficacy beliefs, and mathematics anxiety were surveyed to identify their perceptions of mathematics, including their own capabilities, using the IMAES instrument developed by the author; second, their attitudes towards, and perceptions of, mathematics were examined from a qualitative perspective via interviews and open questionnaire; and third, their understanding of, and capacity to carry out, fundamental mathematical tasks was examined by administering a short but comprehensive skills test. The results confirm and expand upon previous findings by the author that student primary teachers tend to have pervasive and frequently severe negative attitudes, low mathematics self-efficacy beliefs, and anxiety of mathematics. As these student teachers will ultimately carry their math-attitudes and perceptions into primary school classrooms, there are profound implications in these findings to inform those who 'teach the teachers' and aid in the development of more effective teacher preparation programs for both pre-service and in-service primary teachers.

-E3-

Bet and Lose: Learning Mathematics or Losing Money

*A. Univ. Prof. Univ. Doz. Dr. Juergen Maasz
University of Linz, Institute for Mathematics Education*

Abstract

A lot of people risk money with bets on sporting or other events. The bookmakers that offer such bets earn a lot of money. Together with a colleague from Salzburg University, Dr. Hans-Stefan Siller, I made a proposal (more exactly: a concept for a part of a basic mathematics course) for learning the mathematics behind the screen (internet bets are very popular) starting with a simple simulation of a game or sporting event in the mathematics lesson. Learners organize a sporting event (or a simulation of an event), find a number of betting shops to determine odds. Other participants are given money to bet. When the event is over and the results are found the learners calculate wins and loses. So they learn how to calculate odds and why bookmakers earn so much money – if the bookmakers know enough about mathematics and other things.

-G-

The problem field of Adults Learning Mathematics

*Tine Wedege,
Malmö University, Sweden*

Abstract

In the borderland between mathematics education and adult education a new research field was cultivated, and an international research forum was formed in the 1990's: Adults Learning Mathematics. The subject area encompasses formal adult mathematics education as well as adults' non-formal mathematics learning in the communities of everyday practice, e.g. family and workplace. The key concept is numeracy and the problem field is related to adults, mathematics and lifelong education. This lecture presents a present picture of international research in adults learning mathematics with a focus on – and examples from – the interplay between research and education. These are the three classical key issues – what, why and how: What do adults know and have to learn; why do adults (not) learn mathematics; why teach mathematics to adults; and how to teach or what is “best practice” in adult mathematics education. But in adult education and research other issues are necessarily intertwined: Who are the adults, when are they (not) learning and where?

-H1-

i, robot: freewill and the role of the maths teacher

Rachel Stone

LLU+, London South Bank University

Abstract

To what extent is our teaching practice controlled by external forces? Do we teach in the way that we do because we want to or because we have in fact internalised those forces?

This paper presentation is based on a small scale study which sought to develop existing research on maths teacher beliefs and practices by considering 3 adult numeracy practitioners in contrasting UK settings (teaching army recruits, young Bengali speaking learners and Health and Social Care students respectively.) The study looked at how the institutions where these teachers worked affected not only their classroom behaviour but their own beliefs about maths too.

The question of why we teach the way we do has long concerned those working in maths education. Whose agenda are we following? How do we accommodate institutional constraints and expectations with our own beliefs and principles about the teaching and learning of maths (and where do those principles and beliefs come from in the first place?)

Are teachers of maths for adults 'free agents,' or are they robots who think they are free agents? Those attending this paper presentation are invited to reflect upon these and other questions.

-H2/I2-

Adult Numeracy in Economic Change: The Conversion to the Euro in Slovak Republic

Jana Mullen & Jeff Evans

Middlesex University Business School

Abstract

This research investigates common issues faced by consumers in Slovakia after the currency change from the Slovak crown (Skk) to the euro. Thus our first research question is:

RQ1: How do Slovak citizens cope with the numerical demands of conversion? Which conversion method do they use and how do they develop their price intuition in the new currency?

Our approach towards numerate thinking emphasises peoples' attitudes and emotions as part of the 'charge' of an activity (Evans, 2000). In this situation, national currencies have symbolic and emotional meaning and may influence people's attitudes towards the euro. Thus,

RQ2: What are citizens' attitudes and emotions towards the euro?

The pilot study for this research (n=86) was carried out in April 2008, and a main study at the end of the dual circulation period in January 2009 (n=102). Data were collected in two regions, Trenčín and Bratislava using face to face interviews which lasted on average 20 minutes. A sample was selected to reflect the characteristics of the Slovak population such as sex, age, education and income level.

Results from the surveys related to the Research Questions will be presented and discussed. For example, when we asked respondents to do conversions, 82% of respondents knew the approximate value of 5€ in Slovak koruna (5€=150.63Skk) and 84% of respondents knew the approximate value of 100Skk in euro (100Skk=3.32€). When we asked respondents to indicate whether they agreed or disagreed that "Adopting the euro will mean that Slovak Republic will lose a great deal of its identity", only 21% agreed. This result is very different to what we would expect here in the UK where people are very attached to the pound. This can be explained in terms of Slovak citizens' lesser emotional attachment to the Slovak koruna.

The results of the second study carried out in January 2009 shows that 45% of citizens are 'happy' or 'very happy' on a personal level that the euro has become the currency and the very short (16 days) dual circulation in Slovakia did not cause any significant difficulties apart from slight delays at the check outs which people were expecting.

This study is done under the aegis of a European network for research into adult numeracy and 'numerical cognition' (Gärling, T. & Thørgersen, 2007), being organised under the leadership of Jeff Evans and including ALM members. The development of this network and opportunities for collaborating in future research focused on the conversion to the euro in a number of European countries will be briefly described.

-H3-

Aggregate, investigate and organise. The process of mathematical investigation and teachers of adult numeracy

Graham Griffiths, David Kaye, Ruth Moulton
LLU+, London South Bank University

Abstract

In 2007/2008 we began a new programme of teacher training at LLU+ / LSBU using new specifications devised at a national level. As part of these programmes we have requested that trainees deliver a presentation outlining a problem and the stages of its solution. In another assignment, we have asked trainees to undertake an investigation in one or two areas of mathematics and reflect on the process. In both assignments, we are attempting to get trainees to focus on the process, rather than content, of mathematics. This follows similar attempts in many curricula internationally – from GCSE to functional skills in England and the ‘reform’ agenda of the USA. In 2009 the authors noted some of the issues that are involved in presentations during the first year of delivery. In this workshop, we will consider some further examples of presentations and investigations drawn from our second year of delivery, and consider what issues for research and teacher training that this data suggests.

-H4/I4-

Using ICT to engage and develop numeracy skills

Barbara Nance

NIACE

Abstract

Over 77% of the workforce using ICT in their roles and research has shown that it can also be used as a means of engaging learners and as a tool to develop numeracy skills.

This interactive workshop investigates some of the tools and approaches that can be used to use ICT effectively within teaching and learning numeracy.

-11-

Educating Activist Adult Numeracy Teachers?

Keiko Yasukawa

University of Technology, Sydney

Abstract

What knowledge and skills are needed by adult numeracy teachers if they are to genuinely give voice to the personal and community aspirations of their learners? How can adult numeracy teachers navigate their way through a policy framework that may not reflect their philosophical and ethical positions about adult numeracy curricula and their own role as educators? What is it beyond the competencies of teaching adults, that teachers need in order to encourage imagination and social action, both among their professional colleagues and among their learners to create a better world?

This paper will draw on Sachs' and Groundwater-Smith's ideas of 'activist professionals' and Skovsmose's and others' ideas of critical mathematics to discuss the possibilities of developing and supporting adult numeracy teachers who can exercise agency in shaping their field in times of hostile policy contexts.

-J1-

Participation of women in mathematics at the university level

Dr Jonathan Fletcher

Institute of Education, London

Abstract

This is a report of a study of the participation of women in mathematics at the university level. Three hundred and ninety –seven (397) women studying mathematics in four public universities in Ghana responded to a structured questionnaire on what factors decided them to study mathematics at the university level as well as what careers they would follow at the end of their courses. The questionnaire was also used to collect the participants' perception on the low participation rate of women in mathematics at the university level. In addition to the questionnaire data, twelve women were interviewed in detail about their decision to study mathematics.

Analysis of both the quantitative and qualitative data revealed that, apart from the women's perceived self confidence and high ability in mathematics, fathers influenced the women most to study mathematics at the university level. The women were least influenced by male or female role models in mathematics. The majority of the women opted to become teachers at the end of their courses and only a tiny minority considered engineering or technology as a career. Finally, the participants attributed the low participation rate of women in mathematics at the university level to the 'dryness' of the subject. The implications of the findings are discussed.

-J2/K2-

Investigating Adult Numeracy at the International level: A first look at PIAAC

Silvia Alatorre (Mexico), Sean Close (Educational Research Centre, St. Patrick's College, Dublin), Jeff Evans (Dept. of Economics & Statistics, Middlesex University, London), Lene Johansen (Aalborg University, Denmark), Terry Maguire (Institute of Technology, Tallaght Dublin, Ireland)

Abstract

The Programme for the International Assessment of Adult Competencies (PIAAC) is currently being designed under the auspices of the OECD. This large-scale assessment will involve 28 countries, mostly in Europe, in a field trial in 2010 and the full run in 2011 (with results reported in 2013 or 2014). PIAAC aims to build upon earlier surveys such as IALS and ALL, but with some developments. It also is conceptually related to PISA, another OECD assessment focused on 15 year olds.

This presentation from several members of the Numeracy Expert Group for PIAAC will discuss several key issues, selected from among the following:

- the way of conceptualising numeracy for this study
- the methods of assessment, including computer administration
- issues of comparability with earlier studies, especially ALL and PISA
- fieldwork issues such as cultural adaptation of items
- policy issues to be addressed by PIAAC results

Given the scope of PIAAC and its likely impact on education and training policy in the many participating countries, our presentation will aim to describe the project to the adult numeracy community at ALM, and to invite discussion on issues of interest.

-J3/K3-

Numeracy – 21st Century Style

Joanna Norton

Click4ESOL.com

Abstract

The aim of this workshop is two-fold:

1. To demonstrate to practitioners how modern technological devices commonly at our disposal can be utilised to deliver engaging and stimulating numeracy lessons
2. How embedded ESOL, numeracy and IT learning can be achieved - 21st century style

A short presentation will be given at the start of the session but the remaining 75 minutes will be interactive with participants engaging with technology.

1. Introductory video – shapes in our community. A stimulating video to encourage participants and subsequently our learners to think about our environment and the shapes within it.
 2. Presentation of numeracy language within an ESOL context. Sample practice activities suitable for low level ESOL students will be carried out in pairs and small groups.
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 4. Integrating IT. In small groups, participants will discuss their shapes and prepare a small slide show which they will then present to the workshop.
 5. Plenary session. Feedback on blended learning. Participants discuss ideas for further embedding shapes within an ESOL, numeracy and IT context.
-

Family Mathematics Education: Building Dialogic Spaces for Adult Learning Mathematics

Javier Díez-Palomar
Autonoma University of Barcelona

Silvia Molina Roldán
Autonoma University of Barcelona

Abstract

In this paper we discuss the idea of building dialogic spaces as a way to promote teaching and learning mathematics in adult schools. Prior research suggests that social and cultural contexts are relevant variables that have an important impact on how adults learn (according to the thesis of transferability). We claim that building spaces where adults would feel free to participate is a fundamental fact to promote this “transfer” of knowledge from the home practices to the school practices. We draw on data coming from a research project with families involved in their children mathematics education. Data collected is qualitative, including interviews, observations (field notes), discussion groups, and classroom activities. We videotaped all the data and used specific software to analyze it. Discussions show several episodes that illustrate the impact of “dialogic spaces” to promote adults mathematical learning. Several elements involved are analyzed. We conclude with the idea that dialogical spaces give a chance to adults to exchange their different approaches to mathematics, in order to learn the formal concepts of academic mathematics.

-K1-

Behaviourism, cognitivism, constructivism, or connectivism? Tackling mathematics anxiety with 'isms' for a digital age

Chris M. Klinger

University of South Australia

Abstract

The connection between adult innumeracy and mathematics anxiety is well established. One of the major challenges facing practitioners in any field of adult mathematics learning is to achieve effective learning outcomes in the face of prevailing negative attitudes in their students, often present as a consequence of unsatisfactory early mathematics learning experiences.

From adult numeracy teaching to undergraduate non-specialist mathematics teaching in diverse disciplines such as economics, nursing, and teacher education, the issues are essentially the same: traditional approaches to mathematics teaching do not work for math-averse students. Moreover, there is mounting evidence that the advent of the digital age is generally undermining many aspects of accepted teaching and learning practices, further fuelling a need to find new ways to tackle old problems.

Here, some stereotypes of traditional methodologies, which have their roots in behaviourism and cognitivism, are considered in the context of behavioural and cognitive characteristics common among math-averse and math-anxious students. This motivates a re-framing of the practitioner's approach to outline strategies for effective practice that go beyond constructivism and find alignment with connectivist approaches to learning.

-L1-

Experiences of educationally disadvantaged adults learning mathematics

*Barbara Miller-Reilly
University of Auckland*

Abstract

Adults often experience difficulties when returning to the study of mathematics. Becoming mathematically well-educated (or numerate) is important as it allows an adult access to further education and more opportunities in the work place. A carefully structured and paced re-introduction to mathematics proved to be an effective approach with the majority of educationally disadvantaged adults studying in a full-time one-year course at the University of Auckland. My in-depth case study of this course illustrates the impact of this teaching approach and other factors on adult students' experiences learning mathematics.

-L2-

The SfLIP side of adult numeracy. What numeracy teachers want (in England).

*Jackie Ashton, Graham Griffiths
LLU+, London South Bank University*

Abstract

The academic year 2008/2009 saw a growing focus on numeracy in the Skills for Life Improvement Programme (SfLIP) in England. This has involved the development of a range of programmes for numeracy including targeted sessions for adult numeracy teachers. Sessions were run in the nine regions of England and involved 2 days of delivery and were focused on the teaching of aspects of adult numeracy (called 'pedagogy' sessions). The first day involved a programme designed centrally and was concerned with a specific pre-arranged area of numeracy. The second session was constructed around the aspects that the teachers requested. This paper will use these sessions as raw data to consider what training teachers feel that they need. Given that this is a self selected sample, we will then conjecture what this tells us about the population of adult numeracy teachers. We will then consider what further research and development can be undertaken.

-L3-

‘We all play teacher’: A study of naturally-occurring student discourse in adult numeracy classrooms

Helen Oughton

University of Bolton

Abstract

This paper presents findings from a study of student-student discourse in adult numeracy classrooms in England. The study takes advantage of the increased use of discursive groupwork in such classrooms, and students are audio-recorded as they work collaboratively on mathematical activities with little intervention from the teacher. The methodology affords privileged insights into students’ experiences of learning which would not be apparent through teacher-led interaction. Themes emerging from discourse analysis of the recordings include: the classroom as a cohesive community of practice; the role of humour and self-deprecation in diffusing anxiety and tension; the linguistic devices the students use to express uncertainty and to negotiate meaning; and the students’ perceptions of their own agency within wider educational structures. In particular, the findings challenge commonly-held assumptions about relevance and context in adult numeracy learning. This methodology also provides pedagogical insights; for example, the recordings capture ‘gestalt’ moments and students’ informal calculation methods.

-L4-

“Why Can’t We Do It This Way”?

Dr. Mark Schwartz

Southern Maine Community College, Portland, Maine, USA

Abstract

I frequently hear this question in community college Basic Math and pre-Algebra classes.

Students bring to the classroom shards of information and algorithms learned (or seemingly learned) and they question why they must master new and different approaches. Yet they are quite aware that the mathematics they know seems insufficient to provide consistent and complete mastery of some topics – operations with signed numbers, factoring trinomials, application problems, equations. Masked behind these inquiries, I find, is a desire to express and explore a personal theory they have evolved (quietly) which contrasts with a classical approach to problem solving. Probing their silence is a provocative experience.

Examples of such positing are presented and discussed. But, I also propose that we, as math educators, need to examine why we don’t offer alternatives to some of the classical textbook conceptions. Their questions need to become ours.

Fundamentally – why don’t we use Mathematics to explore some alternatives to the classical approaches to learning mathematics? I will discuss and demonstrate, using their examples and mine, how including students in the exploration enables and sometimes validates their imagination and also significantly reinforces learning.

-M-

Informal mathematical understandings: implications for further education

Terezinha Nunes

University of Oxford

Abstract

There are many opportunities for people to develop mathematical understandings outside school. We develop our thinking about quantities and relations between them even when we might not be able to use numbers to represent the quantities or the relations between them. This presentation will focus on research suggests that informal knowledge of functional relations is often implicit and thus may be incomplete. This presentation will highlight the basis and strengths of informal knowledge about functions and suggest ways of capitalizing on this knowledge in school.

-N1-

Beyond word problems

Kees Hoogland

APS – National Center for School Improvement

Abstract

Concepts of adult numeracy education can be arranged along a continuum of increasing levels of sophistication. According to a review of AIR (2006) all of the most recent influential approaches to defining adult numeracy fall into the so called integrative phase of this continuum. In this phase numeracy is viewed as a complex multifaceted and sophisticated construct, incorporating the mathematics, communications, cultural, social, emotional and personal aspects of each individual in context.

A closer look however at lesson or test materials used in many different countries reveals that most materials consist of word problems or of exercises with formal arithmetic skills. One could say that the sophistication of the concepts runs way ahead of the sophistication of the learning and testing materials.

In this era of technological and multimedia possibilities a next step can and should be made to bring real quantitative problems – problems as individuals face them - into learning materials.

Some newly developed learning materials use real contexts in a multimedia environment and close as much as possible the gap between the educational setting and the real life use of numeracy. These learning materials are now developed, ready to be presented and are truly beyond word problems.

-N3-

Big Thinking about Little Sums - a deeper understanding of fundamental mathematics

Rachel Stone, David Kaye
LLU+, London South Bank University

Abstract

Historically, much attention has been paid to the level of mathematical knowledge required for people to teach numeracy in the lifelong learning sector in the UK. Less attention has been paid, however, to the 'depth' of mathematical knowledge that teachers hold. In this workshop, participants will be invited to consider some 'deeper' aspects of fundamental mathematical concepts and methods, and to reflect on the implications of this for their own teaching contexts. Different ways of looking at operations on numbers and fractions, understanding statistical measures and defining the characteristics of different shapes will be explored, along with the connections that can be made to other curriculum areas.

-N4-

Ideas from the NCETM – workshop session summary

Viv Brown (Mrs)

National Centre for Excellence in the Teaching of Mathematics NCETM

Abstract

Please join Viv Brown for an exploration of just some of the ideas, activities, video clips, discussions, resources, mathemapedias etc available to support the professional development of mathematics and numeracy teachers in England via the National Centre for Excellence in the Teaching of Mathematics.

This will be an active workshop and will provide an opportunity for participants to try out and discuss some activities together from the new CPD modules available on www.ncetm.org.uk. These are designed for teachers to work on and develop together and cover a wide range of topics and levels. There will also be time to find out more about the personal learning space, the self evaluation tool and to dip into the online magazines.

-N5-

Ideas for teaching Number

Jackie Ashton & Daian Marsh

LLU+, London South Bank University

Abstract

This workshop will look at a range of strategies for teaching number. LLU+ has been delivering a series of workshops on numeracy pedagogy across England. Within these workshops strategies, ideas, resources and activities relating to teaching numeracy to adults have been shared, added to and fed back on. This workshop will include a sample of the strategies, ideas, resources and activities relating to teaching fractions, decimals, percentages and ratio. There will be an example of teaching fractions, decimals and percentages using simple everyday materials, a carousel of tactile resources and a kinaesthetic activity on ratio.

-01-

Financial learning and numeracy

Claire Robinson

NIACE

Abstract

Finance is a topic on many learners' minds. This session will give an introduction to effective ways of delivering numeracy in the context of finance. There will be a chance to find out about and explore resources including paper based materials, CDs and ideas for e-learning. There will information and ideas to provide support with developing class room sessions for learners and the opportunity to find out about qualifications available for practitioners who wish to develop their work in this field. The session will provide an opportunity to find out about research and examples of practice in the area of numeracy and financial learning.

-02-

The transition to Functional Maths experiences from a secure environment and the way forward

Bob Smith, Louise Marriot, Remy Odoeme

Abstract

In this workshop we would like to share some of our experiences, as a pilot centre, of functional maths.

We will present an overview of the standards (giving participants the chance to put these into practise in sample exam papers), present materials we have produced and look at the possible impact of these on both learners and teachers. We will look at ways of delivering functional skills in the classroom and workshop situations. Finally we will consider some real life scenarios involving problems where maths is needed and invite participants to consider the maths involved and strategies to tackle the problems.

-03-

Straight from the Student's Mouth: Ten Freshman Women Reflect on their Difficulties with Math

*Martha Whitty,
Trinity (Washington) University*

Abstract

The students at Trinity University, an all women's college in Washington, DC, come largely from low-income households. Two-thirds of the students come from single parent households and are the first in their family to attend college. When surveyed, 60% of admitted students say they will need extra help in mathematics. It is therefore not surprising that, when given math placement tests, 65% place into an introductory algebra course for their first semester of college.

After completing their first semester at Trinity, students were invited to share their feelings about mathematics via filmed interviews. The result is an enlightening 25 minute film which takes you inside the minds of 10 Trinity freshmen and shows the world of math from their perspective. These young women, who have struggled with math all their lives, perhaps through no fault of their own, are relaxed and candid as they speak truth to the camera. Topics covered by the students include gender stereotypes, confidence, teaching styles, learning styles and attitude.

-04-

Numeracy – 21st Century Style

Joanna Norton
Click4ESOL.com

Abstract

The aim of this workshop is two-fold:

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 5. Plenary session. Feedback on blended learning. Participants discuss ideas for further embedding shapes within an ESOL, numeracy and IT context.
-

-05-

Numeracy Market Stalls

Zaeed Mohammed

Lecturer Kendal College, Milnthorpe Road, Kendal

Andre Smith

Derbyshire County Council, Bakewell, UK

Abstract

To present 4 x 5 minute market stalls, role play presentations that highlight current/relevant topics involving numeracy with the aim of furthering understanding and possibly the evolution of new concepts/ ideas.

The 4 different presentations will be:

- A role-play of an employer/employee, in relation to employability and how numeracy affects employment.
- Role play tarot reading demonstrating the fun and interactivity that could be adopted when ascertaining learning styles.
- An overview of functional skills and what it means for the learner and educational establishments.
- A demonstration of how the language of maths affects the potential of successfully learning maths.

All presentations will be accompanied by a variety of handouts that reinforce what has been presented and will lead onto topic discussion with a view to a generation of new ideas/concepts.

-P1-

How adults cope with the conversion to the Euro in Slovak Republic

Daniela Maťovčíková

VŠM / City University of Seattle, Bezručova 64, 911 01 Trenčín, Slovakia

Abstract

While the debut of the euro and the birth of the Eurozone at the beginning of 1999 amounted to a very important point in the international monetary system, Slovakia was not directly influenced. Our country kept only dreaming about entering the European Union at that time, never imagining that a membership in the Eurozone could possibly follow almost promptly afterwards. As a fully legitimate member of the Union from 2004, we are already 16th member of the Eurozone from 1st of January 2009. Are Slovak citizens in a positive spirit or rather feeling uncertain? How are they getting used to dealing with a new currency? This paper describes basis, methodology and findings of a survey that was done at 3 different times. The first part of the research was conducted before a decision about our entrance was made, the second relates to December 2008 and the last is going to be executed in April 2009. One section covers numeracy difficulties the people are experiencing. The project summarizes relevant data and the results are clearly demonstrated with a help of tables and graphs.

-P2-

Sharing learners' personal knowledge - numbers in different languages

Ruth Moulton, Jackie Ashton
LLU+, London South Bank University

Abstract

It is accepted that using learners own knowledge, experience and understanding of mathematics in teaching numeracy/mathematics is effective practice, improving learners' self esteem and maths understanding, it also broadens our own understanding as teachers.

I am currently working with about 15 women who attend my family numeracy sessions, between us we speak 5 languages in addition to English and have school experiences from a similar number of countries. During the course we have explicitly discussed and shared knowledge about the structure of spoken/written numbers in our languages and about how we approach mental and written calculations.

In this workshop I would like to share the results of these activities and also add your own experience and knowledge to explore the affects number structure might have on learners understanding of numbers.

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