

Editorial

Gerry Czerniawski

We begin this issue with an article from **Gareth Bates** and **Steve Connolly**. The authors argue that initial, informal observations of work with pre-service chemistry and other science teachers suggest that a number of intellectual virtues are required, alongside a shift in identity, in order to help secondary school science students negotiate the pathway from 'science learner' to 'scientist'. Their article explores these virtues, the ontological shift that accompanies them and pedagogical suggestions for how these attributes might be promoted in a programme of pre-service training, along with suggestions for further empirical research which might form the basis of further investigation into these initial observations. In his article, **Roussel de Carvalho** discusses, in his case-study, a specific science teaching strategy that has been developed through a multimodal and socio-semiotic lens while drawing on embodied cognition as a pedagogical tool for designing a learning journey to engage students in learning about electric circuits. In her article, **Laura McBean** investigates the impact of a 'non-traditional' extracurricular club on pupils' participation in physical activity, and what motivated pupils to attend. Her action research intervention was carried out within a Greater London secondary school for girls, for four weeks during lunchtimes. Her findings indicate that the intervention had a positive impact within its environment, as an increase in pupils' participation was observed over the course of the study. **Daniel Ayres** presents some of the key findings of a mixed-method

exploratory case study investigating the perceptions and realities of new teachers' engagement in and with research. In this provocative article the author asks should initial teacher education abandon research methods modules and focus on developing the skills which enable new teachers to access and critically evaluate existing research evidence? **Liam Henry** discusses his small-scale enquiry, the purpose of which is to identify if there is a link between pupils being given the opportunity to develop their leadership skills in extra-curricular clubs and then using them within curriculum-time physical education (PE) lessons.

Writing about Roma students, **Anna Butterworth** draws our attention to the fact that these young people in the UK are reported as having significantly lower levels of educational attainment than their UK peers (DfE 2014). Existing research has attributed this to the multifaceted barriers Roma students face as an intrinsic part of their educational trajectory in the UK. Language as a barrier to educational engagement for Roma young people and, subsequently, their differentiated educational needs are repeated as key barriers across much of this research. Her article seeks to explore the outcomes of the interrelation between these two significant barriers to educational engagement as a prerequisite to exploring strategies to improve educational outcomes for Roma students in the UK. **Lizana Oberholzer** alerts us to the fact that mentoring and coaching has been highlighted as one of the most underused strategies to

develop whole school development for teachers, and in many cases mentoring and coaching's value, as a cognitive leadership approach, can have invaluable impact on leading change, and the outcomes for learners (Cameron and Green 2012). Her study explores how mentoring and coaching is used, to develop collaborative professionalism through the use of lesson study to improve teaching and learning outcomes in a mainstream secondary context.

Our guest writer this month is **James Noble-Rogers**. James is Executive Director of the Universities Council for the Education of Teachers (UCET), a membership organisation for universities involved in teacher education and education research. In his wonderfully provocative thought piece, his article acknowledges the ideological assaults and turbulence Initial Teacher Education (ITE) providers have experienced in recent years and offers suggestions for ways in which ITE could improve in the future.

This number's book reviews are provided by **Sheeba Viswarajan** and **Liz Gregory**.

As always we hope that you enjoy the collection of articles in this issue of the periodical. Our guest author in the next edition will be **Professor Helge Löbler** from the University of Leipzig, Germany.