

I thank the two referees for the time and consideration they have put into reading my paper, and their constructive criticism. I believe I have taken on board all their comments and made appropriate amendments throughout.

Response to Referee 1

1 The title has been amended as suggested **1.1**

2 the sentence has been reworded, 'The programmes given to trainee primary teachers over the period 2009-2015 were thus thoroughly assessed in 2018.' **1.2**

3 all the terms used were explained and sentence rephrased: 'The primary earth science workshops I taught were specifically designed to meet the needs of primary teachers with non-science backgrounds'. **1.3**

The primary trainee teachers participating in the ESEU workshops were from a range of training institutions and programmes across England. Four different teacher training programmes were available during this period:

Teach First: a programme where participants work in schools and are fully paid whilst on a two-year training course. The trainees, who have a wide range of backgrounds and experience are supported by tutors and day release sessions

Post Graduate Certificate of Education (PGCE)

Bachelor of Education (BAEd) courses

SCITT courses: school centred initial teacher training programmes

4. 'my county' replaced as suggested **1.4**

5 Guskey's ideas explained **1.6**

6 Ethical issues: permission was given by trainees in the photograph for use of photograph. Evaluation forms asked for permission to use comments and only those forms with permission were used. **1.5**

7 corrections made

8 corrections made

9 Table 3 deleted and adjustments made in text

10 Figure 2 shows data from Table 4 (now Table 3).

11 the references have been tidied up ! **1.8**

Response to Referee 2

My apologies for getting the affiliation incorrect, this has now been amended. **2.1**

Line 3 has been amended, and a start/finish date included at line 27. The section at line 34 has been rewritten as has the section around line 53 with the inclusion of where earth science topics are located in the curriculum at lines 34-40. **2.2**

Line 59 background has been replaced with term non-scientists and text rewritten. **2.3**

Comment re line 62 not understood as the phrase is within the introduction.

Line 71 – in England stands. The workshops took place throughout England during 2009-2015. **2.5**

Line 105 Reference to the pilot study has been removed. **2.6**

Line 118. Extra detail has been inserted **2.7**

Line 198 Extra detail inserted **2.8**

Line 242 Good replaced with word 'useful' **2.9**

Line 257 The referee is entitled to their opinion. I can only say that my 40 years of experience working with primary teachers has given me insight into how many of them feel about teaching science. I have worked with teachers and trainees in the north and south of England.

I believe have made amendments and added information as suggested throughout, and hope the paper is now acceptable.

(Dr) Denise Balmer