

Developing a context-appropriate framework for measuring quality in initial teacher education

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ABSTRACT

Against a backdrop of increasing pressure globally to enhance the quality of teacher preparation, and a corresponding push to 'measure' this performatively, we present a context-specific framework for identifying the quality of initial teacher education (ITE). The framework derives from a project involving all Scottish ITE providers. It adopts a vernacular globalisation perspective, drawing on international literature and local knowledge to create a mutually agreeable framework. In sharing the process, as well as the product, we offer a unique perspective on how one jurisdiction has reconciled global neoliberal pressures with a national educational ideology which values democratic approaches to schooling.

KEYWORDS: teacher preparation; initial teacher education quality; quality framework; vernacular globalization

INTRODUCTION

In this article we present the development of a context-appropriate framework for identifying quality in initial teacher education (ITE) in Scotland: part of the 'Measuring Quality in Initial Teacher Education' (MQuITE) project. We present this framework as a conceptual contribution to the global literature on ITE quality, illustrating how a global improvement agenda can be addressed in a specific national context; it is this process of adaptation to context that we consider to be the most significant contribution of our paper.

Measuring, identifying or assessing the quality of ITE is an ongoing global project, and it is important to acknowledge at the outset that there exists significant

debate around what it means to ‘measure’, ‘identify’ or ‘assess’ quality in ITE. These debates, while important, are not the focus of this article, but we have considered them elsewhere (Adams & McLennan, 2021). Regardless of the specific terminology chosen, in order to be able to say anything about the quality of ITE, there is a need to develop ‘tools which are context responsive’ (Richmond, Salazar & Jones, 2019: 88). There also exists considerable debate over what ‘quality’ ITE might look like, and this is central to the work we present here. However, we are not trying to put forward one particular view of what constitutes quality in ITE, rather, we are exploring how, at a national level, we might come to some agreement about what matters, and therefore, what can be seen as quality in a specific national context at a specific point in time, viewing quality as both temporal and contingent.

MQuITE is a six-year, Scottish Government-funded project involving all 11 ITE providers in Scotland¹, together with the General Teaching Council for Scotland (GTCS). It is framed around two research questions:

1. How can quality in ITE be measured in a Scottish, context-appropriate way?
2. What does this measuring tell us about aspects of quality in different ITE routes in Scotland?

The project was established in response to growing parliamentary scrutiny of ITE (Scottish Parliament, 2017). In the wider national education policy context, there has been increasing reliance on measurable performance indicators as a form of accountability (see Scottish Government, 2018), what Power (1997) calls ‘rituals of verification’. It is also important to note that, in the last decade, the ITE landscape in Scotland has changed significantly, with a number of new routes established in an attempt to address challenges around the lack of diversity in the teacher workforce, teacher shortages and the global ‘problem’ of teacher quality. However, to date there are no plans to evaluate or research their success, despite considerable investment of resources, both human and financial.

All initial teacher education in Scotland is delivered by one of 11 institutions of higher education (the Universities of Aberdeen, Dundee, Edinburgh, Edinburgh Napier, Glasgow, the Highlands and Islands, Queen Margaret, Stirling, Strathclyde, West of Scotland and the Royal Conservatoire). Initial teacher education is accredited through a four-year Bachelor’s degree, a two year Master degree, or a 36-week bridging programme for graduates (Professional Graduate Diploma in Education – PGDE), some of which are delivered online and/or at a distance (see Shanks, 2020 for detailed analysis of each route). The PGDE is available for those wishing to become primary school teachers and for 25 different secondary school subjects (Shanks, 2020). In the 2019-20 academic year there were 1,344 students on PGDE primary programmes in Scotland and 1,444 on PGDE secondary programmes (ibid). Roughly 4000 people complete their initial teacher education each year in Scotland. In August 2019 a total of 3,134 people

¹ In Scotland, all ITE is university-based, although reliant on partnerships with local authorities. See MacDonald and Rae (2018) for further discussion.

started the full-time Teacher Induction Scheme (ibid). For a more detailed discussion of teacher preparation in Scotland see Shanks (2020).

The first phase of the MQuITE project was a literature review (Rauschenberger, Adams & Kennedy, 2017), from which the project team developed a framework to guide data collection. We do not discuss in any detail here the underlying methodology for the literature review: this is discussed in the original review (ibid.). What has been fundamental to the work of the MQuITE team has been ensuring that any framework for measuring, or identifying, quality in ITE in Scotland is context-appropriate in order to 'measure' what matters locally; as Biesta (2017) says, 'this concerns the question whether what is being measured actually represents what we value about education, that is whether it corresponds to our conception of good education' (p. 316).

Most of the contemporary literature on measuring quality in ITE programmes either correlates individual teacher data to student attainment data, mapping this back to the teacher's ITE programme (Jackson, Rockoff & Staiger, 2014), or reviews programme documentation, teachers' educational background and absence figures (Jacob & Welsh, 2011). While such methods may assist in the Scottish context, they do not wholly align with the cultural and political context of teacher education in contemporary Scotland, illustrating Bartell, Floden & Richmond's claim (2018: 426) that 'the types of measures selected and what they measure are not neutral, however, but rather reflect specific priorities and goals for schooling'. The MQuITE project therefore adopted an interpretivist stance, prioritising collaborative development of the framework and subsequent interrogation of empirical data. We believe that this approach will not only result in useful output, but that the process itself will provide an opportunity for ITE providers to engage in ongoing interrogation and development of their work in a way that allows them to both contribute to national and international knowledge about measuring ITE quality, while also developing their own programmes. We do acknowledge, however, that while the insider perspective is undoubtedly a strength here, it also brings with it the risk of blindness to certain perspectives due to the common assumptive world we all inhabit. The project aims to yield findings that the Scottish academic, professional and policy communities will find persuasive, thereby 'reclaiming accountability' (Cochran-Smith et al., 2018), at the same time seeking to contribute to growing international understanding about how best to measure ITE quality in a context-responsive way.

What follows focuses principally on what we have learned from the literature about how ITE quality is measured, and how we have used that knowledge, together with our own contextual understanding, to create the MQuITE framework. We believe this is the first such properly contextualised, research-informed, country-wide framework designed to guide the identification of ITE quality.

THE CHANGING NATURE OF ITE: GLOBAL THEMES

Across the globe, teacher education has become a site of political struggle (Furlong, Cochran-Smith & Brennan, 2009; Trippstad, Swennen & Werler, 2017). The spread of the 'Global Education Reform Movement' (GERM; Sahlberg, 2011) has led to the development of education systems driven by standardisation and

accountability, and as Menter (2018) writes, 'nowhere within the educational systems are these two features more evident than within teacher education' (p. 313). In teacher education, standardisation and accountability can be recognised in the development and use of teacher standards as a form of quality control. Despite the lack of evidence base (Kennedy, 2016), teacher standards are used by governments across the world to judge teacher performance, with the ultimate goal of improving the quality of education. Ongoing debates about what the teacher education curriculum should contain, and how prospective teachers should be educated, have become common features of government deliberation, and teacher standards play a significant role here. They dictate curriculum content and set the bar for entry into the profession, often resulting in the reduction of ITE to a list of tick-box competencies (Fransson, Gallant & Shanks, 2018; Kennedy, 2016), thereby restricting the scope of ITE programmes.

At the same time, there has been a global shift towards 'holding teacher education accountable' (Cochran-Smith et al., 2017, p. 572), which has led to the development of mechanisms to systematically monitor the 'outcomes' of ITE programmes. Although this is clearly linked to the global focus on 'teacher quality' and the re-positioning of teacher education as a policy problem, further impetus has been provided by two growing narratives. The first is a political concern about the 'failure' of university-based ITE, particularly within the US, but also visible elsewhere, and the second is the re-framing of education policy as a method for addressing social inequalities (ibid). Both of these narratives place increasing pressure on ITE programmes and stipulate a particular vision of what counts as 'quality' ITE.

The themes discussed above have emerged in national education systems in different ways and have played a significant part in shaping the nature of ITE programmes. In the following section, we outline the ways in which these themes have been re-contextualised in Scotland.

SCOTTISH ITE WITHIN A GLOBAL CONTEXT

ITE in Scotland was, until fairly recently, fairly homogenous, and despite increasing diversity in provision in recent years (Shanks, 2020), all ITE in Scotland remains university-based. However, this is not necessarily the case internationally (Schwille, Ingvarson & Holdgreve-Resendez, 2013) and is not the case in some other parts of the UK (Beauchamp et al., 2016). In England, for example, there has been a gradual shift away from university-based ITE to school-led initial teacher 'training', restricting the involvement of universities (McIntyre, Youens & Stevenson, 2017). These alternative forms of ITE, such as 'Teach First' and 'School Direct', centre on school-based teacher 'training' and place university ITE providers in a much more vulnerable position as their role as lead providers is no longer guaranteed. To date, Scotland has resisted employment-based ITE routes, but we acknowledge that university providers cannot be complacent.

Privatisation of education has long been resisted by those who buy into the Scottish 'myth': a set of ideological beliefs around the importance of social democracy, social justice and equality that shape the Scottish education system (Arnott & Ozga, 2010; Hulme & Kennedy, 2016; McCrone, 1992). The 'myth' paints a picture of a country that treats all of its residents as equal, a disregard for

differences in class and a preference for public institutions rather than private (Britton, Schweisfurth & Slade, 2018). Closely linked to the story of the 'lad o'pairs', the 'myth' sells the promise of an open education system that rewards hard work and ability over 'rank' (Humes & Bryce, 2013). Although, questions have been raised about the validity and political use of the 'myth' (Beck, 2016; Humes, 2008), there is no doubt that this narrative continues to influence political discourse, fuelling the government's drive to tackle 'inequity' so that 'every child has the same opportunity to succeed' (Scottish Government, 2018, p. 4).

Over the last 20 years, ITE in Scotland has been subject to a number of reviews and subsequent reforms, most notable of which has been 'The Donaldson Report' (Donaldson, 2011). Drawing on a discourse of intellectualism, and informed by a specially commissioned literature review (Menter, Hulme, Elliot & Lewin, 2010), it positioned teaching as a highly complex profession, making the case for a re-conceptualised form of teacher professionalism that would see teachers as autonomous, active agents of educational change. It is worth noting, however, that the resulting recommendations, while drawing on 'a call for evidence which received almost 100 responses, and a questionnaire for serving teachers which received just under 2500 responses' (Donaldson, 2010: iii), were not based explicitly on any empirical research on current provision in Scotland.

Of specific relevance to the MQuITE project was Donaldson's call for changes to the fundamental structure and content of undergraduate ITE programmes, to which almost every ITE provider responded. However, the nature of these responses varied considerably, and although the report has been widely recognised as one of the most ambitious reform agendas in the history of Scottish education, its implementation has been piecemeal, and under-researched (although see Beck, 2016 and Beck & Adams, 2020).

While the Donaldson Report promoted a vision of democratic teacher professionalism (Sachs, 2001), this has subsequently been challenged by new policy directions. In an attempt to create an explicit performance improvement and measurement programme for education in Scotland, the National Improvement Framework (NIF) was introduced by the Scottish Government in 2015. It presents six 'drivers' for the improvement of the education system and stresses the importance of collecting school performance data in each of these areas. The NIF is updated annually, all versions buying into the metanarrative around 'teacher quality' and 'excellence and equity'. Proposals to 'evaluate the success of initial teacher education', 'evaluate how well-prepared student teachers are', measure the 'consistency of teacher judgement', 'evaluate 'learning, teaching and assessments' and to gather data on the 'quality of what goes on in classrooms' (Scottish Government, 2016, p13-19) reflect an increased culture of accountability both within schools and ITE programmes. Following a long history of reliance on GTCS accreditation, and annual university quality assurance processes, these developments heralded a shift from looking at the quality of individual programmes to a focus on the national ITE 'system' as a whole.

This increased culture of accountability at a system level was highlighted by an inquiry initiated by the Scottish Parliament Education and Skills Committee in 2017. This inquiry set out to explore teacher workforce concerns but, due to the somewhat random nature of who ends up giving 'evidence' to the Committee, the

Inquiry ended up focusing a great deal of criticism on the quality of ITE in Scotland. In relation to beginning teachers' capacity to teach numeracy and literacy, the inquiry report stated: 'The Committee is concerned that the baseline of quality in relation to course content, and student ability, may be lacking in some instances' (Scottish Parliament, 2017: 3). The report did acknowledge that simply to count hours of content in each programme would be too simplistic a way to identify the quality and appropriateness of the ITE curriculum, but nonetheless, the message that ITE quality was lacking came across unequivocally. The report appears to disregard the idea of career-long professional learning, suggesting instead that much of a teacher's learning should be complete by the end of their ITE (Kennedy, 2018). With no other formal channel to challenge these perceptions, the importance of the MQuITE project as a means of providing solid empirical evidence about ITE quality became more apparent.

More recently, the publication of 'Empowering Schools: education reform progress update' (Scottish Government, 2019), reveals a dual-pronged conceptualisation of teacher education quality, simultaneously supporting what Cochran-Smith et al. (2016) would call 'teacher education accountability', understood both as externally imposed, market-driven, managerial ways of measuring quality, and as being a process that is 'primarily professional and that acknowledges the shared responsibility of teacher education programs, schools, and policymakers to prepare and support teachers' (p. 5). These two conceptualisations are demonstrated in the Government's report, publicly stating its continuing commitment to supporting the MQuITE project (Scottish Government, 2019: 14) – an indicator of 'teacher education responsibility' – but also to pressing ahead with the implementation of an 'ITE self-evaluation framework', led by Education Scotland, the national education improvement agency, suggesting an externally-imposed, managerial accountability conception. Thus, the need to reclaim, or at least reconfigure, the discourse of accountability towards the responsibility conception, became even more pressing.

So, with a drive to develop a range of new, innovative ITE routes designed to address a series of challenges including teacher shortages and a lack of diversity in the profession, we arrived at a position where the diversity of ITE routes was increasing, yet performance measures were being narrowed, thus suggesting that existing measures of quality might not be sufficiently reliable or suitable. It was within this context that MQuITE sought to find meaningful ways to capture and articulate ITE quality.

ADOPTING A VERNACULAR GLOBALISATION LENS

Given the complex interplay between global and national reform, as outlined above, we situate our work within Appadurai's concept of 'vernacular globalisation' (1996). That is, we recognise that global narratives have a significant impact on national policy, but also recognise that these narratives are mediated within the local historical, cultural, political and educational context (Rizvi & Lingard, 2010), and that local context plays a significant role in interpreting and then promoting or silencing particular global policy agendas. This is similar to the concept of 'glocalisation', which highlights the role that local and national history and politics play in mediating multidirectional relationships between the local,

national and global (Ozga & Lingard, 2007). Our approach to this phase of the project was therefore an explicit attempt to contextualise global literature within meaningful national practice. However, we have used the concept of 'vernacular globalisation' in a different way to how it was originally used. Rather than looking at policy borrowing or globalisation as it has actually played out in the past, we have made a deliberate and conscious decision to consider how Scotland's particular context should shape the way in which insights from international policy and research are used to inform practice in Scotland in the future.²

ITE in Scotland, as elsewhere, is shaped by a complex interplay of global drivers and local forces (Beauchamp et al., 2016). Policy problems, and associated policy tools, travel across the globe as they are presented for 'borrowing' by education systems (Ozga & Lingard, 2007) and re-contextualised by the 'local' (Ball, 2012), in order to 'fit' with national culture, history and identities. Adopting a deliberate vernacular globalisation perspective therefore reminds us not to steer towards an acontextual policy-borrowing approach that overlooks the role that local context plays in the formation and enactment of policy.

Increasingly, teacher education is positioned as a policy problem rather than a learning or educational problem (Cochran-Smith, 2005), as governments across the world attempt to develop ways of demonstrating the impact of ITE on teacher quality (Wineburg, 2006). At the centre of this shift is the widely held belief that teacher quality is the most important factor influencing student attainment (Darling-Hammond, 2017); an idea which has gathered significant momentum since the publication of the OECD report 'Teachers Matter' (2005). This belief has gained traction despite a growing awareness around the complex and multi-faceted nature of the relationship between teaching and learning, and this has generated debate around the best way to measure teacher 'quality' (Toropova, Johansson & Myrberg, 2019). Nevertheless, ITE is assumed to be a fundamental 'building block' in the improvement of teacher effectiveness (Darling-Hammond, 2017: 291). Even though relatively little is known about which elements of 'quality' are the most significant predictors of attainment (Scheerens & Blomeke, 2016), governments across the world continue to embark on continuous cycles of teacher education reform in a bid to create higher quality ITE programmes.

While we cannot ignore the global hype around effective ITE, we can take a step back and respond to it in a contextually appropriate way, challenging the dominant neoliberal reform narrative. We believe that in order to create a contextually appropriate measure of quality, we must understand our own context rather than simply respond defensively to the global 'crisis in ITE' metanarrative; the MQuITE framework is our way of doing that. So, with vernacular globalisation in mind, we now move to discuss the literature that has influenced the development of the MQuITE framework, interpreting the ideas within the Scottish context and weighing up their utility and appropriateness for inclusion within our framework.

² We would like to thank the anonymous reviewer who pointed this out to us.

FROM LITERATURE REVIEW TO FRAMEWORK: THE PROCESS OF DEVELOPING THE MQUTE FRAMEWORK

Our literature review (Rauschenberger et al., 2017) is a conceptual (rather than systematic) review of studies published in English after 2005. Each member of the project team, representing each of the ITE providers in Scotland, considered the literature review individually, highlighting which aspects they felt useful for steering the development of our own framework. We then met together as a team, listening to what each person had taken from the literature review, and their suggestions for moving forwards. A number of contributions were discussed at length which included the conceptual framework developed by Tatto and colleagues (Tatto, Schwille, Senk, Ingvarson, Peck & Rowley, 2008; Tatto, 2009), which formed the basis of the landmark Teacher Education and Development Study in Mathematics (TEDS-M). This international framework has been used to compare the different ways that national teacher education policies shape the preparation of primary and lower-secondary mathematics teachers across 17 countries. It gathers data at three levels: 1) teacher knowledge, 2) characteristics of institutions and programmes and 3) national policy. While we acknowledged that this framework had been tested empirically and used extensively, there is limited research to suggest that it has applicability outside the area of mathematics teaching³. Furthermore, the comparative element and focus on national policy as a variable to be measured did not fit with the original scope of our project.

We eventually settled on the idea of using the categories identified by Feuer, Floden, Chudowsky & Ahn (2013) as a starting point, because they represented existing means of measurement and were wide-ranging, including diverse indicators of quality. We felt this would enable us to capture most of the key issues for Scottish ITE, with some adaptation and further contextualisation. It is important to note here that we have engaged with epistemological questions about what constitutes quality (Adams & McLennan, 2021), but the creation of the framework as presented here focused more overtly on methodological questions informed by this thinking.

RE-INTERPRETING FEUER ET AL.'S CATEGORIES IN THE SCOTTISH CONTEXT

Here we provide a detailed discussion of how we (re)interpreted the literature as part of the process. In their review of approaches to evaluating ITE programmes, Feuer et al. (2013) identified six categories of commonly used measures; we used these categories as the basis for framing our own process, considering the relationship of these categories to other evidence from the literature review, and their relevance in the Scottish context. Drawing on our wider literature review, we also included two additional categories not apparent in the studies analysed by Feuer et al.

³ Although see König, Tachtsoglou, Lammerding, Strauß, Nold and Rohde (2017) for an example of how the TEDS-M framework can be applied to explore the preparation of teachers of English as a foreign language.

Admissions and recruitment criteria

Admissions and recruitment criteria are typically measured through academic results or exam scores of incoming teacher education students, the percentage of minority candidates recruited, and percentage of candidates recruited for specialised or shortage subject areas. Selectivity is commonly conceptualised in terms of the percentage of applicants who applied that are admitted into the programme. In addition to such admittance rates, the overall 'quality' of the applicant intake can also be seen as a mark of selectivity. Students who are high achieving academically are considered 'high quality' recruits. A programme's degree of selectivity is also treated in many studies as a measure that reflects the rigour of that programme, with selectivity used as a proxy for quality. This link between selective recruitment and ITE outcomes is supported by research that suggests that more selective programmes may produce more effective teachers (Henry, Bastian & Smith, 2012; Kane, Rockoff & Staiger, 2008). However, according to Kane et al. (2008), this potential correlation only accounts for a small amount of variation in teacher effectiveness and is often influenced by several factors beyond the control of programmes such as institutional location, prestige, or resources, local status of the teaching profession, labour market needs, etc. (Labaree, 2010).

In the Scottish context, the geographical location of teacher education institutions plays a significant part in predicting the number of overall applicants for any programme, with many more students applying to institutions across the Central Belt than in more rural or outlying areas, due to the attraction of living in more populous cities.

Using admissions and recruitment criteria to measure quality is attractive because it is straightforward, but such data does not always have a direct link to the quality of the teacher education experience, the success the candidate will eventually have in school, or link to teacher retention rates. While this criterion can still provide insight into particular aspects of 'quality', it does not necessarily capture the contextual nuances of admissions and recruitment across Scottish ITE institutions. In addition, the central application process used for most ITE programmes allows applicants to apply for up to five different programmes simultaneously, and prospective applicants may therefore receive several offers of places from different universities. In our context, then 'conversion rates' (that is, the percentage of offer-holders who actually go on to matriculate on the programme) can be seen as a marker of reputation, and worthy of measuring.

Feuer et al.'s 'admission and recruitment' category also fails to take into account the *selection process* that programmes adopt to try to ensure that students fit the philosophical aims of a programme, which may, for example, place less importance on entrance grades and more importance on values such as social justice. We therefore argue for the need to consider the 'selection process' in a way that can capture more localised information beyond academic qualifications.

Furthermore, there is evidence that 'high-quality' teacher candidates may leave the profession in higher numbers than other recruits when attrition is considered at a 5-year cut-off point (Boyd et al., 2006; Kelly & Northrop, 2015), although elsewhere this is disputed when considered at a 2-year cut-off point (Vagi et al., 2019). Adding to the complexity of this dimension, den Brok et al. (2017)

contend that attrition is lower for teachers with a teaching degree (as opposed to other routes into teaching), which constitutes all teachers qualifying in Scotland, so makes comparing the international evidence to the Scottish context somewhat problematic. It is important to understand that there are multiple reasons for attrition, including not attracting the 'right' students to match the programme structure and aspirations. The evidence on the relationship between student teacher entry qualifications and their subsequent retention is mixed and does not use a consistent and agreed timescale for the measurement of retention, so we therefore suggest that 'retention rate', from the start to end of programmes, is an important additional measure that should be considered alongside measures of entry qualifications. This is particularly suited to MQuITE given its longitudinal nature.

Quality and substance of instruction at university

The quality and substance of instruction of ITE programmes is frequently measured through analysis of course syllabi, by gathering written evidence such as assignments and programme handbooks. Such reviews use pre-existing data to provide descriptive details about the design and processes of programmes and are often a faster and cheaper way to gain information compared with observing the delivery of programme components. This measurement can help identify inconsistencies, redundancies, or gaps in coursework as well as its apparent connection or integration with fieldwork. However, such data may fail to capture what actually occurs in practice – the 'received curriculum' – instead focusing solely on the 'planned curriculum' (Kelly, 2009: 11).

Furthermore, 'instruction' in this sense is understood as the teaching that happens in university coursework, rather than in practicum. It therefore assumes that teaching and learning only takes place in a university context, disregarding practicum as a key site for learning.

While not wishing to underplay the importance of reviewing planned curricula, we could question why there is not similar emphasis on measuring the quality of the received curriculum, that is, the student experience. Across Scottish ITE there is an abundance of data collected through national surveys, university course evaluations and staff/student liaison committees. These data can provide useful insights into programme design from the perspectives of students, which provide greater insight into the 'received curriculum'. We therefore decided to draw on existing data to gather information on aspects of programmes most highly valued and seen as most problematic, from the perspectives of students who have participated in these exercises.

It may well be that analysing the quality of the planned curriculum is simply easier to do than analysing the received curriculum, as was seen in the Scottish context, where concerns were raised during a 2017 Parliamentary Inquiry about ITE graduates' competence in teaching literacy and numeracy. The response was simply to commission an audit of the number of face-to-face teaching hours devoted explicitly to numeracy and literacy in every ITE programme in Scotland, rather than to explore what was happening during teaching thus revealing a simplistic conception of ITE as knowledge consumption. We therefore wanted to

explore perceptions of student confidence and competence on exit, rather than rely on 'input' measures as stated in programme documents.

Quality of student practicum

The quality of practicum experience is typically measured in four ways: (1) practicum policies, e.g. required hours, supervision policy, observation frequency, etc.; (2) qualifications of school mentors; (3) observations of student teaching; and (4) surveys of student teachers. The first two measures, practicum policies and mentor qualifications, provide a basis on which to compare programmes and judge their design. However, these measures are unlikely to capture the impact of the student teaching practicum or quality of mentoring provided. In Scotland, the number of required days of practicum experience is similar across university programmes due to GTCS accreditation criteria, making it perhaps a less revealing measure of quality. The allocation of school mentors is not in the gift of the universities and varies greatly both within and between schools. There being no set requirements in relation to either teaching experience or qualifications in order to be a school mentor means that despite what we know about the importance of mentoring competence for student teacher development (Smith & Avetisian, 2011), this aspect of ITE is very much random in terms of quality, and therefore difficult to plan and predict.

The latter two measures – observations of student teaching and surveys of student teachers regarding their fieldwork – can provide deeper insight into the quality of practicum. Darling-Hammond (2006) points out that observations of practice are most useful when the evaluators are well-trained and share a commonly designed and agreed rubric for identifying and recording what they witness: in Scotland, while all student teachers are assessed against the Standard for Provisional Registration (GTCS, 2012), it is widely acknowledged that observers look for, see and report different things, reflecting the challenges of 'confirmation bias', 'motivated reasoning' and 'inattentive blindness' as identified by Strong, Gargani and Hacifazlioglu (2011). Surveying ITE graduates about their experiences of practicum may be particularly helpful in gathering data from the student perspective, but while such surveys represent a relatively easy and inexpensive way to capture feedback, results are limited to self-reported data on perceptions. Furthermore, the complexity of the school practicum experience is not usually taken into consideration, in particular the effect that the student teacher themselves can have on relationships within the school setting (Johnston, 2020).

We will be using a combination of programme profiles and surveys of students, university and partnership staff to investigate school practicum. The programme profiles will provide the rationale for each institution's approach to site-based learning and also the structure of site-based learning, including pattern, time, content and assessment methods. The surveys provide information on the satisfaction with site-based learning from the perspective of students, university staff and partners (headteachers and teacher mentors).

ITE faculty qualifications

Measuring ITE university faculty qualifications typically includes the percentage of staff with advanced/postgraduate degrees and the percentage of

those on full-time, part-time, permanent or fixed term contracts. These two types of evidence are simplistic and do not begin to capture the variation of effectiveness among teacher educators. The fact that these are the only two measures identified by Feuer et al. (2013) highlights the relative neglect of teacher educators as a factor in ITE quality (Snoek, Swennen & van der Klink, 2010). The limited attention paid to this area of ITE is somewhat ironic, given the global consensus that quality teachers, and by logical extension, teacher educators, matter (Goodwin et al., 2014). In Scotland the number of university faculty with postgraduate degrees may be less than in other countries as there is a requirement for many staff to be registered with the GTCS Registration in Scotland is often an essential job requirement while a doctorate may only be desirable, thereby changing the relevance of this measurement somewhat in comparison with other contexts.

The ways in which 'teacher educators' are categorised in the literature on ITE quality is interesting, for example, Feuer et al. (2013) distinguish between 'ITE faculty' and 'school mentors', suggesting a traditional conception of the teacher educator being wholly employed within a university. In the Scottish context there is growing recognition that as we seek to better integrate the student learning experience across university and school sites, we need to expand our definition of who teacher educators are. The Donaldson Report (Donaldson, 2011) stated that 'all teachers should see themselves as teacher educators and should be trained in mentoring' (p. 73) but this is yet to be mandated. Thus, in the context of the MQulTE project, there is a need to reconcile the distinctions between school mentors and university-based teacher educators and find new ways to articulate how we understand these roles and their impact on ITE quality.

Effectiveness of ITE programmes in preparing new teachers who are employable and stay in the profession

The extent to which programmes are effective in preparing new teachers who are employable, and who stay in the field, is commonly measured by the pass rates on licensure/qualification exams and graduate hiring and retention rates. Measures of licensure/qualification exams vary from subject knowledge exams (e.g. PRAXIS tests in the U.S.) to more competency-based assessments (e.g. Standard for Full Registration in Scotland), and thus are arguably more context-specific than data on hiring and retention. Employment data outcomes are typically measured by graduate placement rate and retention rate during a graduate's first three or five years in the profession. Such measures have been linked to programme duration and type (Ingersoll, Merrill & May, 2012) as well as to teachers' satisfaction with their preparation programme (DeAngelis, Wall & Che, 2013). However, such measures often do not take into account conditions in the teacher labour market, personal life circumstances and employment preferences of new teachers, or how school contexts affect employment outcomes (Kumashiro, 2015). Tatto et al. (2016) also note that programmes most likely to show positive employment outcomes have more resources to invest in longitudinal efforts, stronger social and/or institutional networks for teacher placement and support, and guaranteed employment such as work-based routes like *Teach First* in England. In Scotland, with all eligible graduates guaranteed a one-year paid induction placement, any real job market competition is delayed until the second

year post-ITE qualification. It was therefore important that the MQiTE interpretation of this measure focused more on post-induction hiring rather than post-qualification placement.

That said, we know that not every graduating teacher in Scotland takes up a place on the Teacher Induction Scheme: some choose not to teach; some choose to teach outwith Scotland; and for some, the rather draconian requirement to complete the Teacher Induction Scheme on a full-time basis prohibits some graduating teachers with care responsibilities or illness/disability who are more likely to choose the Flexible Route to Registration. So, in the Scottish context, measuring employability straight from ITE would not work structurally. Attempting to measure initial destinations might be of some use, but even that data would have to be treated with caution, as the notion that graduates who do not enter immediately into the state school system are labelled as 'wastage', is an area of conceptual debate in itself. We therefore suggest that in Scotland, the idea that employability straight from ITE is a secure or reliable measure of ITE quality is highly dubious.

Nonetheless, while doubting the veracity of using employability straight from ITE as a measure of quality, we do nonetheless accept that in policy terms, there is a link between projected teacher supply and 'quality' ITE. We therefore propose 'initial destinations' as a measure that might help to illuminate issues of quality, appropriateness of recruitment processes and graduates' feelings of confidence and competence.

Success in preparing high-quality teachers

In some countries, in particular the US (Drew, 2016), ITE programmes are measured via teacher performance assessments which are administered towards the end of the programme or in the year(s) after graduation, through graduate and/or employer surveys, and sometimes through 'value-added' approaches. Teacher performance assessments of student teachers and/or graduates are popular as a way to capture the complex and situated nature of teaching. Hence, they are often considered as more authentic measures of ITE outcomes, although they are not routinely deployed in Scotland, for a whole range of reasons, not least of which is the widely held antithetical view towards individual performance assessment. In parts of the U.S., for example, the Performance Assessment for California Teachers (PACT) is deployed (Merino & Pecheone, 2013). However, drawbacks of assessments like this include the significant time and effort needed from the teacher candidates and evaluators, as well as challenges in implementing measures in a systematic way (Coggshall, Bivona & Reschly, 2012; Darling-Hammond, 2006). We must also take account of context in making 'performance assessments', and therefore of the challenges of using such measures in a comparative way. That said, new teachers in Scotland graduate from ITE with *provisional* registration with the GTCS, and part of the requirements for achieving *full* registration require experienced colleagues to observe the new teacher and make judgements against the Standard for Full Registration (GTCS, 2021).

Another common measurement comes from ratings of graduates by school-based employers, or through 'value-added' measures (VAMs). VAMs, where they are employed, use statistical regression models to link students'

standardised tests scores to individual teachers, and, by controlling for additional factors (i.e., prior student achievement, family background, neighbourhood characteristics), claim to determine how much value-added learning a given teacher produces compared to a calculated 'average' teacher (Muñoz & Chang 2007). Proponents of VAM argue that these models provide a common tool to compare the effects of different programmes (Gansle, Noell & Burns, 2012). However, critics have stated that such approaches have a negative and disproportionate effect on pupils from disadvantaged and minority backgrounds and their teachers (Mangiante, 2011) and emphasise learning that can be measured quantitatively to the detriment of other aspects of education (Biesta, 2009).

It is worth noting that while Scottish National Standardised Assessments in reading, writing and numeracy are now conducted with pupils in P1, P4, P7 and S3, they are diagnostic tests and not are not designed to be used as measures of teacher performance (<https://standardisedassessment.gov.scot/>). There is currently no evidence to suggest that local authorities or headteachers are using results of these tests to measure the performance of individual teachers, and indeed, it would not be possible to link every teacher in Scotland directly to these results.

Furthermore, VAM approaches have been criticised as unreliable tools for data collection on the bases of attribution error and bias, and a series of concerns have been raised. First, there is not one commonly agreed-upon approach to calculation (Guarino, Reckase, Stacy & Wooldridge, 2015). Second, only a small sub-set of ITE graduates can be assessed through VAM as the method relies on standardised tests which are only given in certain subject areas and at certain grade levels. Third, VAM measures are limited in that they do not provide any guidance on *how* to improve programmes. A fourth concern centres on the fact that ITE graduates are typically not assigned students at random (in some countries the least experienced teachers are often assigned to teach lower performing pupils) (Rockoff & Speroni, 2010). Finally, VAM critics argue that the model does not adequately account for other 'desired student learning outcomes' beyond tested knowledge. Interestingly, recent studies employing VAM approaches have shown little variation in graduates across different ITE programmes and greater variation among graduates of the same programme (Goldhaber, Liddle & Theobald, 2013).

Other tools for measuring ITE quality include surveys of early career teachers regarding their programme experiences, their current practice, and their feeling of preparedness and efficacy (e.g., Clarke, Lodge & Shevlin, 2012; Darling-Hammond, 2006). However, Tatto et al. (2016) argue that the practice of using graduate surveys and employers rests on the problematic assumption that higher levels of satisfaction with ITE imply higher levels of quality, noting graduates' satisfaction levels may or may not be linked to the rigour of the coursework and/or graduation requirements. Thus, they highlight the need to combine measurements of graduates' satisfaction with evidence of knowledge levels to gain a clearer picture.

Some studies have investigated whether headteachers have been able to assess teacher effectiveness systematically (Coggshall, Bivona, & Reschly, 2012;

Jacob & Lefgren 2008). These studies suggest it is problematic to rely solely on headteachers to reliably judge graduates' 'effectiveness'.

Despite debates surrounding the accuracy of human judgements of teaching ability, surveys of both ITE graduates and their employers are common. Feuer et al. (2013) reported that surveys of graduates' perceptions are of limited use in determining ITE quality due to participants' subjectivity and selectivity bias. In an evaluation of a redesigned Stanford Teacher Education Program, Darling-Hammond (2006) reported that while principals overall were highly positive about the graduates, the graduates themselves were more modest in their self-assessment, thus highlighting the subjective nature of survey data. This does not negate the value of assessing teachers' effectiveness as part of ITE quality but does emphasise the need to collect and combine different types of evidence.

Finally, a key concern in that is not noted elsewhere is the temporal nature of this measurement. There is no agreement as to when the 'best' time might be to measure the impact of ITE. It is, as discussed above, very common to seek to measure quality (in whatever way is deemed most appropriate) at the point of exit from ITE, and the studies reviewed above tend to focus on teachers in their first year post-ITE. Beyond that point, it becomes somewhat challenging to attribute teacher performance directly to ITE, but what we hope to do in MQuITE, by following a study cohort over a five-year period, is to identify trends in teacher competence/confidence that might be attributed to their particular ITE experience. We therefore argue that this measure of quality needs to be done on a longitudinal basis, while recognising the methodological and funding challenges of such a position.

Additional categories

The six categories of quality measurements identified by Feuer et al. (2013) formed a helpful basis for building a context-appropriate framework for Scotland. In interrogating these categories we were able to reinterpret and extend some of the original ideas (as well as dismiss some possible means of measurement which were not applicable to our context). However, our original literature review, and the combined knowledge of the project team, identified some aspects that did not appear in the original categories, but that hold significance in our context. The first aspect is partnership(s): the discourse of which has been building in Scotland over the past 20 years or so, and given increasing importance through the Donaldson Report (Donaldson, 2011). Post-Donaldson, each university providing ITE was required to develop a formal partnership agreement with their geographically immediate local authorities, and ITE is increasingly expected to be delivered through partnership working, despite the fact that the Donaldson Report did not articulate a clearly conceptualised view of partnership nor an explicitly research-informed justification for it (Kennedy & Doherty, 2012). We therefore felt it important to recognise that the detail of partnership working would undoubtedly have an impact on the quality of individual ITE programmes, and that the struggle to create both 'structural' and 'pedagogical' partnerships (Mutton, 2016) remains, despite what might seem from the outside like a homogenous system of university-led ITE.

The importance/impact of individual universities' institutional influence was also not particularly evident in the literature. With a relatively small, but reasonably

diverse range of university providers in Scotland we felt this was an important quality dimension requiring acknowledgement and exploration, not least because the rapidly developing teacher education scene in Scotland is seeing, for the first time in many years, the introduction of new university providers without a history of teacher education provision (see MacDonald & Rae, 2018). The longstanding providers include new and 'ancient' universities, city and rural providers and institutions of vastly different sizes and natures (Hulme & Menter, 2013). The institutional context is being investigated through programme profiles and the survey to university staff. The programme profile will contain the organisation and management structures including levels of administrative support and information on virtual learning environments. The university staff survey gives their perceptions of the impact of institutional vision, culture and policy priorities and their perception of the reputation and place of the education school, faculty or department within their institution as a whole.

Having worked through the process of reinterpretation and contextualisation described above, we arrived at eight key categories which we believe articulate key components of ITE quality within our own national context. Distinction between categories, and the carefully chosen terminology, ensures common understanding across the various ITE stakeholder groups.

The eight MQulTE components are not a direct match to Feuer et al's (2013), although in some instances were a fairly close equivalent.

TABLE 1: Feuer (2013) categories compared with MQiTE Framework components

Feuer et al. (2013) categories	MQiTE Framework components
	1. Partnership
1. Admissions and recruitment criteria	2. Admissions, recruitment and retention
2. Quality and substance of instruction	3. Programme design
3. Quality of student teaching experience	4. Practicum/fieldwork
4. Faculty qualifications	5. Teacher educators
5. Effectiveness in preparing new teachers who are employable in the field	6. Initial destinations
6. Success in preparing high-quality teachers	7. Post-registration
	8. Institutional context

For each of the eight components we listed the ‘related specific dimensions’ that we actually want to ‘measure’ or identify, giving us the detail required to proceed with an appropriate data collection strategy.

After agreeing on the specific dimensions for each component, we mapped each dimension against a data collection tool to ensure that we would be able to capture appropriate data for each. We have identified eight data collection tools (although this may be amended as the findings point to other data collection requirements; the annual release of funds from Scottish Government allows for

this). The related specific dimensions and corresponding data collection tools are shown on the full framework document which is available at www.mquite.scot.

It is important to note that just as the components of quality have been carefully identified in response to context, so too have the data collection tools, demonstrating the process of vernacular globalisation at work. For example, our data collection takes into account that ITE is university-based, and that universities are required to hold particular data on student demographics. Scotland has a national Teacher Induction Scheme, administered by the GTCS, and so we are able to draw on existing data as well as making use of an existing means of communicating with our target population. The role of the GTCS in registering all teachers also gives us a central source of data and an additional means of contacting the wider cohort population.

Another important national contextual factor is the comparatively homogenous provision of state-funded schooling, meaning that accessing teachers is more straightforward, and that understanding their employment contracts and working time practices is also more consistent across the country than might be the case elsewhere: only 4% of pupils in Scotland are educated privately (Scottish Council of Independent Schools, 2020).

CONCLUSION

We believe that the MQuITE framework is the only nationwide, context-specific protocol for 'measuring' ITE quality in existence. In large part, it came about in response to a unique combination of policy events which saw significant changes in the range and structure of ITE routes at a time where national education policy was taking a much more overtly performative turn. Our framework has been devised by ITE providers (who are also researchers) together with the GTCS, in discussion with project funders, the Scottish Government. This multi-stakeholder collaboration is perhaps more possible in a small country such as ours (Scotland has a population of 5.4 million and just over 52,000 teachers) where not only has there been broad agreement that the framework is fit for purpose, but its development has also served as a forum for more explicit discussion about what constitutes ITE quality, thereby also addressing the point raised by Biesta when he asks whether what we measure 'corresponds to our conception of good education' (p. 316). Crucially, it has also allowed us to steer a course through co-existing influences of both an increasingly performative culture, and a historical, cultural disposition towards democratic schooling. Creating a framework which allows us to collect comparative, longitudinal, quantitative data alongside more responsive and targeted qualitative data has been key to managing these potentially contradictory influences.

The impact of the MQuITE framework is already much bigger than the creation of a document to guide empirical data collection; it is also proving to be an important focus for shaping the national conversation, and for capacity-building in each of our partner institutions. Importantly, emerging empirical findings have allowed us to make a proactive contribution to the national narrative on ITE quality, rather than assuming a fragmented defensive position in the face of public criticism. The process of framework development, and the product itself, have provided stakeholders across the system with greater confidence in articulating the

complexity of quality ITE, providing support for rebuttal of neoliberal influenced performative quality indicators. Importantly, though, the framework does not completely ignore performative indicators, but sets them alongside a range of other important ways of identifying quality in ITE.

Returning to the potential impact of MQuITE beyond Scotland, we consider the affordances and constraints associated with using the framework in other national contexts. There is the matter of terminology, and the need to tailor any such framework to the policy *and* linguistic context. The explicit recognition of the role of vernacular globalisation in framework development is both an affordance (in that it is inherently adaptable to any context) and a constraint. If the vernacular element proves to be so different in other contexts, then the possibility of building cumulative knowledge across and between countries becomes less likely. Nonetheless, we believe that this project provides a unique perspective on how a framework for identifying ITE quality can be developed in a contextually specific way, thereby significantly increasing the likelihood of its use and utility.

In closing, it is important to reiterate that ‘the framework’ presented here comprises both the process and the product, and we acknowledge the contingent and temporal nature of the product in particular. In order to remain context-appropriate we are required to engage in regular checking and updating, what is commonly referred to as ‘dynamic policy making’. Ultimately, we hope that in sharing the MQuITE process and product more widely, we contribute to both policy development and to the growing body of international research focusing on ITE quality. Not only is this imperative for the continued development of good teacher preparation, it is equally important that as a community we find ways, that are not dominated by neoliberal perspectives, to account convincingly for our practice.

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