Primary Schools Partnership
February Newsletter

2024

University of Roehampton London

A message from our Deputy Dean

Dear colleagues,

As ever we hope that all is well with you, your schools, and your children.

I wanted to draw your attention to the Teaching Degree Apprenticeship (TDA) which the DfE is proposing. There are already plans in place to run a pilot next year to recruit 150 secondary maths trainees.

The 4-year TDA differs from the current one-year postgraduate apprenticeship, which is designed for those who already have a degree. TDA trainees would work for their degree alongside their employment in school. The proposal is to have 40% of their time spent studying and the rest of the time working in schools.

The introduction of the TDA appears to be a response, in part, to the current recruitment crisis. It will also allow schools to tap into their apprenticeship levy in new ways. This may be popular with those schools who have experienced and valued TAs who do not have degrees.

We are looking at how we can become involved in the TDA as another way of supporting our partnership schools with recruitment. At the moment we are monitoring messages from the DfE to see how the proposals will work. Please see the DfE press release on the TDA here. If you have queries I can help with, please do email me: matthew.sossick@roehampton.ac.uk

With best wishes,

Matt Sossick
Deputy Dean and Head of Initial Teacher Education

In this issue

Welcome to our February issue! Miles Berry, Professor of Computing Education, discusses **AI in Initial Teacher Education** on page 3, whilst Lynda Chinaka, Senior Lecturer in Computing Education, considers **AI literacy in the classroom** from page 4. The **BBC micro:bit playground survey** has launched, find out how your school can get involved on page 6. The **Geographical Association** Network's High Weald Branch (covering SE London, E Surrey, East Sussex, W/C Kent, Medway) is seeking new member schools and teachers – details on page 6. Professor Ian Abrahams, Head of Research and Knowledge Exchange in the School of Education, shares the findings of a recent project into **interventions to reduce childhood obesity** from page 7. And the Centre for Literacy in Primary Education are offering to fully qualified teachers some **free literacy-related masterclasses** – sign up on page 11.

AI in Initial Teacher Education

by Miles Berry, Professor of Computing Education

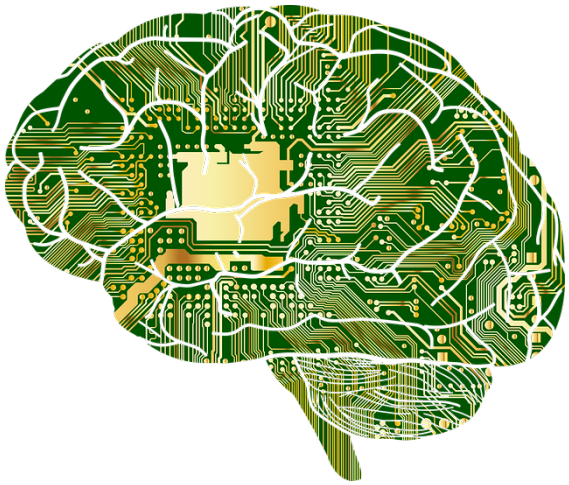
As new technologies are developed, there's often a feeling that the nature of education changes: Plato famously had Socrates bemoan the invention of writing as it would lead to forgetting and the mere appearance of wisdom; the printing press made learning accessible to those outside monasteries and universities; and the web opened publishing to the masses, for good or ill. And yet, the *fundamental* nature of education has remained the same: it's about the transmission of knowledge, the development of skills, and the formation of character. I hope I can be forgiven for being sceptical that large language models (LLMs) such as GPT-4 will *revolutionize* education, although, like writing, the printing press and the web, they may change it.

Much of my work at the University of Roehampton is training the next generation of teachers, and so I've a duty to prepare them as best as I can for a working life in which AI looks set to play a role. Teacher training is regulated, and the requirements for qualified teacher status, the Teachers' Standards, have not been updated since 2011; unlike the previous version, these standards make no reference to technology. Nor does the current version of the DfE's curriculum for teacher training, although the next version will - making it clear that new teachers need to know about the technologies that improve pupils' outcomes, including particularly for supporting those with SEND.

Teacher training students need to develop their capability to use generative AI wisely and effectively in their roles as students, as teachers, and in how they deal with pupils' own use of these technologies.

For our students, my colleagues and I have been concerned with the temptation for academic misconduct, submitting work done by AI rather than students themselves. We've policies in place, and have emphasised that unattributed and unauthorised use of generative AI would be treated like any other sort of plagiarism. I've emphasised that our essays and other assignments are a *means* to learning rather than merely assessment of it, and happens when students are consciously engaged in writing. Through discussion with students and colleagues across the University, we've established a helpful rule of thumb for using AI in academic work: if you could reasonably expect this support from peers or tutors, then it's probably OK to get help from an AI too. Thus, it's OK to get Chat GPT to explain or summarise a text, to offer some ideas to get started, and to suggest how a piece of work could be improved, but it's not OK to get it to do the work for you - copying and pasting its output is almost certainly wrong.

As beginning teachers, I want my students to get all the help they can in keeping the administrative workload of teaching as light as possible, so they can spend more time teaching and inspiring their pupils. We explore how generative AI can help with lesson plans, creating resources, making assessment items, and adapting content to better meet the needs of their pupils. Out students know they need to be critical of the output from generative AI, due to issues such as 'hallucination' and bias, but I'd hope they'd be critical of planning, teaching and assessment materials from other sources too!



For their pupils, I'd want my students to be able to pass on some understanding of how these tools work - to realise that whilst LLMs are well read and articulate, they have no understanding, reasoning or sentience. I'd like my students to be able to empower their pupils to use these technologies effectively: having the knowledge they need to be able to prompt well, and to evaluate the AI's response. I'd also hope they talk to their pupils about the value of working hard to understand something themselves, and to develop the qualities that make them uniquely human, such as kindness, courage and creativity.

Artificial Intelligence: AI Literacy in the classroom

by Lynda Chinaka, Senior Lecturer in Computing Education

Everyone is talking about Artificial Intelligence and the term used with increasing frequency is now embedded in our daily discourse. It is no longer the exclusive domain of digital specialists and computer science enthusiasts. The noisy emergence of Generative AI has reached almost crescendo proportions as it appears to dominate our lives. It would it easy to think that artificial intelligence is a recent phenomenon. It is not.

We engage with artificial intelligence (AI) in all manner of ways on a daily basis. Whether you are sending a text message, using predictive text prompts, making a request using the voice recognition app Siri/Alexa , use social media or using the multilingual machine translation service app Google Translate, AI is at play. Google Translate has been around since 2007. AI is often integrated in many of the tasks routine tasks like going shopping, when facial recognition tools welcome you as you enter a store or sensors that identify the goods we purchase at the self-service check out.

Robots on Roehampton Campus

You might already subscribe to a delivery service. Here are the university, food can delivered to the Halls of Residence by an autonomous self-driving robot.

So what is AI?

Defining the term is not straight forward. IBM defines artificial intelligence as technology that enables computers and digital devices to learn, read, write, talk, see, create, play, analyse, make recommendations and do other things humans do.

The government's pro- innovation approach to AI regulation describes AI as **"**a branch of computer science that deals with the creation of intelligent' agents. It can perform numerous and varied tasks" (DfSIT 2023).

Computer scientist Mirella Lapata asserts the idea that Artificial Intelligence gets a computer programme to do a job that a human being would otherwise do (Lapata, M 2023).

Research in the field of Artificial Intelligence began almost 75 years ago. In 1950, Alan Turing published a seminal paper 'Computing Machinery and Intelligence' positing the question, "Can machines think?" (Turing,A 1950) His work formalised the concept of intelligent machines that could carry out operations that could be performed by a human computer. He and other computer scientists carried out tests on machines to determine whether they could imitate human behaviour. The celebrated film the 'Imitation Game' loosely tells this story.

For the purpose of practicing teachers in the classroom, AI is not a separate area of study within the National Curriculum; it pertains to the study of computation and problem solving. It centres around building children's awareness of automation in digital technology, the crucial role of data science and an understanding that computers can be trained to behave in a manner that mimics intelligence. This also involves using appropriate technical language that does not suggest that **artificial** intelligence is the

same as **human** intelligence e.g. instead of saying the machine/programme/robot thinks, we should be saying, it has been programmed to respond in a given way.

AI and Machine Learning

Machine learning works in conjunction with artificial intelligence. Machine learning is a sub-field of artificial intelligence and encompasses large data sets made manifest in different ways: sorting or classifying data and drawing conclusions. It involves teaching the machine model to automatically classifying different data sets. The machine learning model can learn from its data and from it perform tasks with little human intervention.

For primary age children this might involve creating a programme (the machine model) to recognise, classify or sort different things including images, text , sound or even play a game. Dale Lane teaches children how to use, create and analyse different machine learning models here at Machine Learning for Kids.

Resources for the classroom that help to build understanding of AI:

You can train a machine to recognise image, sound, different poses from your own files. Teachable Machine

Teachable machine - Image

BBC Bitesize Real Life Robots challenges us to think of robots in a way that is different from the common perception of robots with human like features rendered in metal. What is a robot?

Microwave

Amazon Echo (4th Generation)

AI and Ethics

While the onset of artificial intelligence is broadly good thing, there are drawbacks and teaching should include a recognition of this. Sometimes the quality of data or outcomes are of a poor quality. Sometimes bias is evident in AI and integrating the teaching of this and other dangers is important. Here, views expressed by the Children's Commissioner, Rachel De Souza are shared. The Children's Commissioner view on artificial intelligence

In the AI for children project, UNICEF explores ways that children's rights and safety can become embedded in government policies around the world.

This issue of Hello World Issue 22 focuses on teaching AI and ideas for the classroom.

The BBC micro:bit playground survey has launched!

Primary school teachers and pupils across the UK can continue their adventures with the micro:bit by taking part in the exciting new project, the **BBC micro:bit playground survey**. It's the perfect summer term project for 7-11-year-olds where children get to learn all about their playground environment through a series of engaging, fun and cross-curricular activities.

By taking part in the BBC's big survey of school playgrounds, children have a unique opportunity to get to grips with data in a practical and creative way that is relevant to their everyday lives.

To learn all about the playground survey, and how to get started with your class, visit the **BBC micro:bit playground survey website**, where you will find the **Teacher's guide** and all seven activities.

There are also videos presented by Big Manny, Shereen Cutkelvin, Tilly Lockey and Yussef Rafik explaining each activity and what you can expect to learn along the way.

Submit your class data via the **Playground survey data upload tool** by 5pm on **Wednesday 31st July 2024** and you get the exciting chance to contribute to the national results that will be published by the Office for National Statistics in the autumn term 2024. To find out more, visit **bbc.co.uk/microbit**.

Join the Geographical Association Network's High Weald Branch

The Geographical Association Network's High Weald Branch (covering SE London, E Surrey, East Sussex, W/C Kent, Medway) is seeking new member schools and teachers to get involved in events and event planning in 2024. Contact: Chris Adams (cadams@mayfieldgirls.org) for more details.

The ‘ME, HENRY & TastEd’ project

by Professor Ian Abrahams, Head of Research and Knowledge Exchange in the School of Education & Professor of Science Education

The ‘ME, HENRY & TastEd’ project, run by the University of Roehampton and funded by public health Richmond and Wandsworth, was designed to trial, and evaluate the combined effect of three, singularly effective, approaches into one, multi-initiative, intervention to reduce childhood obesity.

The need for such a project has never been greater. Data from the National Child Measurement Programme shows that currently 22% of children in England already enter primary school either overweight or obese with this increasing to 34% as they prepare to transition to secondary school. Given that being overweight or obese in childhood can have a lasting adverse impact in terms of both short- and long-term physical and psycho-social outcomes, there is an urgent need to develop and introduce effective interventions in the early years.

To run the project as a pseudo-random control trial, the intervention was delivered to the Y4 class in each of the two single entry schools Sc1Y4 and Sc2Y4, and to one of the Y5 classes in the two-form entry school Sc3Y5. Both single form entry schools (Sc1Y4 and Sc2Y4) provided a Y5 control class, and the two-form entry school Sc3Y5 provided a single Y4 control class. The programme collected bio-impedance data (i.e., measures of fat and muscle content) as well as height and weight measurements (to allow the calculation of the body mass index) at the start, mid-point, and the end of the project. The three separate components of the project were:

ME (Mentored Exercise): This component of the project, in which groups (a class of about 30 pupils was split into 2-3 groups) undertook mentored exercises - specifically designed to use resistance bands - was delivered by undergraduates but under the direct supervision of a qualified teacher. The ME utilised a mentoring approach, developed by Dr Murray (University of Stirling), that has been successfully implemented (with statistically significant results) in both the US and the UK.

HENRY: The UK’s leading healthy start provider, is commissioned by more than 70 local authorities and has the strongest evidence base for any UK Early Years healthy start programme. The HENRY component of the project was designed to provide a behaviour change approach to families. The HENRY team initially planned to deliver their educational Healthy Families: Growing Up programme online to five groups, once-a-week, for 8-weeks (up to 12 parents/ guardians per group i.e., up to 60 parents). However, due to very low parental/ guardian take-up – there was no parental engagement from Sc1Y4 – the HENRY intervention, scheduled to run in the first term of the academic year, was deferred to the second term to see if further parents/ guardian could be recruited including some from Sc1Y4. Whilst a few additional parents/ guardians signed up the total number of 7 parents/ guardians - given that 87 pupils were involved in the intervention - was therefore only 8%.

TastEd: An approach to food education based on the Sapere method of sensory food education used world-wide, including in the national curriculum in Finland. This component of the project provided teachers with support, training, and resources to deliver a range of simple taste education lessons. In a typical TastEd lesson, the class teacher brought into the classroom fresh vegetables or fruits and the children talked and wrote about what they saw, smelt, touched, heard, and tasted and whether they enjoyed it or

not. The aim was to encourage the replacement fatty foods with more fruit and vegetables in their diet. TastEd ran across the first and second terms of the academic year.

RESULTS SUMMARY

The main analyses used to test the effects of the intervention were those of covariance (ANCOVA), where the baseline measures were entered as covariates, so that the end point measures were compared between intervention and control groups whilst adjusting for any differences in the baseline measures. This is standard practice for trials data.

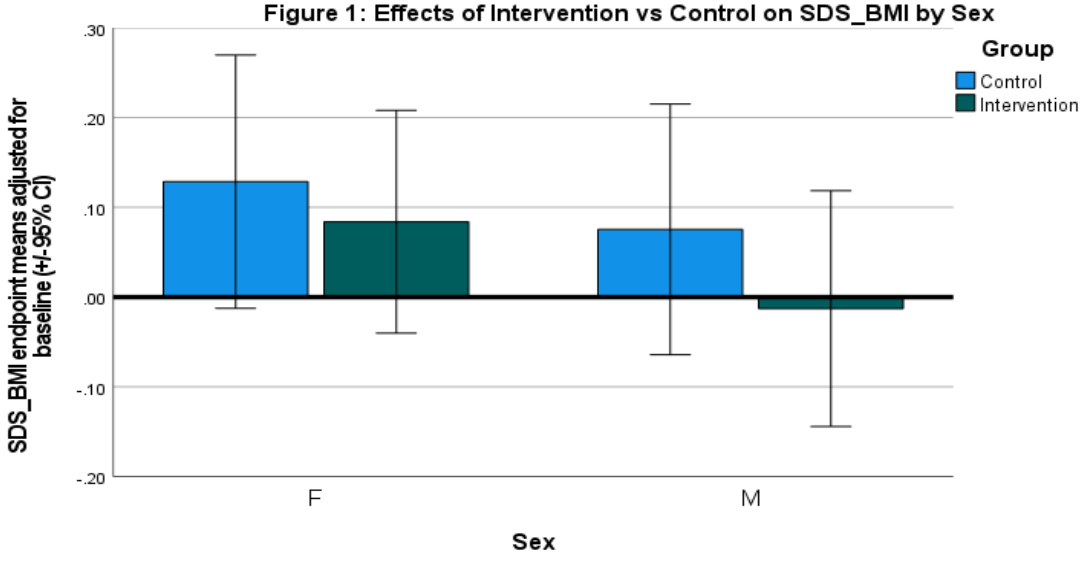
Table 4: Distribution of pupils by School, Year and Group for those with complete endpoint data (n=108)

		School					
		Sc3Y5		Sc1Y4		Sc2Y4	
		Year		Year		Year	
		4	5	4	5	4	5
		Count	Count	Count	Count	Count	Count
Group	Control	27	0	0	20	0	8
	Intervention	0	23	25	0	16	0

Effects of the intervention

We compared endpoint means for standardised body mass index, % body fat, fat mass and fat-free mass between intervention and control groups, using analysis of covariance (ANCOVA) adjusting for baseline measures. Since girls tend to have higher amounts of body fat than boys (a difference which increases as they get older), we included sex as a factor in ANCOVA analyses. Overall, there was a tendency for the intervention to reduce fat levels more effectively in males than females (see Figure 1 for standardised BMI for example). We would note that whilst the whole-project differences were not statistically significant, the sample was relatively small and about a third of the pupils did not take part in the final measurement session, further reducing the likelihood of statistically significant findings.

Figure 1: Effects of Intervention vs Control on SDS_BMI by Sex



In terms of changes in BMI in each school the results were:

School Sc3Y5 (y4=control; y5=intervention):

The intervention *statistically significantly* reduced standardised Body Mass Index (BMI) compared to the control group in which BMI tended to increase (Figure 2: Group vs Pre-Post interaction).

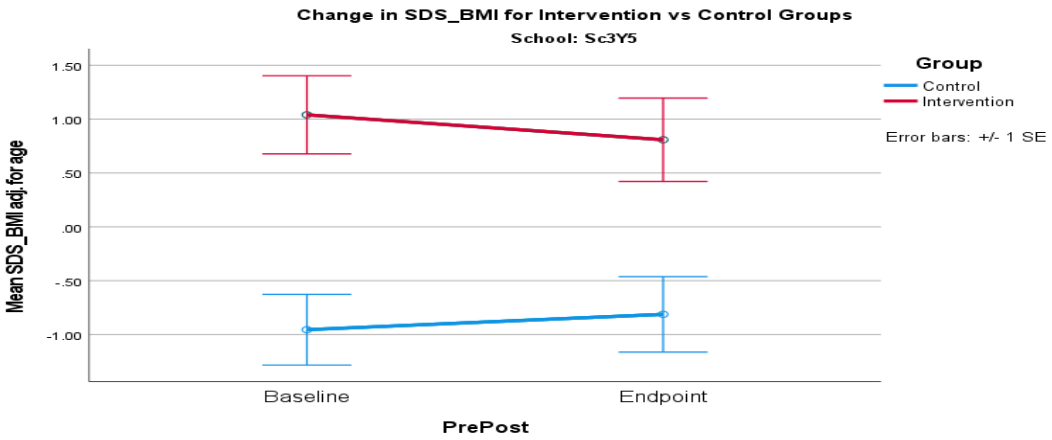


Figure 2

School Sc2Y4 (y4=intervention; y5=control)

The intervention resulted in a slight decrease in standardised Body Mass Index whereas the control group showed a small increase; however, these differences were not statistically significant in this smaller sample (Figure 3: Group vs Pre-Post interaction). We would see this as a potential trend towards a reduction in BMI in the intervention, compared to a stronger trend for an increase in the control.

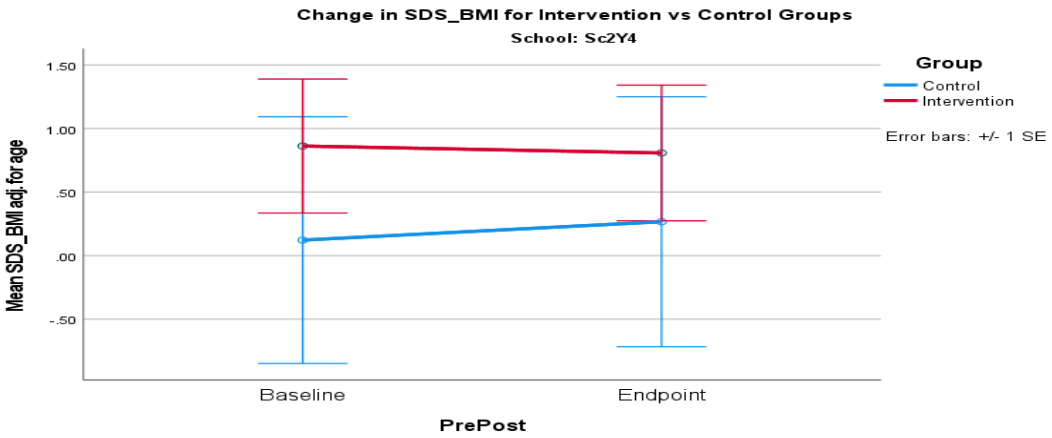


Figure 3

School SC1Y4 (y4=intervention; y5=control)

Both intervention and control groups showed a slight and equivalent decrease in standardised Body Mass Index; the interaction was not statistically significant (Figure 4: Group vs Pre-Post interaction).

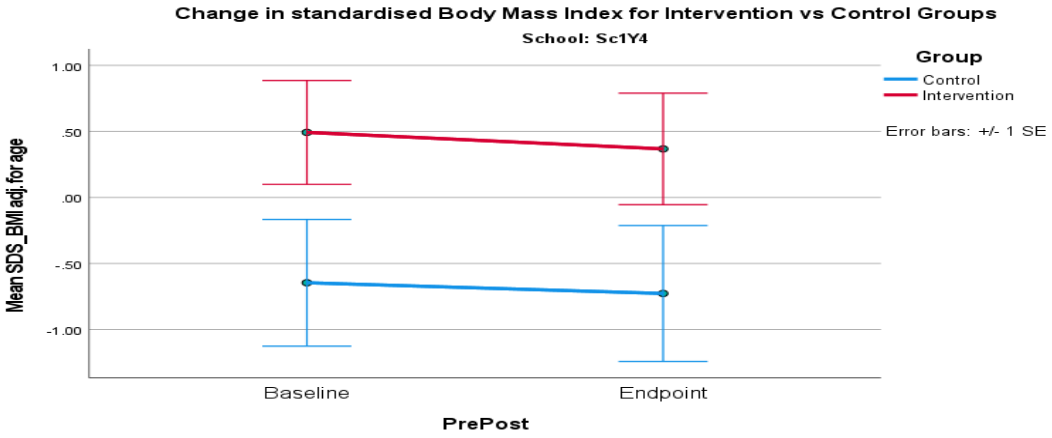


Figure 4

In addition to the above data pupils/ teachers and parents/ guardians were asked about their views on the three separate components of the project.

Overall Project Conclusion

The project was well received by teachers/ parents/ guardians and the resistance band exercise was particularly enjoyed by pupils. The fact that the pupil sample size was both small and asymmetric across Years 4 and 5, and was interrupted by industrial action, was not ideal and reduced the effectiveness of the intervention. As a result, the data did not reach statistical significance in two of the three schools: despite this, there were clear trends which suggested that particularly in male children, the exercise intervention has the potential to make a real difference to children's fitness and attitudes to exercise.

We believe that the opportunity to trial a larger project, delivered by staff from the school (a teacher or other adult nominated by the head teacher,) would have all the advantages reported in this small pilot plus the potential advantages of being more sustainable. A larger trial would also offer the opportunity to move the trend, observed in two of the schools, of a reduction in BMI to a statistically significant reduction in BMI as found in one of the schools.

The project drew academic colleagues from the Universities of Roehampton (Prof. Ian Abrahams, Dr Carolina Gaona, Dr Leigh Gibson, and doctoral student Charlotte Martin), Northumbria (Prof. Martin Tovee) and Stirling (Dr Alison Murray). We would like to thank Kate Jennings, Senior Public Health Lead at Richmond and Wandsworth Councils, for supporting this pilot project, and to all staff and pupils at the three schools who took part.

CLPE: Free Literacy-related Masterclasses

The CLPE (Centre for Literacy in Primary Education) are offering to fully qualified teachers some free literacy-related masterclasses (there are four stand-alone classes to choose from - reading for pleasure, planning creatively around quality texts, poetry, and picturebooks). These may be of interest to partnership schools, and further information can be found here.

Upcoming ECT roles at your school

If you wish to advertise ECT jobs with us, then please send adverts (PDF or Word files) to baprimary@roehampton.ac.uk and pgprimary@roehampton.ac.uk, and we will share these with our current students and graduates from last academic year.

Our Primary Subject Leads

Subject: Geography

Subject Lead Name: Anthony Barlow

Email: anthony.barlow@roehampton.ac.uk

Telephone: 0208 392 3386

Key subject/research interests: Pupil understanding of their everyday geography and the locality.

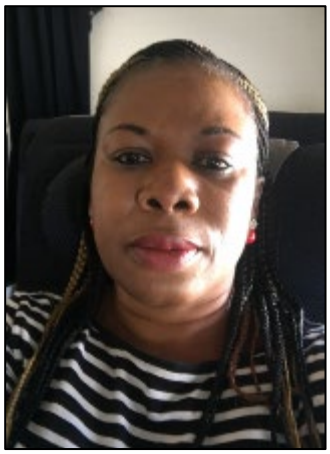
Subject: Computing

Subject Lead Name: Lynda Chinaka

Email: Lynda.chinaka@roehampton.ac.uk

Telephone:

Key subject/research interests: Computing Education in Primary settings. Building confidence for the teaching of all elements of the computing curriculum: Computer Science, Information Technology and Digital Literacy. Ensuring practice and pedagogy that intersects with the identities and experiences of all learners. Computing and creativity for everyone!



Subject: English (BA)

Subject Lead Name: Anna Harrison

Email: anna.harrison@roehampton.ac.uk

Telephone: 020 8392 3017

Key subject/research interests: Digital Literacies, Print and Digital Picturebooks, Reading, Siblings as Readers, Children's Literature, The Classics, Beatrix Potter.

Professional Links: Open University Reading for Pleasure, UKLA, IBBY (International Board of Books for Young People).

Subject: English (PG/SD)

Subject Lead Name: Steph Laird

Email: s.laird@roehampton.ac.uk

Telephone: 020 8392 3076

Key subject/research interests: The teaching of writing, children's responses to picture books, how children read film and the use of film as a stimulus for writing.

Professional Links: Member of the United Kingdom Literacy Association (UKLA)

Subject: History

Subject Lead Name: Susie Townsend

Email: susan.townsend@roehampton.ac.uk

Telephone: 020 8392 3369

Key subject / research interest: Relativity and History, experiential learning, historic fiction and diversity.

Professional links: Regular contributor to Primary History journal and to Historical Association conferences.

Subject: Maths

Subject Lead Name: Lorraine Hartley

Email: lorraine.hartley@roehampton.ac.uk

Telephone: 020 8392 3365

Key subject/research interests: Planning and teaching and assessing in primary mathematics; fractions across the primary age range.

Professional Links: ATM/MA; NCETM and consultancy in schools.

Subject: Art and Design

Subject Lead Name: Susan Ogier

Email: s.ogier@roehampton.ac.uk

Telephone: 0208 392 3086

Key subject/research interests: Primary Art and Design education; holistic education; broad and balanced curriculum.

Professional Links: NSEAD; NAPTEC; NASBTT (Associate Consultant for Primary Art and Design)

Subject: Design and Technology

Subject Lead Name: Sue Miles-Pearson

Email: s.miles-pearson@roehampton.ac.uk

Telephone: 0208 392 5781

Key subject/research interests: CAD CAM (Computer Aided Design and Computer Aided Manufacture); Food technology that is being taught in the English primary schools; I am also interested in pupils in the Early years learning the key design and technology skills that they will require for Key Stage one and beyond.

Subject: Physical Education

Subject Lead Name: Sarah Robinson

Email: sarah.robinson@roehampton.ac.uk

Telephone: 0208 392 3398

Key subject/research interests: Physical literacy; creativity in PE; Physical Education and the development of the whole child; active learning for the classroom; and the value of teaching through a variety of activities. Outside of primary education I am also an athletics coach.

Subject: Science

Subject Lead Name: Dr Nicola Treby

Email: nicola.treby@roehampton.ac.uk

Telephone: 020 8392 3263

Key subject/research interests: Varied interests relating to primary science, including science enquiry and outdoor learning. I also have a research interest in pastoral care within the school context.

Subject: Religious Education

Subject Lead Name: Lesley Prior

Email: lesley.prior@roehampton.ac.uk

Telephone: 0208 392 8163

Key subject/research interests: The role of SACREs in RE and the interface between religion and worldviews and the life of schools.

Professional Links: Among my many links with various professional RE organisations, I am Chair of the European Forum of Teachers of RE and I am a former Chair and current Executive Member of the National Association of SACREs.

Partnership Materials Page:
https://external.moodle.roehampton.ac.uk/enrol/index.php?id=108
(click "Log in as guest" & enter the password **RoehamptonTrainee**)

University of Roehampton Primary Partnership webpage:
https://www.roehampton.ac.uk/education/primary-school-partnerships/

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