Chapter 10 Integrating Initial Teacher Education and Induction in Scotland



Lauren Boath, Jill Shimi, and Louise Campbell

Becoming a Qualified Teacher in Scotland: An Innovative Route

Beginning in academic session 2017/18, the Scottish Government supported a range of new or 'alternative' routes into teaching in Scotland, offered through initial teacher education (ITE) in universities (Scottish Government, 2020). With a focus on attracting teachers in shortage areas, one of the models funded for a three-year pilot beginning in January 2018 was a route into teaching in secondary schools (i.e. teaching in schools with young people aged 11–18) in Chemistry, Computing, Home Economics, Mathematics or Physics, offered by the University of Dundee. This Postgraduate Certificate in Education (PGCE) (secondary) with supported induction route (the 'SIR') was founded on multi-layered partnership across the development and implementation: with Scottish Government and the General Teaching Council for Scotland (GTCS), local authorities and the schools and teachers within them, and with former students whose voices shaped the SIR and its implementation. The research from which this chapter draws was undertaken by two of the authors who were involved in the design, accreditation and implementation of the SIR programme at the University of Dundee.

The SIR combined a PGCE (secondary) with the GTCS Teacher Induction Scheme (TIS) (GTCS, 2021a). The most common route into secondary teaching in Scotland requires a professional graduate diploma in education (commonly called the PGDE) at a level equivalent to an undergraduate Honours degree (Scottish Credit

L. Boath (⋈)

University of Glasgow, Glasgow, Scotland e-mail: Lauren.Boath@glasgow.ac.uk

J. Shimi · L. Campbell

University of Dundee, Dundee, Scotland e-mail: Louise.Campbell@gtcs.org.uk

and Qualifications Framework (SCQF) level 10/ European Qualifications Framework (EQF) level 6) or a postgraduate equivalent to Masters (SCQF level 11/EQF level 7). These professional graduate or postgraduate courses are normally 36 weeks in length and those who successfully complete this ITE phase, including achievement of the GTCS Standard for Provisional Registration (SPR) (GTCS, 2021c) can progress to the GTCS Teacher Induction Scheme (TIS), also known as the induction year or probationary phase, paid at point 0 of the salary scale for teachers in Scotland (£28,113 p.a. from 1 January 2022; £31,584 p.a. from April 2023). For the induction year, allocation to an employing local authority is undertaken by the GTCS from a choice of five made by the individual during the year in initial teacher education (ITE); school allocation is undertaken by the employing local authority.

Successful completion of the induction year leads to achievement of the GTCS Standard for Full Registration (SFR) (GTCS, 2021b) allowing the fully registered teacher to apply for teaching posts in schools. An alternative 'flexible' route is offered; individuals can gather evidence of achievement of the SFR through employment in a school, this employment being gained by the individual rather than through the GTCS allocation system. This can include part-time employment or employment in an independent school (i.e. one not maintained by a local authority; such schools account for just under 4% of the Scottish pupil population (Scottish Council of Independent Schools, 2023).

The SIR drew on a wide range of research evidence about teaching and teacher education including exploration of a greater degree of integration between the university and school-based element of ITE (Allen & Wright, 2014; Dewhurst & McMurtry, 2006; Hagger et al., 2011). There was recognition of the challenges of pre-service teachers' transition into employment (Du Plessis & Sunde, 2017; Shayshon & Popper-Giveon, 2017), including their preparedness for the reality of undertaking the role full-time. The SIR provided a greater level of support through transitions not normally encountered within a traditional university teacher education programme, by incorporating structured support from university-based teacher educators throughout the period traditionally undertaken as the stand-alone probationary experience. For the first time, the University of Dundee worked in partnership with teachers, schools and local authorities to support beginning teachers through the achievement of the SFR. This provided the opportunity for pre-service teachers to experience, while supported through the SIR, end of term processes, processes relating to the Scottish Qualification Agency and National Qualifications, beginnings of terms, building relationships with new classes and with learners new to the school, and timetable change as learners progress from one academic session to the next.

Partnership in Funding and Development of the SIR

Traditional forms of teacher education have articulated 'partnership' as a descriptor to sum up the combined forces of campus-based and school-based learning, though in many cases, school-university partnership constitutes parties working in separate

ways with minimal communication, linked only by the pre-service teacher's presence in both learning contexts.

The SIR, which ran as a pilot for a three-year period, began with its first intake of students in January 2018. Deliberate and active partnerships to plan and cogenerate pre-service teachers' learning experiences is an area that is attracting increasing interest (McGee, 2017; Mutemeri & Chetty, 2011; Willis et al., 2018) as a means of supporting the development of the competencies desired of new teachers in the twenty-first century. This 52-week Masters-level integrated SIR was developed through such deliberate and active school-university partnership with four local authorities: Angus Council; Dundee City Council; Fife Council; and Perth & Kinross Council; alongside wider research and literature on teacher education and teacher education programmes globally. Building upon the strengths of the ITE offerings at the University of Dundee and the TIS programs offered within these four local authorities, there was a focus in designing the SIR on mitigating or overcoming some of the identified barriers to accessing and succeeding in teacher education.

Key to this was the award of Scottish Government funding without which such innovation could not have occurred. Funding was awarded to develop and pilot the SIR as an additional route, alongside the traditional professional graduate programme offered by the University. The SIR model had two unique features for which further funding was required: the ability to offer financial support to those on the programme ('student-inductees'); and funding for professional learning for in-service teachers acting as school-based supporters for the student-inductees. Through Scottish Government funding, administered via the local authorities, student-inductees on the SIR received financial support equivalent to point 0 of the Scottish teachers' salary scale, monthly throughout the 52-week programme. Further funding met the fee costs for school-based supporters to participate in Master's-level learning around mentoring and coaching; this was the first time such a funded opportunity had been made available to those supporting pre-service or probationary teachers in schools.

Close partnership working with the GTCS was another key feature of the successful development and delivery of this pilot route. Addressing barriers to accessing and succeeding in teacher education required a rethink of the teacher education offering at the University of Dundee and thus partnership with the GTCS, to agree flexibility, including around the Guidelines for ITE Programmes in Scotland (General Teaching Council for Scotland, 2013). The goals of the school-university partnership were to:

- Address barriers to accessing teaching as a profession.
- Create an integrated programme through which aspiring teachers could gain full GTCS registration with University and local authority support throughout.
- Further the role of fully qualified teachers as teacher educators.

Each of the goals and the outcomes in relation to these will be explored further within this chapter.

Addressing Barriers to Joining the Profession

In the design of the SIR was an ambition to overcome identified barriers which might prevent people joining the teaching profession. There was recognition that whilst career changers could bring work and professional experience to teaching (Price, 2019), the design and funding of existing routes into teaching in Scotland may inhibit or indeed prohibit them from making this career change. Within the SIR, student-inductees undertook two blocks of school placement in a single school, the first of 18 weeks and the second of 19 weeks. This facilitated planning by those with dependents, caring responsibilities or other reasons that made placements arrangements within traditional routes, typically three separate placements of six weeks, confirmed only two to three weeks in advance of the placement start date, challenging to undertake.

While the TIS is celebrated as a world leading success (Shanks, 2020), it does present logistical challenges for some potential teachers. Those who wish to take up a place on the TIS are required to select five local authority areas in which they can be placed. In much of Scotland, this is a significant geographical area. Many of the local authorities themselves cover a large area and within the allocated local authority, the probationer can be placed in any school. The GTCS makes it clear that personal circumstances are not considered in allocating the local authority (Shanks, 2020), although a student's choice of local authority may well be influenced by family connections or childcare needs (Hulme & Menter, 2014). Thus, it was the intention to create a pathway through which beginning teachers could have certainty in their planning for achievement of the SFR.

Half of those who participated in the research relating to the SIR had been in the workplace more than 10 years since their last graduation; for 62% of participants teaching was not their first career choice since their last graduation. This indicates that the model did attract career changers. Student-inductees said that they had experienced both financial and logistical barriers in their journey to becoming a teacher:

The cost to complete a career change. I saved up for a few years to go on the traditional course, if this course had come up sooner, I would have been able to join the profession sooner. As a parent I need to get my children into routines. The traditional course meant I would have been in three different schools...how can I prepare childcare and support for my children with these issues? (Student-inductee, cohort 1)

I would not have been able to make this career change without the financial support and the one-year course. The year with no income of the traditional route simply would not have been possible for someone with a family and mortgage, etc. (Student-inductee, cohort 3)

Twenty-four of the 34 student-inductees who participated in the research expressed the wish to work in one of the four partner local authorities (i.e. Angus, Dundee, Fife or Perth & Kinross Councils) in the first year of employment with the remaining 10 identifying other Scottish local authorities in which they intended to seek employment. Only four of the 34 indicated that they could work in a choice of

local authorities, reflecting the restrictions on movement which potentially limit the ability to join the profession through a traditional route and the TIS.

Creating an Integrated ITE/TIS Programme

ITE is internationally regarded as underwriting teachers' professional knowledge and dispositions (Jasman, 2009; König, 2013) particularly in relation to periods of change in terms of curricula, education policy or wider social policy (see for example (Avalos & Bascopé, 2014; Ota, 2000; Sim, 2006; Ssentamu, 2014). In many contexts, university- or college-based ITE is combined with teaching practice in schools, creating a combined approach to providing pre-service teachers with the skills and knowledge they need to undertake the work of teaching. Practicum experiences are a familiar feature of teacher education programmes worldwide (Allen & Wright, 2014; Grudnoff, 2011), recognised as valuable for the opportunities they offer for immediate and tangible learning through doing. However, this immediacy presents teacher education institutions (TEIs) with a challenge. The occupational socialisation that happens within the context of practicum in schools can become a dominant force in terms of shaping pre-service teachers' pedagogical understanding, professional attitudes and practical skills (Atkinson & Delamont, 1985). While practicum allows pre-service teachers to test their knowledge and skills, the dispositions, behaviours and sensitivities TEIs seek to inspire in pre-service teachers puts them in a vulnerable position in practicum contexts, where similar perspectives may not be shared, and where the status quo may be preferable to novel thinking (Griffiths, 2013). This exposure to the strong influence of practicum experiences is likely also to play a significant role in developing pre-service teachers' thinking about curricular planning and the organisation of learning (Heywood et al., 2012). Additionally, teachers, both preservice and in-service, find themselves torn in two by the problematic tension of needing to be compliant with the managerialist discourses at work in the school setting and the desire to forge their own way as creative, autonomous professionals (Campbell, 2019; Reeves & Drew, 2013). The social and cultural pressures brought to bear in such situations can be formatively powerful and can take a dominant place in the professional learning experiences of pre-service teachers.

Connected with these social pressures, a range of affective pressures can take precedence over the pedagogical or philosophical influences formed in TEIs, resulting in these being stifled or neglected. Some examples of these affective pressures may include a wish or need to feel a sense of belonging within the school culture (Heywood et al., 2012); the pressure of time, often managed by resorting to whatever methods are most convenient or compliant (Goepel, 2013); the apprenticeship of observation (Lortie, 1975) in which deep-rooted familiarity with particular teaching habits absorbed through childhood experiences as a pupil become natural or comfortable adult behaviours in the face of daily classroom challenges (Raymond et al., 1991); or unthinking reflex actions that are used instead of behaviours directed by more rational principles, standards or dispositions.

One of the challenges for TEIs is how best to create conditions where their pedagogical influence has the opportunity to cohere and have a sustained effect on experiences of teaching practice and the formation of pre-service teacher identity (Beauchamp & Thomas, 2009) alongside the influences of practicum. While teacher identities are arguably sites of necessary on-going transformation, pre-service learning needs to be an effective and meaningful part of pre-service teachers' professional learning experiences, with the scope for lasting impact. The SIR model is best described as aligning with the 'collaborative model' of ITE (Furlong et al., 2000 in Smith, 2010) in which collaborative work and discussions take place in schools, and between schools and HEIs. The extended practicum model of the SIR provided opportunities for much deeper relationships to be formed between the 'studentinductees' and the school-based supporters, as well as between the school-based supporters and University tutors. The funding for in-service teachers to undertake professional learning with the University provided a space in which collaborative professional discussions could take place between in-service teachers and ITE staff. What emerged here was not conflict between theory and practice, or differing stances on preparing beginning teachers, but rather a great deal of shared understanding and commonality of purpose; there were indeed similar perspectives and engagement by the in-service teachers in novel thinking around learning and teaching practice (Griffiths, 2013).

The collaboration was further strengthened by joint assessment throughout the SIR placements; the student-inductee being observed by both the University tutor and school-based supporter, with the tutor and supporter then engaging in professional dialogue about what they had observed, strengths and areas for development, and next steps. It was rare for there to be difference of opinion between the tutor and supporter, the former having observed a 'snapshot' of the student-inductee in action in the classroom, alongside their on-campus learning and on-going professional dialogue, and the latter having worked closely with the student-inductee day-to-day in school and engaged in on-going dialogue with the university through their own learning. Thus, the close partnership moves us towards a more coherent learning experience for the student-inductee through a strengthened connection with teachers supporting the student-inductees learning in school to help overcome potential fragmentation (Floden et al., 2021).

Furthering the Role of Fully Qualified Teachers as Teacher Educators

Learning to teach through practicum can be a 'challenging activity, one filled with apprehension, uncertainty and loneliness for teacher candidates' (Cochran-Smith et al., 2015). A tension exists between a view of learning to teach as developmental and taking place over a period of time and expectations of schools (Cochran-Smith et al., 2012), based on the Scottish induction year model, that those who have

completed the ITE phase are ready to demonstrate performance as an independent teacher despite having not yet achieved fully registered status. The SIR model was devised to extend the period of support and development beyond the traditional ITE phase, until fully registered status was achieved.

The model of school-university partnership between in-service and pre-service teachers within the SIR was a coteaching model (Murphy, 2016) moving from the common model in which the pre-service teacher observes for a period before taking responsibility for the class (Murphy, 2016). In the SIR design, student-inductees were matched with an appropriate school-based supporter in the relevant subject specialism. The school in which the student-inductee was placed committed to release of that school-based supporter, and to supporting the coteaching model.

Coteaching, including the three elements of coplanning, copractice and coreflection or coevaluation (Murphy, 2016; Murphy et al., 2015) is distinct from the traditional observation then solo teaching model often used in practicum. It is also distinct from 'co-teaching' models which can be wide ranging in meaning and implementation. Coteaching in this case is a model in which two or more teachers are teaching together, sharing responsibility for meeting the learning needs of students and, at the same time, learning from each other. Coteachers plan, teach and evaluate lessons together, working as collaborators on every aspect of instruction (Murphy & Scantlebury, 2010). This particular model of coteaching was chosen both as a mechanism to support the student-inductees and school-based supporters, to provide a structure for reflective practice, and to support the development of pedagogical content knowledge (Murphy et al., 2015). It provided a way to mitigate the potential for ineffective practice impacting negatively on children and young people, which can occur in the early stages of the pre-service teacher's learning journey (Murphy, 2016). This was felt to be crucial within the SIR model for two reasons. The first was the extended nature of the practicum in a single school; whilst there were benefits for the preservice teachers of contributing to longer-term learning, feeling connected to the department and school, and having the opportunity to build positive relationships with staff and learners, there was awareness of the need to mitigate the potential for any negative impact on learning. The second reason was that student-inductees were only in the placement school Monday to Thursday of each week, with Friday dedicated to on-campus, University or local authority learning, or wider learning and independent study. Coplanning and the very close working relationship required within the coteaching model allowed for this to operate without disruption to learning in the classroom.

In its original design, the intention of the SIR programme was that the student-inductee and school-based supporter would coteach frequently in the early part of placement and continue some coteaching throughout the placement. During the placement, the student-inductee would gradually take over an increasing percentage of the school-based supporter's timetable, making space for the supporter to develop their Master's-level learning in mentoring and coaching and to continue to observe, support and challenge the student-inductee. In the first placement block, student-inductees taught only within the broad general education (BGE), i.e. young people up to the age of 14 in their third year of secondary education. In the second block,

the more experienced student-inductee's timetable included Senior Phase teaching, i.e. with young people whose learning leads to National Qualifications or other external certification. Many student-inductees and school-based supporters concentrated their coteaching in the first 6–8 weeks of the first placement with the student-inductees building experience and confidence to undertake an increasing amount of solo teaching. Many returned to the coteaching model to support the student-inductees through the change of timetable which, in Scotland, traditionally happens in May/June before the 6–7 week summer break, and again as the student-inductee entered the second placement block and experienced Senior Phase teaching for the first time.

The flexibility of the coteaching model allowed for a range of arrangements to work within the variety of participating schools. Whilst some student-inductees and school-based supporters worked within a very 'pure' model with the student-inductee only teaching classes from their school-based supporter's timetable, others taught classes on their timetable which did not belong to their own school-based supporter, either focusing their coteaching with their school-based supporter or coteaching with different teachers. Some continued to use coteaching more heavily throughout both placement blocks than others, depending on their own needs, the classes being taught, and the needs of children and young people.

At the heart of the coteaching model is relationship building between the pre- and in-service teacher, with a recognition of strengths rather than a deficit model of the student teacher (Murphy, 2016). In facilitated sessions, the school-based supporters were encouraged to explore and understand the student-inductees background, work experience and expertise that they might bring to coteaching, while the student-inductees similarly came to understand their school-based supporters' strengths and expertise within the classroom, wider school and beyond. This was particularly effective with career changing student-inductees who brought a wide range of experiences including applications in business and industry:

My student-inductees have brought a wealth of knowledge to my subject from their initial careers that have helped to innovate some of our practice in school. We have been able to exchange information. (School-based supporter, cohort 2)

Arguably, the coteaching model addressed a need for organisational change, including new relationships and cultures (Beck & Adams, 2020), reshaping the way in which pre-service teachers were viewed and how they worked with in-service teachers. It provided a framework within which the in-service teachers role as teacher educators in the SIR programme was explicit and took place alongside the in-service teachers building relationships and undertaking their own professional learning with the University.

As a mentor I found this experience challenging but also extremely worthwhile for my own practice. I am delighted to have been part of this programme and am excited to get back into my classroom and try all the things I have learned through my own research during this programme and from my student-inductee. (School-based supporter, cohort 1)

I enjoyed mentoring my student, it was very rewarding seeing him 'grow' as a teacher. I learned a lot from him through his innovative use of IT/digital learning. (School-based supporter, cohort 3).

Of those who acted as school-based supporters during the three-year pilot and participated in the research, more than 60% had been in teaching for more than 10 years, and 86% for six or more years. Just over 40% gave the opportunity for professional learning as their motivation for acting as a school-based supporter; 90% agreed that coteaching had given them the opportunity to develop their practice and skills and build confidence, whilst 80% noted that they had gained new insights in practitioner enquiry and research. Just over half felt they gained new insights into curriculum guidance and requirements and meeting learners' needs:

I have enjoyed the experience, it has made me as a practitioner question my practice, I have benefited from the reading and research the inductee has done, this has been helpful in whole school working and issues, that we should perhaps be 'up on' but aren't and current educational material is only helpful if we have the time to read and digest it! I enjoyed seeing innovative ways that the inductee chose to teach topics and how resourceful they could be. (School-based supporter, cohort 1)

Combining the coteaching model with the opportunity for school-based supporters to undertake their own professional learning, gave greater opportunity for shared vision about the learning of the student-inductees, and therefore greater opportunity for the student-inductees to succeed (Floden et al., 2021). However, offering the integrated programme was not without challenges. Within the partner authorities, many schools were keen to participate in the pilot, even more so after a successful first year. However, offering the student-inductee an appropriate level of support, mentoring and coaching required the relevant department to have sufficient staff and among those staff, an identified school-based supporter willing to undertake Master's-level study in mentoring and coaching, to develop understanding of the SIR and to provide support for a beginning teacher over a prolonged period. This was a challenge given that the SIR was recruiting in 'shortage' subjects. Not all schools offered a full programme of subjects to give an appropriate experience. For example, in computing, several schools willing to host a student-inductee did not have sufficient staff to offer the subject within the BGE and thus offer a BGE timetable for the student-inductee.

The SIR pilot recruited small numbers with around 45 students qualifying through the route during the pilot. During the second and third years of the pilot, some schools began to take multiple student-inductees, bringing on board new school-based supporters alongside existing school-based supporters, to build capacity as a 'hub' working closely with the University. Steps were made to help in-service teachers understand the SIR model, building interest in participation as school-based supporters and the opportunities offered in terms of professional learning and development. Whilst the early weeks of hosting a student-inductee were very intensive and demanding of school-based supporters, as the placement progressed, and particularly through the second block of placement, many school-based supporters reported that they missed their own teaching load, as successful student-inductees worked largely

independently with the classes. Whether an in-service teacher could, or would want to, act as a school-based supporter in consecutive years would be an issue if a model such as the SIR were to continue beyond the pilot, presenting challenges in terms of capacity for schools to accommodate student-inductees.

Understanding the Outcomes of the SIR

One of the conditions of Scottish Government funding for the SIR was independent evaluation of its implementation and first year of operation; this was submitted to the Scottish Government and GTCS in March 2019. When embarking upon the SIR, there was clear intention to undertake research to understand its implementation from a range of perspectives. There was recognition that universities increasingly involve students, including those in teacher education (Darwin, 2016), in evaluation of the experience of university and 'student satisfaction'. However, this reflects an emphasis on a neoliberal narrative—students as consumers of higher education (O'Leary & Cui, 2018). In researching the SIR, current and former students were framed as active collaborators whose voice shapes the teacher education experience (Darwin, 2020; Wilks, et al., 2019) and how we understand it.

Thus, from the outset, there was commitment to understanding former students' perspectives about 'what matters' in the beginning stages of a teacher's career, including both the ITE and TIS stages. Based on the following criteria, a number of former students were invited to join a Student Research Advisory Group (SRAG):

- Successful completion within the last three years of the 'traditional' route in initial
 teacher education at the University of Dundee (i.e. the 36-week professional
 graduate diploma (SCQF level 10)) in secondary education in chemistry, home
 economics, mathematics or physics and of the GTCS TIS.
- 2. Minimum qualification at Honours degree level which would permit entry to the SIR
- 3. Joined initial teacher education as career changers and/or with postgraduate qualifications.

The voice-related methodology underpinning this work, developed by Lundy (2007) and Lundy and McEvoy (2011), recognises the need for *shared experience*. Rather than attempting to create 'shared experience' between SRAG members through activities (see, for example, Boath, 2019), involving only former students from the most recent iterations of the programme, who had then progressed through the TIS within geographically adjacent local authorities, provided this shared experience. The contributions of the SRAG were used to develop the themes of the questionnaire and to support research participants in considering a range of perspectives (Lundy & McEvoy, 2011; Murphy et al., 2013), creating zones of proximal development for the research participants (Boath, 2019). Having piloted the developed questionnaire and finalised it for use with student-inductees, it was then used as the basis for the questionnaire for the 'school-based supporters', to explore their experiences

and perceptions of the SIR programme. Through this approach, an understanding was developed of 'what matters' to beginning teachers as they progress through ITE and the TIS, and this understanding shaped the SIR as it was implemented. Moreover, the perspectives of student-inductees and school-based supporters involved with the SIR were examined through this lens.

Where Are We Now?

Following the successful first year of implementation of the SIR, a further programme was piloted to meet the needs of remote local authorities seeking to recruit in the shortage areas of Chemistry, Computing, Home Economics, Mathematics and Physics. Supported by funding through the Attainment Scotland Fund, following a Scottish Government procurement exercise, the 18-month Postgraduate Diploma in Education with Partnership Induction Model (PIM) was adapted from the SIR to be offered in more remote local authority areas including Aberdeenshire, Argyll and Bute, Borders and Highland Councils. It introduced a further partnership element, being run by the Universities of Dundee and the Highlands and Islands. The PIM was offered for one cohort (December 2018—June 2020). The three-year pilot of the SIR concluded in March 2021, with the final cohort having their studies extended by two months because of the COVID-19 pandemic. Concurrent with the SIR and PIM, the University of Dundee offered two innovative routes into primary teaching, the 'National Learn to Teach' (LTT) and 'Rural Learn to Teach' (RLTT). Starting in January 2018, the LTT and RLTT offered the opportunity for local authority employees with appropriate degree qualifications to study part-time for a professional graduate diploma in education with placements in their employing local authority. They were able to maintain an income from their existing employment and were guaranteed a place on the TIS within that local authority. Both the LTT and RLTT came to an end in June 2021.

Compared with the common model of three six-week placements with an assessed visit from the university-based tutor, the partnership of the SIR allowed development of the possibilities for a more deeply-embedded model of partnership benefitting both students as beginning teachers, qualified teachers acting as school-based mentors and university staff working alongside them both. Qualified teachers were able to access Master's level professional learning and to benefit from closer working relationships with university-based staff. They also benefited from the opportunity to work alongside beginning teachers beyond the typical six-week window, learning with and from them. School-based mentors felt more invested in the progress and success of these beginning teachers.

University staff benefitted from the model too; they were able to spend more time with the school-based mentors, learning with and from them, building relationships and supporting them in their mentoring, coaching and support for the studentinductees. One notable observation from the deeper partnership was that the joint assessment model could be and was successful, that school-based and university-based staff were very closely aligned in their observation and assessment of the student-inductees' development and progress as beginning teachers. This served to build confidence among the teachers as they developed greater understanding of teacher education, built on research and literature, and confidence in university-based teacher educators about their own understanding of quality learning and teaching in schools and in the appropriateness of the preparation of beginning teachers.

There is an obvious challenge then around the sustainability of such programmes set up to complement mainstream routes into teaching, to give opportunity for diversification of the student body and ultimately the teaching workforce. The models at this one institution demonstrate the value of a range of different approaches, built locally and in close partnership with the relevant local authorities and schools, to overcome barriers to the teaching profession in different geographical locations and among different groups of people. However, whilst we have explored the benefits of working in a multi-layered partnership, ultimately the diversity of routes required to meet local needs and address barriers to the profession is dependent on the availability of funding. This is not only about the mechanisms through which institutions are allocated funded places, student fees being paid for eligible students, or even financial support for students through mechanisms such as those in place for SIR and PIM student-inductees, or through bursary schemes (Scottish Government, 2019). Developing local solutions to meet local needs requires funding to enable institutions offering initial teacher education to develop and, crucially, to sustain the diversity of routes which, by their nature, will not necessarily recruit to the same extent and match the numbers on the 'traditional' routes into teaching.

The SIR offered a model in which there was close collaboration and coherence across the teacher education programme, bringing together the learning which takes place across campus-based experiences and practicum, a challenge for all teacher education programmes (Canrinus et al., 2017). To continue to do so, however, requires long-term investment to build and sustain capacity in the system at all levels including classroom teachers, middle and senior leaders and within local authorities. There must also be sustainable capacity within TEIs, including teacher educators and those with expertise in mentoring and coaching, to 'support the supporters' as teacher educators within schools, and to develop and support partnerships with schools and their staff and with local authorities. Prior to the Teaching Scotland's Future report (Donaldson, 2011) which promoted strengthened partnership between universities, local authorities and schools (Beck & Adams, 2020), Smith (2010) noted that attempts to formalise the role of in-service teachers as teacher educators had 'foundered on resource issues' (p. 44) and it seems that a decade on, this remains the case.

References

- Allen, J., & Wright, S. (2014). Integrating theory and practice in the pre-service teacher education practicum. *Teachers and Teaching*, 20(2), 136–151. https://doi.org/10.1080/13540602.2013. 848568
- Atkinson, P., & Delamont, S. (1985). Socialisation into teaching: The research which lost its way. British Journal of Sociology of Education, 6(3), 307–322. https://doi.org/10.1080/014256985 0060304
- Avalos, B., & Bascopé, M. (2014). Future teacher trajectory research: its contribution to teacher education and policy. *Education as Change*, 18(1), 19–32. https://doi.org/10.1080/16823206. 2013.877353
- Beauchamp, C., & Thomas, L. (2009). Understanding teacher identity: An overview of issues in the literature and implications for teacher education. *Cambridge Journal of Education*, 39(2), 175–189. https://doi.org/10.1080/03057640902902252
- Beck, A., & Adams, P. (2020). The Donaldson report, partnership and teacher education. In R. Shanks (Ed.), *Teacher Preparation in Scotland* (pp. 63–78). Emerald Publishing Limited.
- Boath, L. (2019). Children's aspirations and perceptions of science learning beyond the teacher-led. Trinity College Dublin. http://www.tara.tcd.ie/handle/2262/86036
- Campbell, L. (2019). Pedagogical bricolage and teacher agency: Towards a culture of creative professionalism. *Educational Philosophy and Theory*, 51(1), 31–40. https://doi.org/10.1080/ 00131857.2018.1425992
- Canrinus, E. T., Bergem, O. K., Klette, K., & Hammerness, K. (2017). Coherent teacher education programs: Taking a student perspectives. *Journal of Curriculum Studies*, 49(3), 313–333. https://doi.org/10.1080/00220272.2015.1124145
- Cochran-Smith, M., McQuillan, P., Mitchell, K., Gahlsdorf Terrell, D., Barnatt, J., D'Souza, L., & Gleeson, A. M. (2012). A longitudinal study of teaching practice and early career decisions: a cautionary tale. *American Educational Research Journal*, 49(5), 844-880. https://doi.org/10.3102/0002831211431006
- Cochran-Smith, M., Villegas, A. M., Abrams, L., Chavez-Moreno, L., Mills, T., & Stern, R. (2015). Critiquing teacher preparation research: An overview of the field, Part II. *Journal of Teacher Education*, 66(2). http://dx.doi.org.ezproxy.lib.gla.ac.uk/https://doi.org/10.1177/002 2487114558268
- Darwin, S. (2016). Student evaluation in higher education: Reconceptualising the student voice. Springer.
- Darwin, S. (2020). The changing topography of student evaluation in higher education: Mapping the contemporary terrain. Higher Education Research and Development.
- Dewhurst, Y. A., & McMurtry, D. (2006). The effectiveness of school placements in facilitating student teacher learning and professional development. *Scottish Educational Review*, *38*(2), 158–172. Retrieved from http://www.scotedreview.org.uk/pdf/
- Donaldson, G. (2011). Teaching Scotland's future: Report of a review of teacher education in Scotland. Scotlish Government.
- Du Plessis, A. E., & Sunde, E. (2017). The workplace experiences of beginning teachers in three countries: A message for initial teacher education from the field. *Journal of Education for Teaching*, 43(2), 132–150. https://doi.org/10.1080/02607476.2017.1286759
- Floden, R. E., Carter Andrews, D. J., Jones, N. D., Marciano, J., & Richmond, G. (2021). Toward new visions of teacher education: Addressing the challenges of program coherence. *Journal of Teacher Education*, 72(1), 7–10. https://doi.org/10.1177/0022487120976416
- Furlong, J., Barton, L., Miles, S., Whiting, C., & Whitty, G. (2000). *Teacher education in transition: Reforming teacher professionalism?* Open University Press.
- General teaching council for Scotland. (2013, June). *Guidelines for Initial Teacher Education Programs in Scotland*. Retrieved from General Teaching Council for Scotland: http://www.gtcs.org.uk/web/FILES/about-gtcs/guidelines-for-ite-programs-in-scotland.pdf

- General Teaching Council for Scotland. (2021a). *In2Teaching*. Retrieved May 17, 2021a, from http://www.in2teaching.org.uk/teacher-induction-scheme/teacher-induction-scheme.aspx
- General Teaching Council for Scotland. (2021b). The standard for full registration: Mandatory requirements for registration with the general teaching council for Scotland. Retrieved from General Teaching Council for Scotland: http://www.gtcs.org.uk/web/FILES/Professional-Standards-2021b/2021b-Standard-for-Full-Registration.pdf
- General Teaching Council for Scotland. (2021c). The standard for provisional registration: Mandatory requirements for registration with the general teaching council for Scotland. Retrieved June 29, 2021c, from http://www.gtcs.org.uk/web/FILES/Professional-Standards-2021c/2021-Standard-for-Provisional-Registration.pdf
- Goepel, J. (2013). Upholding public trust: An examination of teacher professionalism and the use of teacher's standards in England. *Teacher Development*, 16(4), 489–505. https://doi.org/10.1080/ 13664530.2012.729784
- Griffiths, M. (2013). Critically adaptive pedagogical relations: The relevance for educational policy and practice. *Educational Theory*, 63(3), 221–236. https://doi.org/10.1111/edth.12020
- Grudnoff, L. (2011). Rethinking the practicum: Limitations and possibilities. *Asia-Pacific Journal of Teacher Education*, 39(3), 223–234. https://doi.org/10.1080/1359866X.2011.588308
- Hagger, H., Mutton, T., & Burn, K. (2011). Surprising but not shocking: The reality of the first year of teaching. Cambridge Journal of Education, 41(4), 387–405. https://doi.org/10.1080/030 5764X.2011.624999
- Heywood, D., Parker, J., & Jolley, N. (2012). Pre-service teacher's shifting perceptions of cross-curricular practice: The impact of school experience in medicating professional insight. *International Journal of Educational Research*, 55, 89–99. https://doi.org/10.1016/j.ijer.2012. 07.003
- Hulme, M., & Menter, I. (2014). New professionalism in austere times: The employment experiences of early career. *Teachers and Teaching*, 20(6), 672–687. https://doi.org/10.1080/13540602.2014. 885707
- Jasman, A. (2009). A critical analysis of initial teacher education policy in Australia and England: Past, present and possible futures. *Teacher Development*, 13(4), 321–333. https://doi.org/10. 1080/13664530903578264
- König, J. (2013). First comes the theory, then the practice? On the acquisition of general pedagogical knowledge during initial teacher education. *International Journal of Science and Mathematics Education*, 11(4), 999–1028. https://doi.org/10.1007/s10763-013-9420-1
- Lortie, D. (1975). School-teacher: A sociological study. University of Chicago Press.
- Lundy, L. (2007). 'Voice' is not enough: Conceptualising article 12 of the United Nations convention on the rights of the child. *British Educational Research Journal*, 33(6), 927–942. https://doi.org/10.1080/01411920701657033
- Lundy, L., & McEvoy, L. (2011, 09). Children's rights and research processes: Assisting children to (in)formed views. Childhood, 19(1), 129–144. https://doi.org/10.1177/0907568211409078
- McGee, J. (2017). Enhancing school-university partnerships. *Waikato Journal of Education*, 7(1), 129–146.
- Murphy, C. (2016). Coteaching in teacher education: Innovative pedagogy for excellence. Critical Publishing.
- Murphy, C., & Scantlebury, K. (2010). Introduction to Coteaching. In C. Murphy, & K. Scantlebury (Eds.), Coteaching in international contexts: research and practice (pp. 1–7). Springer . https://doi-org.ezproxy.lib.gla.ac.uk/https://doi.org/10.1007/978-90-481-3707-7
- Murphy, C., Lundy, L., Emerson, L., & Kerr, K. (2013). Children's perceptions of primary science assessment in England and Wales. *British Educational Research Journal*, 39(3), 585–606. https://doi.org/10.1080/01411926.2012.674921
- Murphy, C., Scantlebury, K., & Milne, C. (2015). Using Vygotsky's zone of proximal development to propose and test an explanatory model for conceptualising coteaching in pre-service science teacher education. Asia-Pacific Journal of Teacher Education, 43(4), 281–295. https://www.tan dfonline.com/doi/full/https://doi.org/10.1080/1359866X.2015.1060291

- Mutemeri, J., & Chetty, R. (2011). An examination of university-school partnerships in South Africa. *South African Journal of Education*, 31(4), 505–517.
- O'Leary, M. & Cui, V. (2018). Reconceptualising teaching and learning in higher education: Challenging neoliberal narratives of teaching excellence through collaborative observation. *Teaching in Higher Education Critical Perspectives*, 25(2), 141–156.
- Ota, N. (2000). Teacher education and its reform in contemporary Japan. *International Studies in Sociology of Education*, 10(1), 43–59. https://doi.org/10.1080/09620210000200054
- Price, M. (2019). From troops to teachers: Changing careers and narrative identities. *Journal of Education for Teaching*, 45(3), 335–347. https://doi.org/10.1080/09589236.2019.1599502
- Raymond, D., Butt, R., & Townsend, D. (1991). Contexts for teacher development: Insights from teacher's stories. In A. Hargreaves & M. Fullan (Eds.), *Understanding teacher development* (pp. 196–221). Cassells.
- Reeves, J., & Drew, V. (2013). A productive relationship? Testing the connections between professional learning and practitioner research. *Scottish Educational Review*, 45(2), 36–49.
- Scottish Council of Independent Schools (SCIS). (2023). Facts and figures. Retrieved from https://scis.org.uk/facts-and-figures/
- Scottish Government. (2019). STEM teacher education bursary: Eligibility criteria. Retrieved June 15, 2021, from https://www.gov.scot/publications/stem-teacher-education-bursary-eligibility/
- Scottish Government. (2020). *Alternative Routes into Teaching*. Retrieved 17 May 2021, from https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2020/02/alternative-routes-into-teaching-february-2020/documents/alternatives-routes-into-teaching-february-2020/govsc
- Shanks, R. (2020). Teacher Induction. In R. Shanks (Ed.), *Teacher preparation in Scotland* (pp. 151–164). Emerald Publishing.
- Shayshon, B., & Popper-Giveon, A. (2017). 'These are not the realities I imagined': An inquiry into the lost hopes and aspirations of beginning teachers. *Cambridge Journal of Education*, 47(4), 533–549. https://doi.org/10.1080/0305764X.2016.1214238
- Sim, C. (2006). A national overview of teacher education in Australia. Retrieved February 18, 2021, from https://research-repository.griffith.edu.au/handle/10072/11601
- Siry, C., Martin, S. N., Baker, S., Lowell, N., Marvin, J., & Wilson, Y. (2010). Co teaching in science education courses: transforming teacher preparation through shared responsibility. In C. Murphy, & K. Scantlebury, *Coteaching in international contexts* (pp. 57–78). Springer. https:// doi-org.ezproxy.lib.gla.ac.uk/https://doi.org/10.1007/978-90-481-3707-7
- Smith, I. (2010). Reviewing Scottish teacher education for the 21st century: Let collaborative partnership flourish. Scottish Educational Review, 42(2), 33–56. Retrieved 05 21, 2021, from https://www.scotedreview.org.uk/media/microsites/scottish-educational-review/documents/312.pdf
- Ssentamu, P. (2014). Ideological trends in initial teacher education curricula: The case of East African universities. *Tuning Journal for Higher Education*, 2(1), 129–159.
- Wilks, J. L., Snow, M., Lasczik, L., & Bowling, A. (2019). Working towards 'doing it better': Seeking the student voice in teacher education. *Australian Journal of Teacher Education*, 44(1), 76–92.
- Willis, L.-D., Grimmett, H. & Heck, D., (2018). Exploring cogenerativity in initial teacher education school-university partnerships using the methodology of metalogue. In: J. Kriewaldt, A. Ambrosetti, D. Rorrison & R. Capeness (Eds.), Educating future teachers: Innovative perspectives in professional experience (pp. 49–69). Springer.

Lauren Boath is Director of Initial Teacher Education and Undergraduate in the School of Education at the University of Glasgow. Coming from a background as Secondary School Teacher of physics and science, she is committed to developing high-quality teacher education and teacher educators to impact on our beginning teachers and the lives and learning of children and young people. Her research interests include science learning, children's voice and rights, and teacher education.

Jill Shimi is Senior Lecturer at the University of Dundee. Her current role involves the recruitment of students to the PGDE programme and working in partnership to deliver high-quality teaching and learning experiences for both PDGE and MA students. Her research interests include mentoring, resilience and collaborative working.

Louise Campbell is Teacher Educator and former Convenor for the Professional Graduate Diploma in Education (Secondary) and Pathway Leader for the Postgraduate Certificate in Education (Secondary) Supported Induction Route at the University of Dundee, Scotland. Her research interests are in teacher professionalism, teachers' professional development, influences on personal pedagogies, and the role of policy and regulation in teachers' working lives. She currently works with the General Teaching Council for Scotland.