Scottish Council of the Deans of Education
Attainment Challenge Project

Developing pedagogies that work for Pre-Service and Early Career Teachers to reduce the Attainment Gap in Literacy, Numeracy and Health and Wellbeing.

Progress report and response to Research Question 1:
What do we in teacher education institutions collectively do currently to support early career practitioners to work effectively with pupils from SIMD 1-40 backgrounds?

December 2018

University of Aberdeen

University of Dundee

University of Edinburgh

University of Glasgow

University of the Highlands and Islands

University of Stirling

University of Strathclyde

University of the West of Scotland

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Introduction

In 2017/2018, 3,861 students started initial teacher education (ITE) in Scotland, the vast majority in PGDE programmes. This report considers how these programmes prepare these teachers to work with the more deprived populations in Scotland.

Educational research has long reported and tracked the persistent discrepancy between the levels of school attainment in advantaged and disadvantaged groups. The gap between levels of school attainment of the richest and the poorest in Scotland is 'pervasive, starting from pre-school and widening as children move up through the school system' (Sosu & Ellis, 2014, p. 8) with consequences for post-school opportunities and life trajectories. While the problem and concern are not new, the concerted political will to challenge this patterning is. In February 2015, the Scottish Government launched its Attainment Challenge to tackle the poverty-related attainment gap in Scotland and improve achievement in literacy, numeracy and health and wellbeing. The Scottish Council of Deans of Education were invited to develop a research agenda in teacher education to complement and support the Scottish Government's Achievement Challenge. In early 2018, funding was secured from the Scottish Government for this research programme.

Eight Schools of Education across Scotland are involved in the project funded by Scottish Government for a duration of three years. Each institution has developed its own models and theoretical framing, in response to its particular setting, strengths and history. It should also be acknowledged that programmes are not static. There is constant innovation and renewal underway in the sector. This diversity and dynamism in provision is considered a strength of the sector.

The common aim for the suite of projects is to research how the sector could better prepare early career teachers (final year ITE and induction year) to work more effectively to improve literacy and numeracy attainment, and health and wellbeing in schools serving pupils from SIMD 1-40 backgrounds. The programme of research constitutes a cross-sectoral investment in enhancing the preparation of early career teachers to develop professional enquiry skills, abilities to work with data, and responsive pedagogical approaches focused on closing the gap in literacy, numeracy and health and wellbeing. The teachers thus prepared will become change agents in the profession. While not all ITE students will be participants in the research projects, all programmes will benefit from the insights gained.

The research programme has three strands:

1. research projects conducted by individual Schools of Education coalescing under common research questions;
2. an overarching project to draw together the findings in the final year of the project;
3. three PhD studentships hosted in the Universities of Edinburgh, Glasgow and Stirling.

This report addresses the first part of the second strand.

Progress to date

The project team have met three times, with details of the meetings are below.

Project Team Meeting, 20th April 2018, University of Glasgow, School of Education
The main focus of this meeting was to agree on project governance and protocols. The project team agreed that the principal responsibility for the overall administration and leadership of the project would lie with the University of Glasgow. The University of Glasgow agreed to take on this role. It

was also agreed that meetings for the project would take place at all the participating Schools of Education on a rotational basis. Financial arrangements with respect to the distribution of the grant funds were discussed and agreed upon. Reporting milestones and time frames, as conditions of the grant, were discussed and agreed upon. Processes for recruitment of PhD students were discussed, with the aim that all students would be recruited by October 2018. It was agreed to share individual project outlines and progress at the next meeting.

Project Team Meeting, 31st August 2018, meeting University of Stirling, School of Education
A SharePoint site for documents and reports has been set up. A proforma for collecting data for first report around research question 1 was distributed and agreed upon. Update on recruitment of Ph.D. students was given: all hosting universities where on track to recruit by the deadline of October 2018. Sharing of individual university projects and progress was the substantial business of the meeting. Each university give a power point presentation of their project design and progress to date. It was agreed that the draft report to Scottish Government re Research Question 1 was to be discussed at the next meeting.

Project Team Meeting, 7th December 2018, meeting University of Edinburgh, School of Education
Reference group membership was updated. The three recruited PhD students introduced themselves and the nature of their projects. The draft interim report was tabled and discussed. Amendments were gathered and acted upon. It was agreed the report would be submitted to Scottish Government on the week beginning 17th December 2018 in line with the key milestones agreed with Scottish Government. Dates and venue for next two meetings were decided to progress work for next milestone report in March.

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Research Question 1

The first stage of the SCDE project was **to audit current practice** in teacher education programmes with regard to preparing new professionals to work effectively with pupils from SIMD 1-40 backgrounds. The audit was to include campus and school-based experiences of students, partnership work with schools, and Induction Year professional development such as ongoing courses of study at SCQF Level 11 (Masters).

At the third project reference group meeting, a set of five key questions were agreed upon to help generate and collate responses from each institution:

1. What relevant inputs are students and early career teachers given in their Teacher Education curriculum to support effective work with pupils from SIMD 1-40 backgrounds?

2. What experiences do students participate in to support their learning in this regard?

3. What assessment tasks support or guide this learning?

4. What key concepts, references, resources, or theories do students engage with to support this learning?

5. What else in your programme contributes to this learning?

This report presents an amalgamated summary of the responses to each key question from the eight participating universities, to characterise current practice. The conclusion reflects on how current practice in the sector approaches and addresses the educational effects of poverty across teacher education programmes.

What relevant inputs are students and early career teachers given in their Teacher Education curriculum to support effective work with pupils from SIMD 1-40 backgrounds?

Teacher education courses in Scotland are governed by the General Teaching Council of Scotland. The various initial teacher education programmes are designed to prepare students to meet the Council's Standards for Provisional Registration, then help them to meet the Standards for Full Registration in their probationary year. The standards make explicit the professional attitudes, knowledge and skills expected of early career teachers. These shared guidelines and expectations create common purpose and a shared vocabulary amongst the teacher education institutions, yet there is also diversity in approaches and emphases.

Attitudes

All universities report cross-curricular attention to developing personal and professional dispositions that reflect the GTCS standards. These include dispositions foregrounding trust and respect, integrity, reflective practice, agency, responsibility, accountability and an enquiry mindset. Students are also introduced to the contemporary policy goals of pursing excellence and raising attainment. One university adds attention to teacher resilience.

All courses explicitly cultivate principles of social justice and equity promoting fairness to all, while some universities also reported explicit treatment of children's rights. These principles are presented in dialogue with a strong principle of inclusivity in embracing, normalising and responding to diversity, the needs of individuals, and the whole child. The principle of inclusivity would reject ability labelling, and construct children's capacity to learn as transformable. For some universities, an inclusive perspective therefore informs a reluctance to treat working with pupils from SIMD 1-40 as a uniform demographic category. Rather, deprivation and poverty are treated as one of several barriers to learning and participation which generate problems for learners, with attention to 'the wider complexity of social disadvantage that may be associated with poverty'. For one university, this thinking informs a cross-curricular theme of promoting health and wellbeing.

All programmes critique deficit approaches to disadvantaged pupils. This work involves leading students in ethical work on their own attitudes and assumptions, and modelling openness so they are self-aware of the ethos fostered in their own classrooms. For example, one university explained how their programmes 'take care to highlight the dangers of conflating poverty and lower attainment with deficit views on parental expectations and attitudes towards learning.' Another poses the question, 'How do we teach those that come from types of advantage and disadvantage that we have never experienced ourselves?' A third programme fosters teacher self-reflection so students can 'not just take it for granted, uncritically that school is like school was for you.' In the preparation of Catholic teachers, there is attention to poverty as a Christian issue.

Another common attitude reported in the university responses was an orientation to professional adaptability, reflection and learning to cultivate responsive, context-dependent and context-appropriate practice that plans engaging, purposeful, and relevant learning experiences for young people. This disposition demands that teachers understand their communities and 'the affordances associated with the classes/schools they work within'. One university described this disposition as 'agentive teachers who responsively construct their understanding of their role – what they need to "be" for their pupils.' All programmes highlight the importance of relationality in terms of fostering

positive relations in classroom ethos and engaging with parents. Some universities include inputs on working with collaborating agencies.

Together these attitudes create a significant moral burden for the new teacher, and pose ethical challenges associated with enacting the high expectations that they will be able to respond to structural disadvantage as well as individual difference.

Knowledge

Each university was asked to outline the knowledge carried in their courses' curricular content, particularly with regard to preparing teachers of literacy, numeracy and health and wellbeing. This question touches on the different but interrelated domains of pedagogic knowledge (how to teach), content knowledge (the what of the curriculum), and pedagogic content knowledge (how to teach the particular what).

With regard to the preparation of teachers in **numeracy,** the student teachers' own underpinning content knowledge and confidence in mathematics is addressed in some programmes, with attention to 'developing positive attitudes towards mathematics'. Other responses reported building knowledge and understanding of pupil progression in mathematics. This includes knowledge of the important role of prior knowledge and typical misconceptions of pupils in maths. Problem-solving is taught as a powerful pedagogic approach for numeracy learning. One university reported teaching inclusive approaches where differentiation is achieved by means other than ability grouping. Some programmes reported that attention is paid to the language of maths, including in Gaelic for Gaelic-medium settings. Stirling University highlighted new ways of exploring numeracy in the use of gaming theory. Strathclyde University coaches ITE students as maths teachers. Students are taught about addressing **numeracy across the curriculum**, in particular, about the contribution of mathematics in STEM subjects and the impact numeracy achievement has on the life chances of young people.

With regard to the preparation of teachers in **literacy**, there was a common understanding that 'literacy' was not confined to the traditional, functional concept of reading and writing. Rather, literacy is better conceptualised as the broader category of 'pluriliteracies' to include more modes of meaning making/taking such as digital literacy, spatial literacy, scientific literacy, and critical literacy. In this way, literacy becomes a site for social justice work and for cultivating the 'responsible citizen' of the *Curriculum for Excellence*. This does not displace attention to reading and writing, but adds new kinds of texts and reading practices into the mix. Teacher education in literacy thus includes curricular knowledge pertaining to phonological awareness, rudiments of reading, writing and English Language development, grammar, spelling, reading critically, creating a reading culture, authentic tasks and literature relevant to primary years. One university explores the issue of the vocabulary gap at school entry, and strategies to address this. Similarly, another university reported teaching about literacy and numeracy acquisition in order to identify and understand students' difficulties. Most universities mentioned attending to **literacy across learning** in other curricular subjects with both embedded and particular treatments in primary and secondary curriculum areas.

Strathclyde has its own 'Strathclyde Three Domains' model in both literacy and numeracy curriculum to help new teachers 'find the best teaching mix to develop cultural and social identity as literacy learners/users as well as building specific cognitive knowledge and skills'. This model attends to holistic assessments and the use of real tasks to coach pupils and develop their identities as literacy/numeracy learners. Dundee reported that their secondary student teachers are taught about literacy and numeracy acquisition in order to identify difficulties:

strategies to support learners who have had reduced literacy and numeracy experiences. In the key areas of phonological awareness, spelling, reading, listening & talking, writing, enriching vocabulary, counting/structure of number, place value (including decimals), calculations and fractions, inputs are balanced between subject knowledge, possible misconceptions in these areas and how these will manifest, key resources, and examples of best practice/quality pedagogy.

With regard to the preparation of teachers in **health and wellbeing**, curricular inputs include knowledge about: being healthy, physical activity, drugs education, sexuality education, LGBT diversity, mental health, emotional wellbeing, trauma and adversity, attachment, child protection, and how to respond to such issues when interacting with children and families. These last topics carry a considerable cognitive load for the early career teacher. There is diversity in where this learning fits in a teacher education curriculum. In some universities, attention to health and wellbeing is given in primary physical education and primary science courses. Some universities offer elective modules in health and well-being.

With regard to the preparation of teachers in more generic knowledge of **pedagogies**, all universities reported inputs about, and intentional modelling of, a variety of pedagogies including inclusive pedagogy, critical democratic pedagogies, play, experiential learning, problem-based approaches, multi-sensory approaches to learning, and authentic contexts. Mention was made of the use of outdoor learning to demonstrate how it engages and motivates learners. Students teachers are taught how to design learning environments 'which cater for multiple entry and exit points, and provide social, cognitive and linguistic support' and design principles for 'learning contexts which are safe, engaging places and where learning is valued'.

Student teachers are also taught about **poverty and deprivation,** with attention to the relationship between policy, theory and practice, inequalities and the impact of poverty on health and wellbeing. Students are briefed on Scotland's performance in international benchmarking exercises such as TIMSS, PISA and SSLN, with attention to the relative performance of students from more deprived backgrounds. One university outlined lectures in the final ITE years on global and national manifestations of poverty, critical evaluation of measures of poverty, the spatial nature and material impacts of poverty. The relation of poverty to attainment, achievement and school leaver destinations is explored with reference to the cost of school day and the concept of 'poverty proofing' schools.

Skills

The universities reported a broad variety of skills that they seek to develop in their students to support pupils in poverty. These skills reflect and support the dispositions promoted by the programmes. Thus attention is given to developing skills around inclusion, differentiation and planning for individual needs. In addition, communication skills for inter-agency work, criticality, reflection and enquiry are developed.

There are also pedagogic skills. These include: creating pupil-relevant resources; strategies 'which can increase engagement and motivation in all learners'; sequence planning and connecting learning to previous lessons; place-responsive pedagogies; different positive behaviour approaches such as restorative practices; and staging active learning. For numeracy instruction, the skills highlighted skills were problem-solving, patterning and data use; how to teach by themes; and how to integrate maths content/topics.

A third category are skills for teachers' assessment duties. These include observation, questioning, and strategies for assessment is for learning.

Inputs to support effective work with pupils from SIMD 1-40 backgrounds

In combination, the pooled attitudes, knowledges and skills that teacher education programmes aim to cultivate in their students create an ambitious scope for a curriculum that is conducted under growing time pressures and resource constraints. Inherent in any curriculum is the competitive tension between breadth and depth of coverage, and the challenge of achieving adequate spread while retaining the capacity to spiral over time, revisiting topics to build more sophistication. Multidimensional consideration of pupils with SIMD 1-40 backgrounds is evident in the attitudes cultivated, the knowledge built and the professional skills rehearsed. As the ITE student moves between campus studies and school placements in their preparation, there will be a need to translate, contextualise and incorporate this variety of knowledge into some coherent and active narrative of practice.

For the purposes of this audit, this compilation can help each university reflect on the choices they have made in their offerings. This aggregation will also help the sector reflect what should be core business, what can become the premise of specializations or offered as elective extensions, and how the learning should be staged across time.

2. What experiences do students participate in to support their learning in this regard?

Teacher education happens in different ways in different sites, under different designs. On campus studies and school placements accordingly offer different affordances and opportunities for professional learning. Some universities reported additional designs for other 'third space' learning experiences.

On campus

Learning relevant to the support of students from SIMD 1-40 backgrounds happens in courses on education foundations and curriculum courses. Beyond the historical templates of lectures, readings, and seminar/tutorials, the university responses reported designing other pedagogical experiences for their students. These included:

- Participating in models of inclusive, outdoor and experiential learning to experience their effects.
- Collaborative learning and learning communities
- Scenarios and case study discussions
- Peer teaching, discussions and debates
- Guest speakers, for example: community agency representatives on interagency collaboration; Darren McGarvey, author of '*Poverty Safari'*.
- Partnerships and interactions with Poverty in Scotland.
- Joint module with social work students
- Professional enquiry, project-based learning
- Elective options in courses and assessment tasks with poverty and inclusion as a particular focus, to encourage student teachers to identify and invest in particular professional topics.
- Workshops to explore own numeracy, and work through problems to raise awareness of strategies that pupils might use too.
- Workshop for secondary students on student guidance, making referrals, partner agencies, the data available and how to use it.
- Workshop on building constructive relationships with parents of pupils.
- Online conferences via virtual learning environment.
- Reflective journals
- Compiling professional portfolios

On placement

The school placement or practicum is considered an essential part of teacher education. For PGDE programmes, school placement can constitute 50% of the programme. While programmes articulate explicit expectations for placements often aligned with GTCS standards, there is equally the expectation that students will vicariously benefit from immersion in a school and its community in more implicit and subtle ways. For example, one university reported that 'many students are aware of interventions for Equity/PEF through placement experiences.' Universities acknowledged the value of student immersion and creative mentoring in different SIMD contexts, and ideally seek a diversity of experiences for students to create a sensitivity to diversity. However, no university reported that they could intentionally guarantee that all students have a placement experience in a school within a SIMD 1-40 community. Placements are not managed by the universities. This created

a shared sense that the capacity of school placements to contribute to understandings about how to work with disadvantaged students can be the 'luck of the draw': 'depends on the school and the individual teacher mentor's own attitudes.' It should however be acknowledged that all schools and local authorities will contain a social mix, and that there are pockets of significant deprivation outside Attainment Challenge schools.

Universities reported on a variety of experiences designed to proactively pursue, surface and maximise the learning achieved by students on placement. These included:

- school-based enquiries and expectations that students will research pupil needs specific to their context, including checking the SIMD profile and gathering information about the pupils, including any additional support needs (ASN).
- pre- and post-placement discussions to raise understanding of children's backgrounds and share placement experiences. One university pairs students for peer support, and thus achieve a more holistic view of education in Scotland.
- a generic issue log to consider the wider aspects of the school that may impact on practice.

Third space learning experiences

In addition to on campus and placement experiences, some teacher education programmes incorporate additional experiences in a third space of community interface. Examples include the University of Stirling's micro-teaching experiences whereby students work with small classes of young people from local schools. Similarly, students at the University of Strathclyde participate in a reading clinic:

> The Strathclyde Three Domains model is used to support the student teachers' understanding of how to respond to the needs of the whole child ... Student teachers work with children in a local primary school which has a very high percentage of children from SIMD 1-40 backgrounds. Student teachers learn how to gather evidence and respond to the needs of the individuals, through one-to-one sessions with their assigned child, through professional dialogue with peers and tutors, in lectures and through engagement with recommended academic texts.

The University of Stirling works in partnership with a local charity whose particular focus is on the needs of young people with mental health/wellbeing concerns. A third university asks student teachers to visit another setting within their wider community to explore and better understand interagency collaboration.

This section has outlined how teacher education is working with the affordances and textures of three spaces - on campus, school placement and community interface – to expose student teachers to theory, practice and additional considerations that address the impact of poverty and deprivation on educational and life outcomes.

3. What assessment tasks support or guide this learning?

As a programme preparing and ultimately licensing students for a restricted profession, teacher education formally assesses and grades students' attainment against curricular goals and GTCS standards as appropriate. Universities reported a range of formative and summative assessment processes and practices. Students are assessed in a variety of modes, such as essay, oral presentations, group presentation, poster, reflective portfolio, classroom observation, small scale practitioner enquiry, and policy analysis. This range includes professionally authentic modes of assessment as well as academic tasks. Some of the assessment students undertake pertains to their performance in school placements; some assessments pertain to their on campus studies, to demonstrate and/or apply understanding. There is also effort made to bring the placement experiences and on campus learning together into dialogue in the same assessment task, for example: 'students are expected to draw from their theoretical readings and demonstrate an understanding of recent research literature in order to discuss aspects of their own practice whilst in placement.'

When assessing student performance in school placements, evaluations are situated in, and cognisant of, the school's particular context and challenges. Thus the assessment will focus upon whether the student teacher is meeting the needs of specific groups of pupils through processes of differentiation.

Other assessment tasks take the opportunity of access to pupils in placements and require the students to undertake practice-facing tasks. For example, Stirling asks students to prepare 'pen portraits' of individual students with additional support needs. Another example was a structured observational task.

Many universities reported allowing some element of individual choice in assessment. For example:

> Assignment asks students to critically discuss how the module's key issues manifest in school experience … (and) link to theory. Over the last four years the majority of students choose to discuss inclusion and social justice and supporting ASN within this module.

Literacy, numeracy, and health and wellbeing are also mentioned as popular choices in such tasks.

Current policy documents (for example, Scottish Attainment Challenge, Pupil Equity Funding, National Improvement Framework) and issues (for example, raising attainment) serve as topics for written assignments. Students are asked to synthesise such topics with the curricular range of attitude, knowledge and skill inputs in written assessments. For example, one university outlined a PGDE assessment that focused on health and wellbeing as a responsibility for all: 'students engage with literature and theories of wellbeing, child-centred approaches, ecological theory, government policy and the challenge of converting this into practice.' In this way a process of research and inquiry informs professional stances on policy debates, and assessment practices seek to shape the lifelong learner to develop strategies 'for ongoing self-assessment and reflection'.

The variety of assessment tasks and modes demonstrate the sector's effort to create authentic and meaningful assessment tasks that push students to think about the complex relationships between practice, policy and theory. Universities intentionally balance assessment requirements to reflect both professionally meaningful tasks and academic scholarship.

4. What key concepts, references, resources, or theories do students engage with to support this learning?

Responses to this question document the kind of theory, literature and professional publications that resource teacher education programmes in the area of supporting students from disadvantaged backgrounds. The universities outlined a broad church of disciplinary and theoretical approaches, and additional reading matter around the topic of poverty and its educational implications. There is no one orthodox approach, but rather a wealth of contributing fields. There is also attention to controversial issues, policy debates and competing conceptualisations of key ideas such as inclusion, equity, health and wellbeing.

In addition to academic papers and theories, teacher education students engage with policy documents, pertinent reports, and books. The following lists are indicative, not exhaustive.

Theory and concepts

In terms of informing conceptual approaches, there is a wealth of disciplinary approaches and theory from which to choose. Universities have the capacity and expertise to resource different kinds of scholarly conversations around poverty and its educational implications. As common ground, the universities highlighted the importance of concepts of inclusion, social justice, citizenship, cultural and religious diversity. There is also close engagement with multiple policy documents (*GIRFEC, CfE, NIF, Closing the Attainment Gap, Delivering Excellence and Equity*) and their professional resources across programmes. Conceptualisations of different pedagogies such as enterprise and entrepreneurship, interdisciplinary learning, learning for sustainability, and outdoor learning are foregrounded by some programmes.

Some of the other theoretical approaches mentioned are:
- Biesta re purpose of education,
- Bruner re scaffolding,
- Bourdieu re cultural capitals,
- Vygotsky re social constructivism and ZPD,
- Meyer and Land re threshold concepts,
- Bloom's taxonomy,
- Dweck's growth mindset,
- Foucault's ethics of the self,
- Comber on poverty, critical literacy and social justice,
- Spatial theory re childhood geographies and spatial justice,
- A concept of the whole child which challenges the deficit model for inclusion and involves facing and working with barriers and issues of gender, diversity, language, culture, poverty and well-being.

Policy documents, guidelines and government databases

Children and Young People (Scotland) Act 2014.
http://www.legislation.gov.uk/asp/2014/8/contents/enacted

Education Scotland (2014) *Health and wellbing: Responsibility of all: Making the links … making it work*. https://education.gov.scot/improvement/documents/hwb30-booklet.pdf

Education Scotland (2018) *Parental engagement and family learning.*
https://education.gov.scot/scottish-education-system/policy-for-scottish-education/developing-the-education-profession/Parental%20engagement%20and%20family%20learning

Education Scotland (2018) *Support for professional development in outdoor learning.*
https://education.gov.scot/improvement/learning-resources/Support%20for%20Professional%20Development%20in%20Outdoor%20Learning

Education Scotland (updated 2018) *Primary One literacy assessment and action resource (POLAAR)*
https://education.gov.scot/improvement/learning-resources/Primary%20One%20Literacy%20Assessment%20and%20Action%20Resource%20(POLAAR)

Schools for Health in Europe. *Factsheet 2.* http://www.schools-for-health.eu/pages-resources/she-factsheets-additional-information/read-more-she-network-factsheet-2

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Scottish Public Health Observatory, *Online Profiles Tool.* https://www.scotpho.org.uk/comparative-health/profiles/online-profiles-tool

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https://www2.gov.scot/Topics/People/Young-People/gettingitright

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Scottish Government (2018) *Poverty and Social Justice.* https://www.gov.scot/policies/poverty-and-social-justice/child-poverty/

Scottish Index of Multiple Deprivation, https://www2.gov.scot/Topics/Statistics/SIMD

Scottish Teacher Education Committee (2014) *National Framework for Inclusion*
http://www.frameworkforinclusion.org/

Pertinent reports

Centre for Studies on Inclusive Education *What is inclusion?*
http://www.csie.org.uk/inclusion/what.shtml

Child Poverty Action Group (2018) *The cost of a child in 2018*. http://www.cpag.org.uk/content/cost-child-2018

Child Poverty Action Group in Scotland (2015) *The Cost of the School Day.*
http://www.cpag.org.uk/sites/default/files/CPAG-Scot-Cost-Of-School-Day-Report%28Oct15%29_1.pdf

Educational Institute of Scotland (EIS) (2015) *Face up to Child Poverty.*
http://www.eis.org.uk/public.asp?id=3066

Ellis, S. (2015). Improving literacy in Scotland: four policy proposals: Policy Brief. Glasgow: University of Strathclyde International Public Policy Institute.

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McGarvey, D. (2017) *Poverty Safari: Understanding the anger of Britain's underclass.* Edinburgh: Luath Press.

Academic literature

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5. What else in your programme contributes to this learning?

This last question invited universities to outline and highlight other dimensions, activities or qualities in their work that contribute to preparing student teachers to support the learning of students from SIMD 1-40 backgrounds. These responses indicate intentional design and community partnering, as well as ongoing experiments and innovation.

There is thematic treatment of the educational implications of poverty and diversity across many courses. For example, the University of Edinburgh explains: 'so all the way through, in the lectures, you will see that we talk about race, we talk about class, we talk about poverty, we talk about all these … they are part of the fabric of the learning environment.' In this way, 'Students teachers are given the opportunity to revisit values and attitudes which enable them to be open to pupil's diversity and thus cultivate habits of mind which are *educational* across society'. Opportunities around children's literature and critical literacy approaches are used to open up discussions about poverty and social justice issues. The University of Highlands and Islands highlight a theme of teacher agency and self-efficacy.

There are growing opportunities for student teachers to elect to specialise in teaching these communities. The University of Dundee is offering a new postgraduate course in 'Teaching and learning for equity'. The University of Edinburgh is offering a new MSc in Transformative Learning and Teaching. The University of Stirling is offering a new MSc in Professional Education and Leadership: Promoting Equity. The University of Aberdeen devotes a week in the final undergraduate year and PGDE programmes to social justice, with lectures, workshops and wider activities, to introduce students to recent research relating to the attainment gap in Scotland. Other universities offer equity-related modules in elective sets, including broader studies in social policy, sociology and politics.

There are innovative pedagogic designs that bring the groups of students and professional expertise together in different ways. The University of Glasgow runs a conference type day with partnership schools during which students present on literacy, numeracy and health and wellbeing enquiries. At Dundee, mathematics curriculum staff provide a 'how to teach mathematics' surgery for students teacher of other subjects to share consistent practice and expectations of numeracy. This university also reported joint workshops with primary and secondary teachers to consider pupil transitions. The University of the West of Scotland has launched three new undergraduate degree programmes in partnership with the School of Computing, Engineering and Physical Science (CEPS). These programmes - BSc (Hons) Chemistry with Education, BSc (Hons) Physics with Education and BSc (Hons) Mathematics with Education - address the growing demand for new STEM teachers within Scotland needed to achieve a more equitable distribution of such expertise.

Relations with student teachers offer ongoing mentoring contact across students' placements and probationary year. Universities are experimenting with different formats for school placements to encourage and structure critical reflection. For example, the University of Glasgow's partnership model incorporates more ongoing dialogue between student teacher, mentor teacher and university tutor. At the University of Dundee, students are given access to a bank of resources to assess and support learning, such as the POLAAR resource from Education Scotland, Highland Literacy blog (https://highlandliteracy.com/), and diagnostic assessment tools.

Some universities outlined how they engage student teachers in community-based activities and community outreach programmes as formally accredited course experiences. These activities are

offered in sites of high deprivation to nurture aspiration and achievement. For example, the University of Strathclyde's reading clinic and 'Vertically Integrated Project STEM Education and Public Engagement' support schools and communities within Glasgow's East End.

Finally and perhaps most importantly, the University of Dundee actively recruits students from SIMD 1 - 40 backgrounds themselves into their ITE programmes.

Conclusion

This audit establishes that Scotland's Achievement Challenge is not starting from a clean slate as regards teacher education's preparation of future teachers to better support students in areas of deprivation. The promotion of social justice and equity are both core values and core business in the initial teaching education sector. However, there are some issues arising from this audit that bear thinking about further.

1. Social justice and equity principles championing the interests of students from deprived backgrounds are now in dialogue with a strong ethic and discourse of inclusivity and differentiation, such that labelling children is considered counterproductive. There is thus some resistance in the sector to labelling students from SIMD 1-40 communities as in need of specialised pedagogies, because of the risk that such an attitude would conflate the sociological category with educational deficit. The more individualised approach promoted under the principle of inclusion and differentiation however does not engage with the empirical patterning and stratification of student achievement levels (Suso & Ellis, 2014) and the spatial aggregation of students with forms of material disadvantage in particular schools. Considerations of poverty as social class get refracted and fractured by consideration of individuals' ASN. Rather than privileging inclusion principles, how might the sector work with all sociological categories of relevance and intersectionality in order to prepare teachers for learner difference?

2. An approach that focuses on final grades as the point of the exercise risks overlooking the contribution teachers make to improving the conditions of possibility underpinning such school achievement. Does the focus on attainment limit the definition of the problem and hence possible solutions? Is there a case for teaching as more than a cognitive exercise. Should we be equally interested in preparing teachers to work across affective domains with criticality and flexibility?

3. Like any curriculum, there are tensions between the goals of achieving breadth of coverage and depth of treatment in ITE curriculum. Should the sector 'cover the whole curriculum or cover something in depth?' This tension is perhaps particularly problematic for primary years given the range of curricular areas they need to understand, and in PGDE programmes or truncated new routes into teacher education given their time constraints. Current data show that the majority (70%) of last year's ITE intake are enrolled in PGDE programmes and new routes. There is perhaps room for some dialogue about thresholds and focused expectations for the beginning teacher, as opposed to the fully registered practitioner. Similarly, there is effort in both common curriculum and elective options to address the educational implications of poverty. Different programmes may make different decisions according to their orientation, but the sector might consider how to stage the necessary learning, and what aspects become elaboration or extension in electives around these topics.

4. Different types of knowledge are made available to student teachers: the practice-based wisdom of mentors, theoretical and academic research-based knowledge in on campus studies, and contemporary policy imperatives and guidelines. These knowledge sources work from different epistemological and ontological premises, and may not necessarily be commensurate or compatible. While it is important that they are introduced to the

complexity of the issues, and learn to contest knowledge claims, there is a risk that student teachers are left to juggle, adjudicate and synthesise the different types of knowing and status of their claims.

5. Attitudes are foregrounded as the professional base from which practice stems, but this needs to be balanced with skills and knowledge to inform pedagogic practice. Despite their pivotal importance in current policy, treatment of literacy and numeracy pedagogies have to compete for curricular space with other pedagogies. The large size of teacher education classes can also spread these forms of expertise thinly when it comes to staffing seminar groups. There was little mention of how to support student oracy beyond attention to vocabulary, and little treatment of diagnostic tools for the classroom. Numeracy should perhaps garner more attention given the concern with student teachers' own confidence in this knowledge and its importance in STEM. In secondary programmes, the support of pupils with low literacy and numeracy could be given a higher profile, such that the sector produces language- and numeracy-aware graduates.

6. In the field of educational research, there are growing understandings of literacy as social practice, requiring more cultural and multimedia approaches to texts. This differs from the Scottish Government's more instrumental concept of literacy in reference to the Attainment Challenge. How can we reconcile these interpretations?

7. There was broad reliance on the vicarious situated learning in school placements to help student teachers understand SIMD 1-40 communities and their needs. Access to this learning becomes the 'luck of the draw' in placements, rather than a systematic approach to ensure students have a formative experience in such settings. The sector and placement agency may reconsider this in the context of policy priorities. What else can be done to ensure that students receive powerful mentoring and immersion in such communities?

8. There is attention to cultivating a 'responsive' disposition in student teachers, but it might also help to think more about 'proactive' pedagogies given the resilient patterning of attainment in SIMD 1-40 contexts.

The Scottish Government has renewed the sector's commitment to social justice and equity, which has been an evergreen concern for the education profession. These questions are posed here as a way to take the project forward into the next phase. This audit has started a conversation. Programmes differ in duration, emphasis and design to afford different possibilities, but all teacher education institutions have the capacity to learn from other solutions to the same problems.

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