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1 **The effectiveness of a special school experience for improving preservice teachers’**
2 **efficacy to teach children with special educational needs and disabilities.**

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1 Nevertheless, Rouse (2008) argues that to achieve effective inclusive practice, ITE
2 programmes must move beyond just extending knowledge about inclusion, but also put in
3 place opportunities which encourage preservice teachers to try new things and reconsider
4 their attitudes and beliefs – effective ITE practice should be about ‘knowing’, ‘doing’ and
5 ‘believing’. This paper presents research which sought to explore the effectiveness of an ITE
6 programme which built in a novel special school experience (SSE) to prepare preservice
7 teachers for working with learners who have diverse needs. Specifically, it aimed to assess
8 the effectiveness of the SSE for improving preservice teacher efficacy for teaching in
9 inclusive environments and explore how the experience might facilitate learning about SEND
10 and inclusion. In doing so, we use Rouse’s (2008) model of effective inclusive practice by
11 assessing preservice teachers’ ‘knowing’ (their knowledge and understanding about SEND
12 and inclusion; their ‘doing’ (how their attitudes and teaching practice might have changed /
13 developed based upon what they learned) and their ‘believing’ (their confidence to teach
14 inclusively and attitudes about children with SEND).

15 **Teacher efficacy and inclusive practice**

16 Efficacy is a psychological construct used to describe or measure a person’s
17 confidence in their ability to achieve a stipulated outcome (Bandura, 1997). When
18 considering efficacy in teaching, it refers to a teacher’s belief that he/she can have a positive
19 impact on student learning (Ashton, 1984; Kleinsasser, 2014). A meta-analysis by Klassen &
20 Tze (2014) indicated that teacher efficacy can be a good predictor of teacher effectiveness
21 and student outcomes. Moreover, high teacher efficacy has been linked with preservice
22 teacher retention on ITE programmes (Tait, 2008), while poor teacher efficacy has been
23 associated with increased burnout and stress (Skaalvik & Skaalvik, 2007; Schwarzer &
24 Hallum, 2008), and lower occupational commitment (Chesnut & Burley, 2015).

25 Teacher efficacy is considered a difficult and elusive construct to measure, in part due
26 to the complexities of defining and understanding the dimensions relating to it (Tschannen-
27 Moran & Hoy, 2001). Several scales have been developed to assess efficacy in a range of
28 teaching situations with varied success, specifically surrounding the reliability and validity of
29 scales, and in defining teacher efficacy as a construct (Tschannen-Moran and Hoy, 2001).
30 However, through comprehensive understanding of these earlier scales, Tschannen-Moran
31 and Hoy (2001) developed the *Ohio State Teacher Efficacy Scale* (OS-TES), highlighting the
32 core domains of teacher efficacy to relate to in instructional strategies, classroom
33 management and student engagement. In recent years, as more attention has been paid to
34 developing inclusive teaching environments, academics interested in understanding teacher
35 efficacy in relation to inclusion have critiqued the use of these general scales for effectively
36 measuring teacher efficacy in inclusive teaching environments, and thus specific scales which
37 focus on inclusive practices have been developed (Hutzler, Zach & Gafni, 2005; Sharma,
38 Loreman & Forlin, 2012). One such scale – the *Teacher Efficacy for Inclusive Practices*
39 (*TEIP*) *Scale* (Sharma et al, 2012), recently re-validated for preservice teachers (Park,
40 Dimitrov, Das & Gichuru, 2016), has been used extensively to assess teacher efficacy in a
41 multitude of teaching environments globally (e.g. Ahsan, Sharma & Deppeler, 2012; Malinen
42 et al. (2013); Loreman, Sharma & Forlin, 2013; Nel, Engelbrecht, Nel & Tlale, 2014;
43 Tsakiridou & Polyzopoulou, 2014; Sokal & Sharma, 2014, etc). These studies most often
44 show that factors associated with increased or improved teacher efficacy for inclusive
45 practice are, first, experience of working directly with pupils who have SEND (Ahsan,
46 Sharma & Deppeler, 2012; Malinen et al, 2013; Sokal & Shrama, 2014); and second,
47 sufficient knowledge and understanding about policies and practices relating to SEND and
48 inclusion (Rouse, 2008; Ashan, Sharma & Deppeler, 2012; Loreman, Sharma & Forlin,

1 2013). These findings support research relating to teacher perspectives about teaching in
2 inclusive environments more broadly, which also reflect insufficient experience and a lack of
3 knowledge and understanding as core barriers to inclusive practice (Sharma, Forlin &
4 Loreman, 2008; Avramidis & Norwich, 2002).

5 ITE is a key opportunity to address these specific concerns, ensuring new teachers
6 feel confident, prepared and able to teach a diverse student body, and thus, there have been
7 attempts to improve teacher efficacy for inclusive practice during preservice ITE. Peebles and
8 Medaglio (2014), for example, implemented a 10-week inclusion course within their 4-year
9 Bachelor of Education ITE programme in Canada, which included weekly lectures and
10 breakout sessions, followed by a three-week field experience in a mainstream education
11 setting. They found that preservice teachers made significant self-efficacy gains following the
12 course. This demonstrates the benefit of direct instruction and practice with learners with
13 SEND in relation to teacher efficacy for inclusive practice, which have been supported by
14 other studies (Sharma & Sokal, 2015); although Lancaster & Bain (2007) did not find these
15 gains to be statistically significant. However, within these studies, teacher efficacy was
16 measured within the inclusion module alone, with the final timepoint assessing efficacy at the
17 conclusion of the field experience in most cases. This leaves open to question whether gains
18 were maintained in the months following the conclusion of the course and in other areas of
19 practice outside of the inclusion course. Thus, there is a need to measure self-efficacy beyond
20 the conclusion of any inclusion-specific intervention in order to determine maintenance
21 effects, and to assess the long-term impacts on practice.

22 Further, when considering ITE within the UK context, where many preservice
23 teachers enrol on a 1-year postgraduate teacher education programme, there is little scope
24 within existing programmes to develop stand-alone inclusion courses spanning the length of
25 time available within 4/5-year programmes offered internationally such as in Canada, USA
26 and Australia. Scholars within the UK have implemented direct-experience elements within
27 education programmes, the most recent being the work of Maher et al (2017). However,
28 while positive outcomes in relation to confidence and competence were recognised, the field
29 experience was offered on a bachelor's degree programme with 'prospective' rather than in-
30 training teachers; and impact was determined through qualitative interviews and not
31 measured statistically. Nevertheless, they did show that a special school, whilst offering
32 segregated education to learners with the most complex needs, offers the opportunity for
33 preservice teachers to widen their understanding of student needs, to observe practicing
34 special educators differentiate their practice with this diverse student body and to challenge
35 their expectations about their future teaching practice.

36 For international readers, a special school in the UK is a school which specifically
37 caters for children and young people who have SEND. For some, this type of schooling
38 might be considered a far stretch from 'inclusive' given children with SEND are educated in
39 a separate environment from mainstream peers. However, in recent years, academics have
40 argued that inclusive special education, within which special schools have a fundamental
41 place, is about offering the most appropriate setting for children with SEND to be educated
42 (Hornby, 2015). Hornby (2015) goes on to argue that special schools play an important role
43 in developing inclusive practices in mainstream (general education) settings, due to the
44 increased knowledge and understanding of staff in these settings surrounding the educational
45 needs of pupils with SEND.

46 The evidence discussed here suggests the need to develop and assess the impact of
47 inclusion-specific training within time-constrained UK post-graduate ITE programmes,

1 specifically where direct experience of working with young people with SEND is used as a
2 tool to improve efficacy and understanding about inclusion and diversity in teaching practice.

3 This study aimed to address these issues, through two distinct aims. First, it aimed to
4 assess the effectiveness of a one-week SSE for improving preservice teacher efficacy in
5 relation to teaching learners with SEND. Secondly, it aimed to understand the factors and
6 processes through which learning about SEND and inclusion are facilitated within a one-year
7 PGCE programme and the role that the SSE played within this.

8 Thus, the study asked two questions:

- 9 1. How effective is a SSE for improving preservice teachers' efficacy to teach children
10 with SEND?
- 11 2. How does the SSE facilitate learning about SEND and inclusion for preservice
12 teachers?

13 By exploring inclusive teacher education through the lens of a special school direct learning
14 experience, scholars within the UK and internationally might consider the role in which
15 segregated education settings for pupils with SEND may indeed contribute to learning about
16 inclusion, rather than challenge it.

17 **Methodology**

18 **Setting**

19 This study took place in a university in England, UK and involved all preservice
20 teachers on a one-year teacher education programme leading to a Postgraduate Certificate in
21 Education (PGCE) and qualified teacher status (QTS). Students enrolled on these
22 programmes specialise in either secondary mathematics or secondary physical education.
23 The teacher education programme is designed to support preservice teachers in meeting the
24 Teachers' Standards (Department for Education, 2011), one of which is to 'adapt teaching to
25 respond to the strengths and needs of all pupils' and makes specific reference to learners with
26 SEND.

27 A one-week SSE was introduced into the PGCE programme for preservice teachers of
28 all subjects. This was to supplement the existing coverage of inclusion and diversity on the
29 PGCE course which comprised: an early primary school experience and associated
30 assignment incorporating a focus on individual differences in learners and how teachers cater
31 for these; generic sessions incorporating: inclusion statements within the statutory National
32 Curriculum, personalised provision for SEND and English as an additional language (EAL)
33 learners; and working with support staff. This was delivered alongside school-based activities
34 during two extended teaching practices in different secondary schools including planning,
35 teaching and evaluating lessons with a focus on 'differentiation', and working with support
36 staff to contribute to personalised provision for learners with particular needs. The SSE
37 extended the preservice teachers' learning journey by broadening their perspectives about
38 learners with SEND, with the intention that this learning would influence practice in their
39 final teaching placement prior to qualifying. Whilst mathematics and PE teaching might offer
40 contextual differences in the ways in which inclusion is practiced, the intention with the SSE
41 was to facilitate learning about the principles and processes of inclusion, rather than assessing
42 specific inclusion practices. Further, within the SSE, preservice teachers engaged in a range
43 of opportunities in their designated special school, many of which were not directly related to

1 their subject area. This further allowed for the processes and principles of inclusion to be
2 understood.

3 The SSE comprised of a one-day induction at the University delivered by staff from
4 local special schools, followed by a four-day placement in designated special schools. The
5 special schools varied in terms of the learners they educate and the learning environment.
6 Collectively, they taught learners with a range of physical, medical, emotional, sensory,
7 communication, learning and behavioural needs. Preservice teachers were assigned a special
8 school predominantly based on logistics such as where they lived and their access to travel.
9 The experience took place between two extended teaching practices in different secondary
10 schools so the preservice teachers had some experience of addressing the needs of SEND
11 learners in mainstream school settings beforehand; and could take the learning from the SSE
12 into their second extended teaching practice.

13 The aims of the SSE are to enable preservice teachers to:

- 14 • Become aware of the ethos and culture of a special school environment;
15 • Assist in supporting learners with highly complex needs; and
16 • Extend their perceptions of inclusion and diversity.

17 The preservice teachers' learning during the SSE was guided by the completion of a
18 reflective journal which prompted them to think critically about their observations and
19 experiences in relation to key educational issues (e.g. communication, behaviour,
20 differentiation) and to consider the implications of what they have learned for future teaching.
21 Following the SSE, preservice teachers were involved in sharing their learning with their
22 subject peers and discussing their experience in a formal tutorial with University staff.

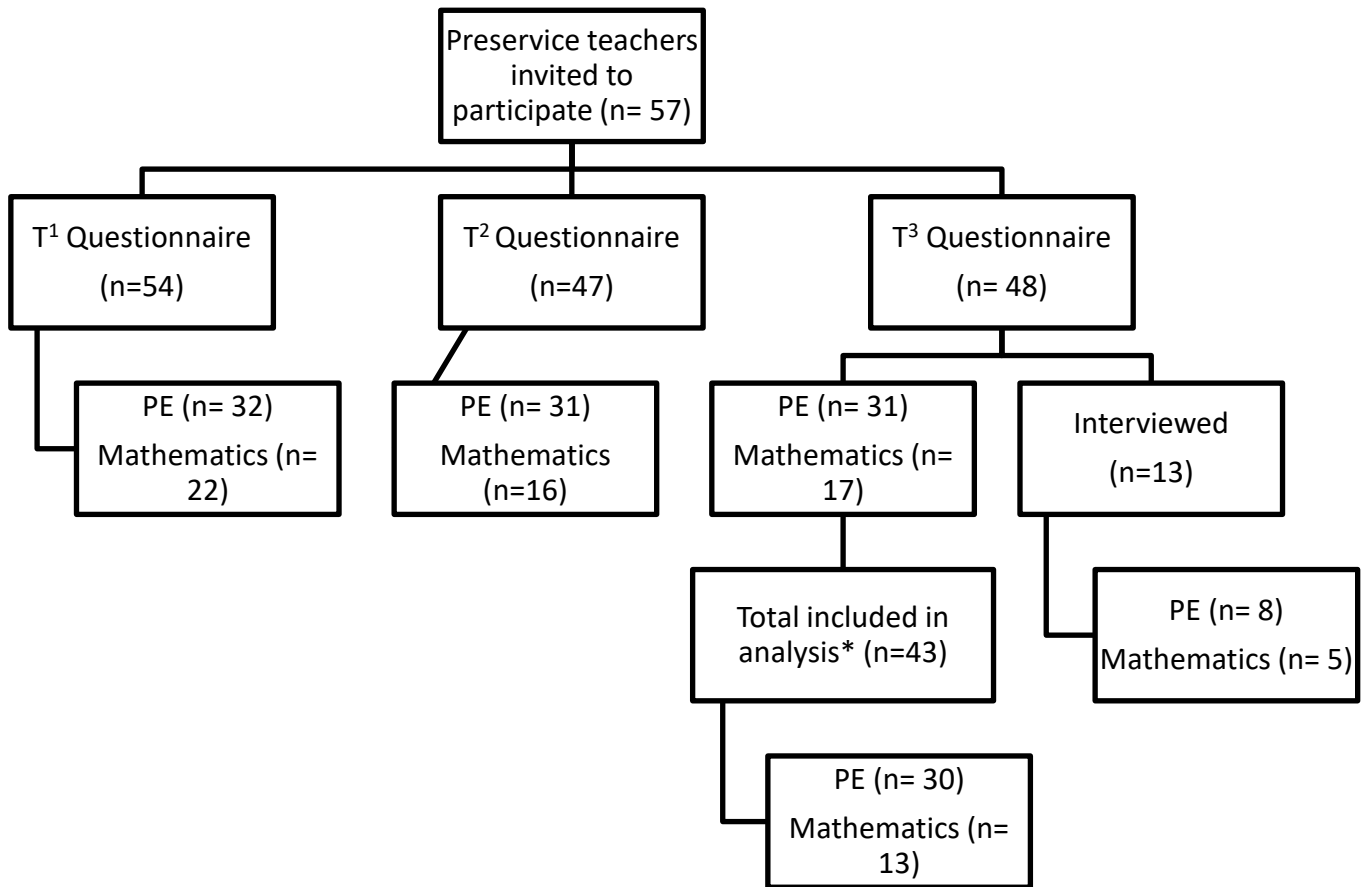
23 **Research Design**

24 To address the aims of the study, a sequential equal status multi-method design
25 (Leech & Onwuegbuzie, 2009) was implemented which incorporated a longitudinal
26 quantitative study to assess the effect of the SSE on preservice teacher efficacy to teach
27 children with SEND; and a qualitative, interview study to better understand how the SSE
28 might facilitate learning about SEND and inclusion. The quantitative study lasted 6 months
29 and measured preservice teacher efficacy at three timepoints during their PGCE programme.
30 The qualitative interview study was carried out in the weeks following the last data collection
31 point (T³) for the quantitative study and at a point where the participants had completed their
32 final teaching practice.

33 **Participants**

34 A total-population sample of preservice teachers on the PGCE programme
35 (mathematics = 24; PE = 33; total n= 57) were invited to participate in the study. Of the 57
36 preservice teachers enrolled on the programme, 54 consented to participate in the first phase
37 of the research (questionnaire). After data cleaning, a total of 48 preservice teachers were
38 included in the final analysis. Of these, 13 consented to take part in the second phase of the
39 research (interview). Figure I provides a consort diagram illustrating participation rates at the
40 different timepoints. Table I presents descriptive data relating to the participants and analysis.

1 **Figure I: Participation Rates**



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*n=8 cases were excluded from the final analysis due to incomplete data at one or more time points.

1 **Table I: Descriptive Statistics**
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Gender				
Male	Female			
n=14 (33%)	n=29 (67%)			
Age (years; Mean (SD))				
22.91 (4.3)				
		Teacher Efficacy (total)	Confidence	Knowledge and Understanding
Mean	<i>T</i> ¹	83.7 (8.4)	57.2 (5.9)	26.5 (3.7)
(SD)	<i>T</i> ²	96.9 (8.7)	66.5 (6.1)	30.5 (3.2)
(n=43)	<i>T</i> ³	105.4 (7.3)	73.4 (5.6)	32.1 (2.9)

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7 **Data Collection**

8 Preservice teacher efficacy in relation to inclusive practice was assessed using a 20-
9 item adapted version of the TEIP scale (Sharma et al, 2011), measured on a six-point Likert
10 scale (1= strongly disagree; 6= strongly agree) (see Appendix I for adapted TEIP).
11 Permission was received from the authors of the scale for use in this study. The adapted scale
12 included 13 items from the original TEIP scale (Sharma et al, 2011) (items 1-13), in which
13 language was modified to reflect the language used on the PGCE programme (e.g. the word
14 “student” was changed to “pupil” throughout, and where disability is referred to, “SEND”
15 was used instead). Furthermore, questions relating to behaviour management and assessment
16 were condensed to fewer items. This was done to align the questions to the specific learning
17 outcomes of the SSE, and the expectations for this element of their training; and to ensure
18 participants were able to understand what was being asked of them. In addition, a question to
19 assess general confidence to teach children with SEND in mainstream settings was added
20 (item 14); and 6 additional items which assessed preservice teacher perceptions of their
21 knowledge and understanding about teaching children with SEND were included (items 15-
22 20). Reliability testing of the scale was undertaken at T¹ and the scale was found to have a
23 high level of internal consistency ($\alpha = 0.869$). Internal consistency remained high when
24 assessing confidence (items 1-14) ($\alpha = 0.841$) and knowledge and understanding (K&U)
25 (items 15-20) ($\alpha = 0.805$) as separate subscales. The reported alphas are consistent with those
26 reported for the original TEIP scale ($\alpha = 0.89$) (Sharma et al, 2012).

27 Questionnaires were completed at three timepoints during the PGCE year. The first
28 timepoint (T¹) was in the week before trainees attended their special school placement; Time
29 Two (T²) was in the week following their special school placement; and Time Three (T³) was
30 in the week following the end of their Phase 2 teaching practice (4 months post-SSE).

1 To address the second aim of the study, a 10-item interview schedule was developed
 2 to encourage trainees to reflect on the different elements of their practical teacher training in
 3 relation to inclusive teaching practice (See Appendix !!). Trainees were invited to take part in
 4 interviews in the weeks following the end of their Phase 2 teaching practice. A total of 13
 5 trainees were interviewed. Interview sampling was random and stratified based on subject
 6 specialism and gender to ensure the interview sample was representative of the population;
 7 thus, relatively fewer mathematics trainees (n=5) and males (n=4) were invited to interview.
 8 Interviewees were shared between the authors and interviews lasted an average of 32
 9 minutes. Table I provides participant information for the qualitative study.

10 Ethical clearance was received from the University Ethics Committee, and all
 11 preservice teachers were provided with a detailed information sheet and consent form, which
 12 made clear that engagement in the study was voluntary and was not associated with their
 13 course engagement or credit.

14 **Table II: Interview participant information**

Interviewee pseudonym	Gender	Teaching specialism
Paul	Male	PE
Jane	Female	Mathematics
John	Male	PE
Becky	Female	PE
Millie	Female	PE
Rob	Male	Mathematics
Luke	Male	Mathematics
Anna	Female	Mathematics
Lucy	Female	PE
Alice	Female	PE
Eva	Female	Mathematics
Sarah	Female	PE
James	Male	PE

15

16 **Data Analysis**

17 For the quantitative data, a one way repeated-measures ANOVA was carried out to
 18 compare the effect of time (IV) on teacher efficacy (DV) before, immediately after and 4
 19 months following the SSE. Normality checks were carried out on the residuals and were
 20 approximately normally distributed. Statistical assumptions were assessed and no statistically
 21 significant departures from the assumptions were found. Sphericity was assessed using
 22 Mauchly's Test and was not violated, $\chi^2(1.9) = .955$, $p = 0.391$. Follow-up analyses explored
 23 the effect of confidence and knowledge and understanding as separate constructs.

24 The qualitative data was analysed using inductive thematic analysis adopting the
 25 principles articulated by Braun and Clarke (2006, 2013). This approach to data analysis
 26 involves careful familiarisation with the data prior to inductively coding the transcripts to
 27 describe phenomena in succinct and meaningful ways. In doing this, the authors were guided
 28 by the five stages outlined by Braun and Clarke (2006), as outlined below:

- 1 1. Familiarisation with the data. Interviews were transcribed verbatim by the authors,
2 reviewed against the recordings and read carefully by each author. Initial
3 descriptions of the data were noted, and the authors met to discuss insights from
4 the data.
- 5 2. Generating initial codes. Following discussion, the first author independently
6 coded the full data set using open coding, and frequent or particularly relevant
7 codes were listed for each transcript and grouped according to their relevance to
8 one another. The authors then met again as a group to discuss the coding. Coding
9 and insights were checked against the initial descriptions developed by each
10 author to ensure rigor and credibility (Tracy, 2010), and new insights were
11 discussed.
- 12 3. Searching for themes. Codes were collated and organised into relevant themes. A
13 table of preliminary themes was produced, and a description of each theme with
14 notable extracts from transcripts highlighted. All authors agreed with the coding
15 and themes developed from the data.
- 16 4. Reviewing the themes. Authors discussed the themes, reviewed them according to
17 their 'fit' with the coded data and the data set as a whole, and determined where
18 the sub themes might fit most appropriately.
- 19 5. Defining and naming themes. Themes were refined and defined to encapsulate the
20 messages from the coding in an organised and coherent fashion.

21 During the data analysis process, the authors met on a regular basis to discuss emergent
22 themes. Authors two and three acted as auditors (Tracy, 2010) to the coding and theme
23 development process, by challenging and opening discussion relating to the analysis at
24 regular intervals. This ensured a coherent and consistent understanding of the data was
25 achieved, and that findings remained relevant to the specific research question being asked
26 (How does the SSE facilitate learning about SEND and inclusion for preservice teachers?).

27

28 Findings

29 Quantitative Findings

30 Mean scores and standard deviations for teacher efficacy, confidence, and knowledge
31 and understanding at the three time points are shown in Table II.

32 The one-way repeated-measures ANOVA showed there was a significant effect of
33 time on teacher efficacy before, immediately after and 4 months following the SSE, $F(2, 84)$
34 $= 128.052$, $p = .000$. Inferential statistics were measured using partial eta-squared ($hp^2 =$
35 $.753$), signifying a large and significant effect of time on teacher efficacy.

36 The follow-up analyses showed a large and significant effect of time on confidence (F
37 $(2, 84) = 1.33.423$, $p = .000$; $hp^2 = .761$); and a moderate but significant effect of time on
38 knowledge and understanding ($F(2, 84) = 49.841$, $p = .000$; $hp^2 = .543$).

39 These findings indicate that teacher efficacy in relation to teaching inclusively
40 increased significantly following the SSE, both in terms of preservice teacher's confidence to
41 teach in inclusive environments and their knowledge and understanding about inclusion and
42 diversity.

43

44 Qualitative Findings

1 Qualitative findings are represented through the following themes: *Challenging*
2 *Expectations*; and *Understanding Inclusion by Understanding Individual Needs*.

3

4 **Challenging expectations.**

5 This theme relates to the expectations preservice teachers had prior to attending the
6 SSE, and how these were challenged by the experiences they had. The preservice teachers
7 interviewed all expressed a feeling of anxiety prior to attending the SSE. This was related to
8 two main factors – first, that few had any experience of working with pupils with SEND prior
9 to starting their PGCE (“*I’ve never done anything like this before*” (Becky, PE trainee); “*I*
10 *didn’t have anything at all.*” (Jane, Mathematics trainee), and second, that the special school
11 environment was an unknown quantity to them. Paul discusses his feelings prior to starting
12 the SSE:

13 *I was really nervous. Like, I don’t think I can explain how nervous I was because*
14 *you’d be surprised. But, because I’d never been to a special school, because where*
15 *I’m from there’s just no special schools within 20 miles, or not even within a forty-five*
16 *minute radius, so it was unheard of to me. I’d never been in a school, I’d never seen*
17 *one, I’d never heard about one. And that, almost unknown made me nervous. I don’t*
18 *want to say scared, I wasn’t scared, I was just nervous and just apprehensive... I’d*
19 *never been in a school like that and didn’t know what it was going to be like.* (Paul,
20 PE trainee).

21 Paul was one of the few preservice teachers interviewed who had some prior
22 experience of working with pupils with SEND through his work as a teaching assistant and
23 tennis coach. However, his previous work had been in mainstream school environments
24 predominantly with pupils who had learning and behavioural difficulties. Interestingly, Paul
25 indicates that whilst working with these pupils for some time, it was only when he had started
26 his PGCE that he realised the diverse nature of SEND, which contributed to his feelings of
27 anxiety.

28 This uncertainty about the kinds of learning needs which might be encountered during
29 the SSE was echoed by the other interviewees. Many had quite clear expectations about the
30 types of SEND they might come across in a special school, and much of this related to visible
31 impairments, such as physical disability. Jane explains:

32 *I was expecting to go in and see people with physical disabilities. People in*
33 *wheelchairs, people who were blind, couldn’t speak, could only just tell me their*
34 *name...So, that’s what I expected to see and I guess I was surprised to find that I was*
35 *going to see kids, who on the outside look like they should be in mainstream*
36 *education, that there shouldn’t be an issue but actually, on the inside, they can’t cope.*
37 (Jane, mathematics trainee)

38 Here, Jane indicates that she expected to experience pupils with significant functional
39 limitations (pupils who “*could only just tell me their name*”), yet the pupils she did encounter
40 at the special school, which was for children with behavioural, emotional and social
41 difficulties, confronted this expectation. Indeed, several interviewees had somewhat low
42 expectations about what they felt their pupils might be able to achieve in a special school but
43 came away from the SSE with a more comprehensive understanding about the diversity of
44 SEND and feeling that their expectations about the achievement potential of the pupils in a

1 special school environment were challenged. Anna reflects on how this helped her better
2 understand inclusion:

3 *[I learned] that all disabilities aren't physical. There could be things going on inside*
4 *that you're not aware of, so trying to be empathetic to that. And I guess I learnt that if*
5 *someone doesn't learn something, then it's not the end of the world because they*
6 *might be learning other things. I think before I went into it I thought "Oh, I'm just*
7 *going to teach maths and everything's going to be maths." But then I guess*
8 *afterwards, that developing them as a person and being able to support them where*
9 *the need it is as important as getting an A* in GCSE. (Anna, mathematics trainee).*

10 The preservice teachers interviewed felt that the SSE had changed their perspective on
11 effective teaching. Where prior they had felt more focused on the outcomes of their lessons
12 and pupil attainment; afterwards, they had more insight into how to help support pupils to
13 achieve to the best of their own ability.

14 *I learnt that if someone doesn't learn something, then it's not the end of the world,*
15 *because they might be learning other things. I think, before I went into it, I thought*
16 *"Oh, I'm going to teach maths and everything's going to be maths. We just do*
17 *maths." But then I guess afterwards, that developing them as a person and being able*
18 *to support them where they need it is as important as getting an A* GCSE. It's that*
19 *aspect as well that I think I really got from the experience. (Anna, Mathematics*
20 *trainee)*

21 This appreciation for individual needs in the learning environment was fundamental to
22 developing the preservice teachers' understanding about inclusion and inclusive practice,
23 which is discussed in the next theme, and was, in part, informed by the learning they engaged
24 in through interacting with expert staff in the special schools.

25

26 **Understanding inclusion by understanding individual needs.**

27 Through having their prior expectations about the SSE and pupils who attend special
28 schools challenged and engaging with and learning from staff at the special schools, the
29 interviewees began to explore how the experience had shifted their ways of thinking about
30 inclusion and inclusive practice. When asked at the start of the interviews to describe what is
31 meant by inclusion, interviewees provided vague, textbook statements like "*all students being*
32 *able to access the curriculum*" (Becky, PE trainee); "*everyone is provided equal opportunity*
33 *to participate in whatever the activity might be*" (Millie, PE trainee); "*that they can access*
34 *the content of the lesson at any level*" (Rob, mathematics trainee). However, when probed to
35 think about how the SSE helped to shape their understanding about inclusion, it was apparent
36 that two specific factors supported their understanding when put in practice after the SSE and
37 as they moved into their Phase 2 teaching practice – *learning from expert others, getting to*
38 *know pupils and understanding effective differentiation.*

39 ***Learning from expert others.***

40 The preservice teachers interviewed explored how their knowledge and understanding
41 about SEND and inclusion had developed through their PGCE, where the SSE was
42 significant in enhancing their learning. Specifically, they reflected on the role of experienced
43 teaching and support staff at their placement and special schools in facilitating this learning
44 process. For some, this engagement with experienced staff about SEND inclusion started in

1 their Phase 1 school, where they were able to access individual education plans (IEPs) for
2 specific pupils via the SEND lead at their school. John reflects on how this was beneficial to
3 some degree, but alone, did not help prepare him for the diverse needs observed in the special
4 school:

5 *[In Phase 1 school] I was able to access all the IEPs through the SEN lead and*
6 *having to go through them all... but I'd never done anything like that before so that*
7 *was my first time planning and delivering and teaching people with special needs. I*
8 *thought it was beneficial, learning how they learn differently sometimes and how best*
9 *to teach people in different ways.*

10 Interviewer: Did that help prepare you for the SSE?

11 *Yes and no because the ones in Phase 1, their needs were no where near as serious,*
12 *well major as some of the ones at special school. So yes and no. I had a basic idea.*
13 (John, PE trainee)

14 Here John indicates that his learning about SEND and inclusion was a phased process.
15 During his Phase 1 teaching practice, he was able to engage with the SEND lead for the
16 school to access IEPs. This provided him with some basic information about different pupils'
17 needs, but he still felt under-prepared for teaching more diverse pupils with SEND. Later in
18 his interview he reflects on how the observing effective teaching and differentiation during
19 the SSE improved his confidence to teach pupils with more diverse needs, and that part of
20 this was engaging with a wider range of resources to aid his own understanding about SEND.

21 *The inclusion was massive. That was their main focus – the main school focus... This*
22 *experience has given me different ideas and I've got some resources from there that*
23 *can help me in my lessons, where maybe before this experience, they [pupils with*
24 *SEND] would have just taken on a role, now I can include them more and get them*
25 *involved more in lessons.* (John, PE trainee)

26 The majority of the interviewees discussed feeling more confident about their
27 inclusive teaching practice following the SSE, which they not only relate to observing the
28 teaching of more experienced colleagues and engagement with resources, but to actively
29 engaging in discussion with more experienced staff at their special schools to find out about
30 pupil needs and effective teaching.

31 *I think before I would have felt worried and felt a bit silly for asking questions, but*
32 *now I've completely got over that through my training! And I just ask everybody,*
33 *listen to what they say, take it on board, go with it.* (Eva, mathematics trainee)

34 *It's about what works for your student. I can only say that I'm confident with how to*
35 *include the students that I've taught through experience and through discussion with*
36 *their class teachers and other members of staff and going forward I'll be able to*
37 *apply that.* (Becky, PE trainee)

38 Becky picks up on a point that many of the preservice teachers talked about – the
39 importance of getting to know their pupils. Like her, many felt that talking to expert
40 colleagues was beneficial, but to really understand how this learning could be applied, they
41 recognised it was important to understand the individual as well.

42 ***Getting to know pupils.***

1 Many of the interviewees found the SSE valuable because it encouraged them to think
2 about the relationships they build with pupils and how understanding their pupils as
3 individuals helped them to feel more confident in their interactions with them. Much of this
4 centred on building rapport and trust with pupils to help understand the reasons they might
5 behave in certain ways and to develop strategies to facilitate their learning. Becky gives an
6 example:

7 *[I enjoyed] just developing relationships with the students... the thing I noticed the*
8 *most was how vulnerable some of these children are in terms of their understanding*
9 *of social situations and social interactions... There was one boy in year 8 or 9. He*
10 *perceived work to be too easy when he's looking at what his friends [in mainstream*
11 *school] are doing but he finds it really difficult. So, he'd just say "No, I'm not doing*
12 *it" rather than trying with it. I've got no idea how that must feel like. I think it was*
13 *very hard in the space of three days to be able to get to know him well enough and I*
14 *was nowhere near as good at getting him to do what he should as the TA who was in*
15 *the class all the time. That was quite hard. Not having enough time to build*
16 *relationships with students that would enable me to make a difference. (Becky, PE*
17 *trainee)*

18 Becky picks up on a few points. First, that part of inclusive teaching is being
19 empathetic towards the needs of pupils. She recognised that her pupil was struggling, and
20 why that might be – information she has gathered through taking the time to get to know him.
21 Second, she notes how the TA, who has had more time to build a trusting relationship with
22 this pupil is better able to support his learning, and that she feels that, with more time, she
23 would also be able to develop a stronger relationship which would help her better understand
24 his learning needs and develop practices to support these.

25 This was something some interviewees recognised as areas of best practice in their
26 special schools – where teachers had created a positive environment based on understanding
27 and trust, they noted that pupils were actively engaged in lessons. Paul highlights this when
28 reflecting on his experience:

29 *[Pupils had] confidence in the teachers' teaching styles and practices to let them be*
30 *independent in what they were doing... Pupils were independent, they trusted the*
31 *teachers, and the activities were creative enough and adapted enough to allow pupils*
32 *to engage by themselves. The practices were so good that they didn't need support*
33 *[from TAs] in PE. (Paul, PE trainee)*

34 Several interviewees noted that they witnessed constructive relationship building in
35 their special schools which they felt contributed to the positive learning environments they
36 witnessed although, like Becky, they were mindful that in a week-long experience, this would
37 be difficult to achieve themselves. Nevertheless, they felt they benefitted from the
38 opportunity to get to know pupils pastorally during their SSE, which helped them to consider
39 how they might work toward positive relationship building in a mainstream school
40 environment.

41 However, they were also mindful of the difficulties of getting to know pupils well in
42 mainstream schools given the larger class numbers. Jane reflects on this:

43 *[Pupils in the special school] can tell that the teachers care about them, and they*
44 *need that. And really, I think we should make it clear to everyone that we care about*
45 *them, but I think it's harder in a mainstream school when you've got so many kids in*

1 *a classroom and they don't think you even know their real names.* (Jane, mathematics
2 trainee)

3 Whilst this is a challenge in a mainstream school environment where there are
4 frequently thirty or more pupils in a class, the preservice teachers interviewed felt that having
5 the experience of the SSE and witnessing the benefits of understanding and catering to pupil
6 needs improved their confidence to develop effective differentiation practices as they
7 progressed in their training. Further, it encouraged them to actively seek out information to
8 help them better understand the needs of individual pupils they were working with during
9 their Phase 2 teaching practice (*"The boy that was blind, he had his own learning support*
10 *assistant so I had a lot of support from her and the school has an enhanced resource centre,*
11 *so I had a training session with them"* Anna, Mathematics trainee) and through developing a
12 positive classroom environment for all pupils (*"It's helped me with my interactions and to*
13 *come up with something better for everyone"* Eva, Mathematics trainee). Importantly, it
14 prompted the preservice teachers to consider their own teaching practice and how this can be
15 adapted to meet the needs of a diverse cohort of pupils.

16

17 ***Understanding effective differentiation.***

18 Through engaging with the SSE, the preservice teachers reported having a better
19 understanding of how to differentiate learning to cater for the needs of range of pupil
20 abilities, which was enhanced through observing and talking with experienced staff members,
21 and through taking the time to engage with their pupils. Several were able to give examples
22 of differentiation techniques they had seen in their special schools and consider how these
23 were adopted and adapted for pupils in their phase 2 teaching practice. For some, this was
24 the inclusion of strategies to help with behaviour management. Lucy gives an example:

25 *[It was about] learning how to deal with an issue and not let it get out of control, and*
26 *just being very calm about everything. Not to shout at pupils all the time – they*
27 *[teacher in special school] used certain ways to stop pupils becoming angry, so they*
28 *might change the subject or joke about something in a certain way... I think that's*
29 *transferable, I have used humour a lot more, or tried to, in mainstream school, but it*
30 *hasn't been with SEND pupils, its been with other issues, behaviour issues.* (Lucy, PE
31 trainee)

32 Here, Lucy highlights that she has adapted the way she manages behaviour in her
33 teaching by using positive strategies to calm a situation rather than amplify it. Specifically,
34 she refers to using humour to manage disruption in lessons. She goes on to give an example
35 of how this was used effectively during her teaching in her phase 2 placement. Some of the
36 preservice teachers interviewed found it difficult to directly relate their SSE to the kinds of
37 SEND they might encounter in a mainstream school, and like Lucy, picked up on how
38 strategies used in their special schools might assist with inclusion on a broader, whole class
39 level. Jane gives another example of how more practical inclusion strategies were applicable
40 to her mainstream class in her phase 2 placement:

41 *It made me see the importance of low threshold, high ceiling activities. In Maths it*
42 *[inclusion] is when everyone can get involved. So it might be "how many solutions*
43 *are there to this problem" and then someone low end might just put in some numbers*
44 *to see if it works, and someone on the high ability, "oh I can actually work out how*
45 *many solutions there are", so you can really stretch the high ones and the low ones*

1 *are still working on those problems... there was an activity at [special school] that I*
2 *really liked. It was just numbers 1 to 9 in a grid 9 by 9 and you would need to get*
3 *every row to add up to 99... I loved that activity and used it with year 8 at my phase 2*
4 *school and it was really nice because we got a discussion going. It was nice to see [at*
5 *the special school] what questions the teacher asked and how he asked them. (Jane,*
6 *mathematics trainee)*

7 For several interviewees, the opportunity to observe effective differentiation in
8 practice was one aspect of the SSE which contributed most to their increased confidence to
9 teach inclusively. Like for Jane and Lucy, this mostly related to how they were able to apply
10 their learning from the SSE to a mainstream environment where their main concern was
11 catering for children of all abilities, rather than only adapting their practice for those pupils
12 with SEND. Whilst some interviewees found it difficult to directly relate their SSE to
13 mainstream teaching environments due to the complex needs observed in special school
14 environments, all were able to give examples of how this form of situated learning benefitted
15 their practice in their phase 2 teaching. Further, some were able to locate distinct parallels
16 between what they experienced in the special school and their teaching of pupils with SEND
17 in their mainstream phase 2 placements. Paul explains how he has interpreted his learning
18 from the SSE and applied it to his mainstream teaching practice:

19 *It's not about changing the activities for the SEND pupils, its about changing the*
20 *roles and dynamics of the lesson to be able to include them. So, I'd say the main thing*
21 *that I try to do with the SEND pupils I had was pushing the boat out a bit and giving*
22 *them leadership roles and giving them roles of responsibility, so the other pupils*
23 *automatically have respect for them. And the SEND pupils, some of them it didn't*
24 *work and I hold my hand up, it was too much, but for some the response was*
25 *amazing!... you learn from your mistakes, you learn from the experiences you've had.*
26 *(Paul, PE trainee)*

27 Paul considers here how his understanding about inclusion has been changed through
28 the SSE, specifically about what is meant by differentiation and how differentiation can be
29 interpreted differently. For him, differentiation is not about changing the activities, but rather,
30 adapting the social relations in the lesson. Other trainees gave examples of how they made
31 more practical adaptations, like in mathematics, using multiple worksheets with short
32 activities to cater to lower ability pupils. Others discussed engaging with their TAs more
33 effectively so that children who needed support in lessons, received it. Importantly, as alluded
34 to by Paul above, and summed up by Anna below, the ability to effectively differentiate
35 comes from having the opportunity to engage in situated learning with pupils who have
36 SEND, and this was the opportunity presented during the SSE on this ITE programme.

37 *I just think, no matter how much someone tells you something or shows you*
38 *something, you wouldn't be able to do it unless you put it into practice... the best*
39 *exposure is to teach someone with a disability. If you don't know the individual, you*
40 *won't be able to apply it and see what works for them. (Anna, mathematics trainee)*

41

42

Discussion

43 This study set out to assess the effectiveness of a one-week SSE for improving
44 preservice teachers' efficacy to include children with SEND in their lessons. It also aimed to
45 understand how the SSE might facilitate learning about SEND and inclusion.

1 Efficacy was measured using preservice teacher's self-reported confidence to teach
2 children with SEND as well as their knowledge and understanding about SEND and inclusive
3 practice. The questionnaire data revealed significant improvements on both scales, and
4 overall showed a large and significant increase in preservice teacher efficacy following the
5 SSE. These findings support Rouse's (2008) notions of 'knowing' and 'believing'. They
6 demonstrate that the SSE improved preservice teacher knowledge about SEND and inclusion,
7 but also that the preservice teachers' belief in their own teaching ability in relation to
8 inclusive practice increased.

9 These findings support existing literature which show that situated learning
10 experiences can help to improve confidence and competence of teachers, including both
11 prospective and preservice teachers, working inclusive in environments (Gao & Mager, 2011;
12 Ashan, Sharma & Deppeler, 2012; Gehrke & Cocchiarella, 2013; Malinen et al, 2013; Sokal
13 & Shrama, 2014; Maher et al., 2017). However, they show that in mainstream education
14 settings, it is sometimes difficult for preservice teachers to identify pupils with SEND, or
15 alternately, when they do, they do not have direct experience of working with these pupils.
16 Thus, mainstream school placements often do not contribute to enhancing knowledge and
17 understanding about inclusive practice. Difficulties with addressing inclusive practice in ITE,
18 have been apparent for some time, and frequently research cites teachers as feeling under-
19 prepared to teach children with SEND (Morley et al, 2005; Hodkinson, 2009; Coates, 2012;
20 Florian, 2012). This, in part, has been attributed to the limited time available on a 1-year
21 teacher education programme, like a PGCE, to specifically address issues relating to
22 inclusion and SEND (Hodkinson, 2009), yet increasingly, teachers are expected to
23 demonstrate their ability to cater for a range of pupils' needs (DfE, 2013). Indeed, Garner
24 (2000:111) argues that for ITE programmes to have "value, impact and longevity", they must
25 include engagement with real-world contexts, including the opportunity to experience
26 inclusive or special school settings; something preservice teachers have echoed when
27 reflecting on their training needs (Coates, 2012). This research has demonstrated that a
28 possible solution to this challenge is the inclusion of a short SSE, like the one offered here,
29 where there is opportunity to engage with pupils with diverse SEND in a special school
30 setting in order to better understand how the needs of this student population are catered for
31 and to improve confidence to teach a diverse range of pupils.

32 This research went beyond just demonstrating that a situated learning experience, like
33 the SSE, can positively impact preservice teacher efficacy. It also explored *how* this
34 experience might impact learning about SEND and inclusion. The qualitative findings
35 revealed two key factors. First, the SSE challenged preservice teachers' preconceived
36 expectations about SEND. Several of the interviewees felt anxious prior to attending their
37 special schools because SEND was considered an unknown. Some expected to only
38 encounter pupils with physical and/or significant cognitive impairment and had low
39 expectations about the learning potential and engagement of the pupils they might meet at a
40 special school. These are sentiments shared with preservice teachers in previous studies (e.g.
41 Avramidis, Baylis & Burden, 2000; Avramidis & Norwich, 2002; Campbell, Gilmore, &
42 Cuskelly, 2003; Mintz, 2007). Nevertheless, after the SSE, the preservice teachers
43 interviewed felt that these expectations had been challenged and their perceptions about
44 SEND and inclusion had been altered for the positive. According to Rouse (2008), a
45 fundamental element to effective inclusive teacher education is that it changes attitudes about
46 children with SEND, facilitating a belief that all children are worth educating and all children
47 can learn. The SSE achieved this, as demonstrated by the change in perspective of the
48 preservice teachers interviewed.

1 Furthermore, the SSE presented preservice teachers with the opportunity to interact in
2 person with pupils with SEND, observe teachers and support staff specialising in this
3 provision, and to observe first-hand what effective differentiation looks like. This encouraged
4 the preservice teachers to reflect on how these experiences might be relevant to mainstream
5 settings, prompting a change in their teaching practice going forward in their PGCE. Rouse
6 (2008) would consider this evidence of ‘doing’, which includes turning knowledge into
7 action, moving beyond reflection, improving practice and learning how to work with
8 colleagues and children. In relation to the latter, interviewees saw value in getting to know
9 children at their special schools and understanding how their individual needs might be
10 catered for in the classroom by reflecting on the child’s needs and the practices of the
11 experienced teachers and support staff working with them. Using these interactions and
12 observations, they were then able to effect change in their own practice during their second
13 mainstream teaching practice. For many interviewees, it was this element of their SSE that
14 they attributed most to their increased confidence.

15 Jobling and Mori (2004) also note that direct engagement with people with disabilities
16 can help to improve practical skills and confidence for preservice teachers, which they
17 attribute to preservice teachers’ meaningful interactions with students. They argue that in this
18 context, preservice teachers can move beyond deficit-models of disability toward
19 capabilities-models, whereby preservice teachers gain an appreciation for the potential of
20 their students. We would agree with this point. The qualitative findings here demonstrate
21 how preservice teacher attitudes can shift by having real-life experience with students with
22 SEND which can prompt changes in practice. Further, the findings showed the important role
23 experienced teachers have in facilitating preservice teacher development. Indeed, Zeichner et
24 al (1998) state that the sharing of knowledge by expert teachers and other school staff is
25 fundamental to the design of effective teacher education programmes. In this case, preservice
26 teachers were able to learn more about SEND and inclusion through discussion with
27 experienced staff members at their special school, learning effective differentiation
28 techniques by observing experienced staff. These experiences informed their reflective
29 practice moving forward.

30 This study showed how a one-week SSE can impact on the self-efficacy and learning
31 of preservice teachers in relation to inclusive practice, however, it also prompted change in
32 relation to the delivery of the SSE. Specifically, we acknowledged as a result of the research
33 that many preservice teachers were feeling anxious about the prospect of entering a special
34 school environment. We therefore adjusted how we prepare preservice teachers for the SSE.
35 During the induction workshop on day one, more acknowledgement is given to feelings of
36 anxiety, and preservice teachers are provided with more comprehensive information about
37 what they might expect to see in a special school environment. By doing this, we hope
38 students will arrive at the special school better prepared, and therefore get more out of the
39 experience. We have also revised the reflective journal preservice teachers complete during
40 their SSE to prompt them to explicitly reflect on what they can take from their SSE into a
41 ‘mainstream’ school setting (such as their second extended teaching practice and/or first year
42 of teaching) and additional prompts to guide preservice teachers to consider what was learnt
43 from the SSE that is useful to share with peers in the post SSE review. For some of the
44 preservice teachers we interviewed, thinking about how the experience was relevant to a
45 mainstream setting was challenging, and so by encouraging thinking about the transferability
46 of skills and knowledge / understanding we hope to encourage the kind of reflective practice
47 we noted from some of the interviewees who thought beyond SEND alone when considering
48 inclusion in a mainstream setting.

1 This paper has demonstrated the important learning which can occur for preservice
2 teachers about inclusion through direct experience in a special school. This is supported
3 through arguments put forward by Norwich (2008) and Hornby (2015), amongst others,
4 which recognise the valued space which special schools occupy within inclusive education.
5 Whilst we recognise the difficulty which might be faced in realising the practical
6 transferability of skills from a special school setting to a mainstream school setting, this
7 research has shown that such experience can facilitate learning about the processes and
8 principles surrounding inclusive education, which are more readily transferable into
9 mainstream settings. This has implications for both policy and practice in relation to ITE.
10 Currently, within the UK, new teachers must demonstrate their ability to “adapt teaching to
11 respond to the strengths and needs of all pupils” (DfE, 2013:11), and this research has
12 illustrated how participation in a SSE helped preservice teachers to recognise and reflect on
13 the skills needed to address this standard, and to develop more inclusive practices in their
14 classrooms. Such experiences, if offered more widely, could further improve the inclusion
15 landscape in mainstream education by broadening the confidence and understanding of
16 teachers to manage inclusion and diversity within their classrooms.

17 Moreover, whilst, this research presents evidence for the value of offering this
18 experience to preservice teachers, it has also been highlighted as an area of good practice by
19 the Office for Standards in Education, Children’s Services and Skills (OFSTED), the UK
20 regulation body for children’s care services and services providing education and skills for
21 learners of all ages, including ITE providers. During the 2018 inspection of the PGCE
22 programme, OFSTED noted that a key strength of the programme was that preservice
23 teachers demonstrated a secure understanding of how to plan learning that enables all pupils
24 to make good progress, including pupils who have SEND (OFSTED, 2018). The inspection
25 report also stated that the SSE had influenced the career trajectory of some of the preservice
26 teachers toward special education. Thus, it is worth other higher education institutions
27 offering ITE programmes to consider how they address issues relating to inclusive practice
28 and consider the inclusion of an authentic situated-learning experience which offers
29 preservice teachers the opportunity to engage directly with children and young people with
30 complex and diverse needs to further their understanding and confidence to teach inclusively.

31

32

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- 27

Figure S2 II: Interview Questions

1. Can you explain what you understand by the term 'inclusion'?
2. Before starting your PGCE, what experience did you have of engaging with children with SEND?
 - a. What did you think about teaching pupils with SEND?
3. Can you describe your personal learning journey through the PGCE with respect to teaching pupils with SEND?
 - a. What did you learn from your primary school experience?
 - b. What impact did this have on your Phase 1 teaching practice?
 - c. What did you learn from your Phase 1 teaching practice?
 - d. Did this help to prepare you for the Special School Experience?
4. How did you feel before starting the Special School Experience?
5. Using your reflective journal, explain the kinds of activities you engaged in during the Special School Experience and what you learned from these?
 - a. Was there anything you found especially enjoyable?
 - b. Was there anything you found especially challenging?
6. Did attending the Special School Experience change your views about inclusion and diversity? If so, how? If not, why?
7. Did the Special School Experience benefit you in your Phase 2 teaching practice? If so, how? If not, why?
8. How relevant were the different learning experiences for developing your teaching practice in relation to SEND and inclusion?
9. Overall, how do you feel now about including pupils with SEND in your classes?
10. How did the reflective journal support you in considering your journey?