

Research Briefing N° 80

Becoming a biologist through a residential field visit

This study explored the role that a post-16 residential field visit played in students' development of their identity as biologists.

Key words: biology; field visit; biologist; eco-literacy



Teacher working with students as they explore the biodiversity of a freshwater stream

Introduction and emerging ideas

The use of residential field visits in school biology is in decline, being replaced by short out-of-school experiences which are closely tailored to awarding body specifications and often seen by students as a means to an end in terms of preparation for examinations.

The field visit examined in this study was carefully designed by the lead teacher to provide the students with unique and memorable experiences to explore aspects of biology, and in particular ecology. This gave students the opportunity to develop their knowledge and understanding of both the content and processes of biology and to work as biologists. Central to the experience was the sense of 'place' afforded by the field visits and the organisation of the learning activities which gave students time to develop a thorough understanding of living things in their natural settings and, in so doing, develop their knowledge and appreciation of the natural world.

By providing creative encounters, the field visit supported learning, with students showing accelerated learning in what Vygotsky, an influential psychologist of the 20th century, called 'becoming a head taller' as they moved from simply *doing* biology to *becoming* biologists.

What we did

The work took place over a five-day period in June 2012. The research developed from previous work by the researchers involved. This focused on the role of out-of-classroom experiences in learning in science as well as how the relationship between Initial Teacher Education (ITE) for science teachers and non-formal learning experiences can be used to inform teacher training. The project was unfunded and formed part of the work of the research team on science education outside the classroom.

The work involved 34 17-18 year old students and four teachers from a co-educational independent London school.

How we did it

The project drew on a conceptual understanding that out of classroom learning experiences are beneficial because they have positive effects on cognitive, affective and personal responses to learning, helping learners to develop their identity as biologists.

Data were collected from the students and teachers through a series of interviews, both in the field and also at the end of each working day, and through focus group interviews where students responded to questions which encouraged reflection on what they had been doing. The students also completed questionnaires before and after the visit which focused on expectations, reflection and what they learnt. Documents on the project write-up that the students produced were also collected.

Data analysis took a thematic coding approach where the researchers explored the data to search for patterns and emergent ideas focused on learning and students' perception of themselves as biologists.

Further information

This work is part of wider research into the role of non-formal learning activities in science education, much of which is used to inform the IOE's practice in preparing pre-service science teachers. As such, the IOE's Post Graduate Certificate in Education (PGCE) science course is one of the few PGCEs which prepares student teachers in the skills necessary to provide learners with the kind of valuable experience outlined above.

Contact

Principal Investigator: Paul Davies, Department of Curriculum, Pedagogy and Assessment, Institute of Education, University of London

Email: p.davies@ioe.ac.uk

Phone: +44 (0)20 7612 6322

Other team members: Ruth Amos (Institute of Education)