Literature Review on Teacher Education Entry Requirements

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1| Introduction: context and aims

This literature review has been commissioned by the General Teaching Council of Scotland (GTCS) to inform a new *Memorandum on Entry Requirements to Programmes of Initial Teacher Education in Scotland*. The specific aim of this review is to identify the current discourse on minimum entry requirements to initial teacher education (ITE) in a number of jurisdictions. Nations included in this review are: England, Scotland, Australia, United States, New Zealand, Ireland, and Finland.

Due to the complexity and diversity of entry requirements in these jurisdictions—which in themselves have many sub-jurisdictions—and given that most institutions set their own processes and standards for each ITE programme, it is simply not possible to cover all contingencies here. The hundreds, if not thousands, of variations to admissions criteria are too numerous and diverse to summarise. Rather, this review provides a general survey of entry requirements in the selected jurisdictions, with summaries and generalisations where necessary. The intention is not to repeat the context of Scotland, England and the rest of the UK as it is assumed that this is already known by the GTCS. Indeed, in their 2016 review of entry to ITE in Ireland, Darmody and Smyth provide an overview of the entry requirements of eight different nations, summarising the at times bewildering and complex array of mechanisms used in different national settings.[1] Given this recent coverage, this literature review does not seek to duplicate that earlier work. Instead, the following pages will elaborate on some features of some systems where they illustrate a given approach to entry to ITE. Further, given the rather broad remit, this review is by necessity general, limited and non-exhaustive.

1.1 *A note on the literature*

Despite strands of literature that critique prevailing models of teacher effectiveness (see below), there is relatively little academic work dedicated to ITE entry requirements *per se*. The bulk of the literature tends to focus on what happens within ITE programmes or in the teaching profession itself. Academic studies focused on the efficacy or predictive qualities of various pre-entry requirements tend to be somewhat sporadic, few and far between, and focused on specific aspects, and often dated (e.g. non-verbal skills, Neil 1989; interviews, Hannan and Mulford 1995; advanced qualifications in maths, McKechan and Day 2015).

In contrast to the voluminous works on other aspects of ITE (e.g. standards, transition to qualified teacher, teacher attrition, the relationship between levels of teacher certification and student achievement, teacher effectiveness), there is a relative dearth of literature explicitly related to entry standards, although this still amounts to a substantial volume of works. The literature on ITE admissions tends to be 'studies on the reliability, predictive validity, and utility of selection indicators' (DeLuca 2012: 9) and as such are often technical and statistical in nature, focusing on the measurable relationships between the input characteristics and the output performance. However, as this review will argue, there also needs to be consideration of the assumed values and purposes of teaching and schooling when making an assessment about who is best suited to becoming a teacher.

[1] Similarly, Holden et al. (2016) provide a detailed account of admissions policies in Ontario Canada.

The review is organised around the various approaches to ITE entry as identified in the literature. Throughout reference is made to the effect of pre-ITE skills, abilities, dispositions etc on both ITE students' success in their programme, and on pupils' achievement once teachers enter the profession. The review will first give a critical account of the perceived 'problem' of ITE as imagined by governments and policy makers in many OECD nations. This will help to provide some context of the impetus for ITE reform.

1.2 *The perceived problem of teacher quality*

In many nations (e.g. England, Australia) there is a general, popular concern that initial teacher education programmes do not attract students with sufficient academic preparation or ability to succeed. This in turn is thought to lead to teachers of substandard quality, which is then reflected in declining literacy and standards as seen in PISA results and other large scale assessments (such as TIMS and PIRLS). This 'PISA shock' (Ertl 2006) has, among other drivers, driven governments to focus on the apparent poor quality of teacher education and the criteria used to admit entry to these programmes.[2] In short, the poor results in PISA is seen to be a reflection on the quality of teachers, their training, and the admissions criteria of universities.

This concern has of course been evident in Scotland in recent years. In his review of ITE in Scotland, Graham Donaldson articulated that the challenge is 'getting the right people in the right numbers' (2011: 20). Donaldson argued that the challenges involved in getting this right has resulted 'difficulties with literacy and numeracy displayed by some newly qualified teachers [that] need to be addressed at entry' with the solution in part laying in 'broaden[ing] the base of selection to involve local authorities and schools as more equal partners and to include more consistent attention to interpersonal skills' (2011: 5).

Similarly, the Australian government, for example, noted in the Teacher Education Ministerial Advisory Group (TEMAG) report (2014)[3] that:

> Australians are not confident that all entrants to initial teacher education are the *best fit* for teaching. This includes the balance of academic skills and *personal characteristics* needed to be *suitable for teaching*. (TEMAG 2014: xi; emphasis added)

The sentiment expressed in the report—and in the popular media—is that entry requirements for ITE programmes are not sufficiently demanding, and that significant numbers of pre-service teachers are neither qualified nor suited to teaching.[4]

The logic of these claims is based on kind of 'backward mapping' of ITE from PISA results. As Menter et al. (2010: 26-27) note, there is a strong presumption of a direct link between the quality of intake of ITE candidates and the quality of an education system:

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[2] See, among many others, Lingard et al. (2013), for an account of how PISA has become a form of policy as numbers and how the influence of the OECD and other similar institutions represent an emerging type of supra-national governance.

[3] The TEMAG review is the most recent of what Rowan et al. (2014) estimate to be over 100 reviews of teacher education in Australia over the last 35 or so years.

[4] For example, see *Students with lowest ATAR scores being offered places in teaching degrees: secret report* from 18 September, 2018: http://www.abc.net.au/news/2018-09-18/students-lowest-atar-scores-teaching-degree-offers-secret-report/10200666

> Based on an analysis of outcomes from the Programme for International Student Assessment (PISA) across 25 school systems, the McKinsey Report (2007) noted a positive association between high performing systems and selective entry requirements for primary teacher education. The Report maintains that low performing teachers in the earlier years of schooling have a detrimental impact on pupil outcomes in the longer-term. The Report also highlights that Singapore, South Korea, Finland and Hong Kong … recruit teachers from the top third of their graduate cohort, although it should be noted that there is no evidence of a direct causal link between the two factors.

Arguments in favour of the need to lift the quality of ITE student intake also rely on a range of assumptions about the influences on student class room achievement. The most prevalent of these is the view that 'teaching is all that matters' (Gale and Parker 2017) in lifting student achievement. This is evident in policy discourse such as:

- In Australia, where teaching is seen as the 'single greatest in-school influence on student achievement' (TEMAG 2014a: 3) the 'quality of an education system simply cannot exceed the quality of its teachers' (TEMAG 2014a: 3).

- In England: the 'most important factor in determining the effectiveness of a school system is the quality of its teachers' (DfE 2010: 19), and that 'no education system can be better than the quality of its teachers' (Cameron and Clegg 2010: 3).

- In New Zealand, where there has been a concern to 'ensure that the teaching profession can attract and retain high quality individuals' coupled with the view that 'High quality teachers produce better-performing students who go into the workforce and make a significant contribution to economic growth' (in Menter et al. 2017: 10, 11).

- In the United States, where the 'public's concern about our schools and teachers is heightened by the continuing mediocre performance of U.S. students in comparison with students of other industrialized nations on international assessments' (Allen et al. 2014: 1).

In short, these views of the role of teachers, ITE, and entrants to ITE are reductive of the influences on student achievement. They rely on 'teacher effectiveness' models built on linear and exclusive student-teacher performance relations and tend to ignore influences from outside classrooms and schools. Berliner refers to these influences as 'exogenous variable[s]' that are 'outside the system being described' (2013: 240) and are 'unexplained by the model' (2014: 4). Home, family and socio-economic influences are excluded, which 'render unimportant, perhaps even invisible, the social and economic inequalities that really prevent some students from doing as well as others. As a result they help to perpetuate unequal schooling and unequal outcomes' (Thrupp and Lupton 2006: 312). As Mills and Gale (2010: 30) have argued 'context is being forgotten in the rush to attribute student achievement solely to what teachers do.'

Yet even within schools, teachers are far from being the most significant influence. The relationship between teacher and student is far more complex (Berliner 2014). The implications for teaching are that:

> the simple model of influence, Teacher—> Student, held so widely by the general public, and particularly by our politicians, is surely reciprocal, and more like this: Teacher <-> Student. And, 25–35 of such separate relationships need to be negotiated in every classroom. (Berliner 2014: 3)

Teaching–learning relations are further complicated by the combinations and permutations of Student <-> Student. Thus, the focus on teachers making the difference to student achievement (Skourdoumbis 2014) is reductive in its simplification of learning and in its disregard for external, out-of-school influences. Student performance can never be directly or exclusively attributed to teacher performance.[5] Scholes et al. (2017: 23, emphasis added) argue:

> Quality teaching then is a *collective endeavor*. As Connell (2010) points out, much of what happens in the daily life of a school involves *joint endeavours* of the staff, and the staff's collective relationship to the *collective presence* of the students (their social class backgrounds, gender, ethnicity, regional culture, religion; and their current peer group life, hierarchies and exclusions, bullying, cooperation, and so on). Much of the learning of students results from the *shared efforts of a group of staff*, from interactive learning processes among the students, and from the working of the institution around them (Connell, 2010). In this way, when an individual teacher appears to be performing well (or not) *it depends a great deal on what other people are doing* (Connell, 2010).

In this context it is important not to over-emphasise the role of individual teachers' personal attributes in student achievement. Yet, the focus on 'innate qualities within individuals such as extroversion, caring natures or resilience that make some people more suited to be good teachers', or on acquiring effective pedagogical skills, or the development of 'particular repertoires of practices' is prevalent in the literature on teacher quality (Scholes et al. 2017: 21). What constitutes a good teacher then, goes beyond specific academic abilities, skills sets and personal dispositions—characteristics that ITE entry mechanisms attempt to assess.

[5] In Australia, the undermining of the quality of teachers, ITE and universities is, in part, fuelled by media sentiments, such as, the view that 'low entry scores required to study teaching sent the message that "if you're dumb you can be a teacher"' (Ferrari 2015; see also Robinson, 2018). This has been assisted by conservative think tanks and politicians who have over a number of years cast aspersions on the state of education (see Gale and Cross 2007 for a textual analysis; Reid 2016, Savage 2016, and Lingard 2016 for accounts of the political discourse).

2| Entry requirements

This section of the review will serve two functions: firstly, to outline some common ITE admissions criteria, with illustrations from specific cases; and secondly to give some account of the literature relating to these criteria. The first criterion to be covered is secondary school qualifications.

2.1 *Secondary school qualifications*

Pupil performance in senior secondary school is one of the most commonly used criteria to assess entry to ITE programmes. For example, it has been estimated that in the United States 99% of undergraduate and 98% of graduate teacher education institutions use applicants' GPA as a selection criteria (Ackley et al. 2007; Leal 2004).

In Australia, individual universities set the specific entry requirements for individual degree programmes, including ITE. School leavers are awarded an Australian Tertiary Admissions Rank (ATAR) based on their performance in their final years of schooling. ATARs are partially a product of supply and demand for university places, and are not an absolute indicator of academic achievement or potential. As part of a broader concern over the quality and alleged unpreparedness of university entrants, relatively low ATARs for entry to programmes such as ITE have become easy targets (see Gale and Parker 2017).

In general, there is a wide variation in the ATARs of commencing ITE students (see Table 1 below). The Australian Institute for Teaching and School Leadership (AITSL) has observed that:

> In 2012, 56 per cent of students entering an initial teacher education program on the basis of their secondary education and with an ATAR had an ATAR between 61 and 80. Thirty one per cent had an ATAR 81 and over, while 13 per cent had an ATAR 60 and below.
>
> Data for all commencing students with an ATAR show that across the period 2005 to 2012 the percentage of students in the lower ATAR bands has been increasing. (AITSL 2914: 25)

Table 1: Selected Australian University's Published Minimum ATAR for ITE Programmes[6]

University	Course	ATAR cut off
Victoria University	Education (P-12) - Physical Education (Secondary)	45.95
University of Sydney	Education (Health and Physical Education)	80
Deakin University	Bachelor of Education (Primary)	70

However, ATARs are only the basis for admission for a small proportion of ITE students, usually school leavers. AITSL notes:

> While many entrants have an ATAR from their secondary studies, and ATAR is the most commonly reported measure of academic performance used for entry, there are many entrants, including those students admitted on the basis of their secondary education, for whom their ATAR is not the basis of admission. ATAR should not be confused with basis of admission,

[6] https://www.vu.edu.au/sites/default/files/atar-profile.pdf; https://sydney.edu.au/courses/courses/uc/bachelor-of-education-health-and-physical-education.html; http://www.deakin.edu.au/course/bachelor-education-primary

> which can include qualifications such as a Diploma or Degree, or secondary education ... (AITSL 2014: 29)

Indeed, in 2013, only 17% of Primary Education entrants and 15.6% of Secondary Education came directly from school, with the majority being either in employment or other higher education study in the year prior (AITSL 2014). Wright extends this to say that:

> Given less than one third of students nationally enter ITE on the basis of their ATAR the data suggest that a *variety of selection methods and criteria are required and ensuring high standards within ITE courses* is the best way to control for quality of graduates. (2015: 1; emphasis added)

The presumed relationship between high school attainment and success in ITE courses—as evident in much of the popular discourse—proves to be erroneous in at least one study in Australia. Wright notes that:

> The assumption of a linear positive relationship between entry ATAR and GPAs is inappropriate for students in the Early Childhood/Primary cohorts. While the linear line of regression for the third year cohort looks slightly positive there appears to be little association for the second and fourth year cohorts. Gaining GPAs of five or higher is not restricted to students with high entry ATARs and one student with an entry ATAR of "30 or less" achieves a GPA of over six at the end of their first year of study. In general, students with ATARs of 60 or less gain GPAs above four. In fact a quadratic model is a better fit to the data for the third and fourth year Early Childhood/Primary cohorts as students with entry ATARs of 65 or less gain better GPAs proportionally than those with ATARs in the range 65 to 75. (Wright 2015: 6)

In other words, ATAR as a predictor of success in ITE programmes, and in the teaching profession, is far from clear-cut and is 'at best … useful when used in conjunction with other measures and mechanisms'. (Wright 2015: 12). 'Clearly', Wright concludes, 'classroom readiness on exit from ITE cannot be reliably predicted by academic ranking on entry'.

A 1995 study (Hannan and Mulford) of the effects of high school qualifications on ITE students' teaching abilities made a similar, if somewhat more nuanced conclusion. HSC (High School Certificate) performance had little to no effect on teaching ability in placements and has no value as a predictor of future teacher performance. 'On the other hand', the authors note 'HSC performance is related clearly to academic performance on course' (1995: 68).

In **Ireland**, the small number of HEIs providing ITE (4) means that standardisation of entry requirements by the national government is possible. In 2017, the school leaving qualifications required for entry to a primary initial teacher education programs changed. These include the requirement for higher grades in Leaving Certificate Maths and English at Ordinary Level and Irish at Higher Level (Table 2, below). The rationale was 'to ensure that primary teachers have the capacity to lead learning in these vital areas'.[7]

[7] https://careersportal.ie/careerplanning/story.php?ID=2501202853

Table 2: Changes to Minimum Entry Requirements for Primary Teaching in Ireland[8]

Subject	2018		2019 and 2020	
	Grade	%	Grade	%
Irish	H5	50<60	H4	60<70
English	O5	50<60	O4	60<70
	or		or	
	H7	30<40	H7	30<40
Maths	O6	40<50	O4	60<70
	or		or	
	H7	30<40	H7	30<40

2.2 *Subject combinations and other requirements*

While the high school results can provide a general minimum of entry requirements, these are rarely used alone and potential entrants to ITE programmes usually also require a specific combination of subjects.

In **New Zealand**, there is a standard minimum entry standard to attend university (regardless of the field of study). Entrants require a National Certificate of Educational Achievement (NCEA) in a variety of subject areas and credit combinations, including 10 credits each in Literacy and Numeracy subjects. These are stated as:

- NCEA Level 3
- Three subjects—at Level 3, made up of:
  - 14 credits each, in three approved subjects
- *Literacy*—10 credits at Level 2 or above, made up of:
  - 5 credits in reading
  - 5 credits in writing
- *Numeracy*—10 credits at Level 1 or above, made up of:
  - achievement standards—specified achievement standards available through a range of subjects, or
  - unit standards—package of three numeracy unit standards (26623, 26626, 26627—all three required).[9]

The requirement for literacy and numeracy qualifications are somewhat broader than in other contexts where more specific subject combinations are required.

In **Austria**, entry criteria can vary by institution. In some instances, applicants must hold at least a high school Leaving Certificate; for entry into Gymnasium / Upper Secondary ITE programmes, a passing grade in the *Studienberechtigungsprüfung* (the entrance requirements of the Colleges of Teacher Education) is required (Darmondy and Smyth 2016).

In **Finland** (a nation applauded for recruiting highly academically able ITE students and for the high quality of its education system), there is a multi-step process for applicants. The process varies by institution, but tends to rely largely on secondary school matriculation entrance tests (or a vocational equivalent) as the first basis of selection. Based on these results only 10% of applicants are accepted to the next phase of the process (see following sections). Primary teacher applications usually then sit a VAKAVA exam, and take part in an interview

[8] https://www.education.ie/en/Education-Staff/Information/-New-Teachers/-Initial-Teacher-Education-ITE-Primary.html

[9] https://www.nzqa.govt.nz/qualifications-standards/awards/university-entrance/

The following outlines two example institutions' approaches in **Australia**:

Bachelor of Education (Primary) at Deakin University in Melbourne:

> **Entry for applicants with recent secondary education (previous three years)** will be based on their performance in a Senior Secondary Certificate of Education, with prerequisite Units 1 and 2 of General Mathematics or Maths: Mathematical Methods or Maths: Specialist Mathematic, or Units 3 and 4 of Mathematics (any) AND a study score of at least 35 in English EAL (English as an additional language) or 25 in English other than EAL Applicants will be selected in accordance with the published Australian Tertiary Admission Rank (ATAR) for that year (at least 70 in 2019).[10]

The University of Sydney:

> Teaching programs: Bachelor of Education (Primary), Bachelor of Education (Health and Physical Education), and Bachelor of Music (Music Education) Students entering these teaching programs need to achieve a minimum of three Band 5s in their NSW HSC, one of which needs to be English (not English as a Second Language (ESL))[11]

2.3 *Specialist knowledge: mathematics*

A focus of research in the field has been on the predictors of success in teaching mathematics (e.g. McKechan and Day 2015; Henderson and Rodrigues 2008; Hill et al. (2005); Young-Loveridge et al. 2012). Hill et al. (2005) have found that the degree of specialist mathematical knowledge among in-service teachers does have an effect on pupil achievement. In a sense this should come as little surprise. But what is less clear is the extent to which the qualifications and specialist knowledge of incoming ITE students will have an effect on pupil outcomes.

In recent Scottish-based research, McKechan and Day (2015) found that a higher level of qualifications did *not* necessarily lead to better teacher performance. They note:

> The data presented in this case study confirms that primary education students who held a SCQF level 6 Higher Grade qualification did not perform significantly better in a subject content knowledge assessment of Mathematics test when compared to students who held a SCQF level 5 Standard Grade Credit pass only ($z=-1.755$, $p=0.079$). Students who held an SCQF level 5 intermediate two mathematics qualification performed significantly worse than those who held a Higher Grade in the subject content knowledge assessment of mathematics test ($z=-5.019$, $p<0.0001$). Students who held an Intermediate two pass did not perform better than Students holding Standard Grade Credit pass on entry to ITE. (2015: 93)

Elsewhere, Henderson and Rodrigues (2008) have argued that Scottish ITE students with higher levels of mathematics qualifications before entry were not necessarily any better teachers than their peers with lower levels of qualifications. They note:

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[10] http://www.deakin.edu.au/course/bachelor-education-primary

[11] https://sydney.edu.au/study/admissions/apply/entry-requirements/undergraduate-academic-requirements/required-atar-for-guaranteed-entry.html

> The students who have Higher Mathematics are no more competent than their peers who hold Standard Grade Credit or Intermediate 2. Furthermore, having a higher level mathematics qualification does not necessarily improve their confidence. Approximately half of those with higher qualifications stated that they had little or no confidence in their mathematics skills. (2008: 103)

In contrast to the focus on how the *level* of qualification affects primary mathematics ITE students' performance in their course (and beyond into the teaching profession), Henderson and Rodrigues argue that the emphasis should be on the *content* of the qualifications. They write that it is,

> the *nature of mathematics taught and learned* at that level that needs to be addressed. If we wish potential primary teachers to be able to teach this curricular area effectively then their mathematics foundation should be such that *they feel confident in their skills and be able to demonstrate competence in those skills*. The nature of the content within the qualification should enable student teachers to effectively use tools, methods and content found at the primary level. ... Perhaps what can be said is that the *focus* of mathematics at these levels does not adequately meet the requirement for the primary school environment even if the level of mathematics being tested is acceptable. (2008: 103-104; emphasis added)

Wright provides further evidence in support of the view that it is not higher level qualifications *per se* that contribute to a potential teacher's ability to teach effectively. In this context, the cumulative effects of prior achievement in themselves are less important than higher grades at high school level:

> There is evidence of the Mathew effect [*sic*] operating in the sense that students who enter initial teacher training (ITE) with higher grades seem to learn more. For example, measures of high-school achievement and the number of mathematics classes associate highly with the mathematical content and pedagogical content knowledge of graduating teachers and their subsequent effectiveness in improving student achievement over their early years of teaching. (Wright 2015: 2; see also Blomeke et al 2012)

The evidence is somewhat mixed, but the case for higher levels of qualifications in specialist subject areas (such as mathematics) is far from clear cut. The implications for Scotland are, as McKechan and Day (2015: 78) 'that current requirements relating to qualifications in mathematics do not seem to provide a sufficient guarantee of competence required for teaching'.

3| Other entry mechanisms

While high school qualifications and subject specialisations provide general minimum criteria for entry into ITE programmes, many jurisdictions apply additional criteria, ostensibly to further distinguish between candidates, particularly to ascertain those who have the right combination of academic and non-academic skills. The need for criteria beyond high school academic performance to other aspects of potential teachers has been recognised as an issue for a number of decades. For example, in 1995 Hannan and Mulford made this observation, drawing on research from the 1970s and 1980s.[12] Clearly this is still a crucial issue, as Donaldson revisited it in his recent review of ITE in Scotland:

> In addition to ensuring appropriate academic qualifications for entry to teacher education, there is a need to be more effective in identifying and selecting candidates with the potential to be future high quality teachers. We need to be clear about the qualities and capacities which are associated with high quality teachers and develop procedures to select for those qualities. (2011: 26)

3.1 *Standardised tests*

Generic skills tests are one of the most common entry mechanism to ITE, especially in the US. Given the vast number and range of entry tests in the US alone it is impossible to give an account of all of them or even an adequate summary. However, below are two contrasting examples of how tests are used in assessing eligibility.

California has a Basic Skills Requirement that can be met in a variety of ways, including: passing the California Basic Educational Skills Test (that assesses reading, writing and mathematics); through the California Subject Examinations for Teachers (CSET) in multiple subjects; achieving passing scores on the California State University (CSU) Early Assessment Program (in English and Mathematics); or taking the CSU Placement Examinations.[13] Candidates may also qualify for entry by passing SAT or ACT (American College Testing) examinations with mandated minimum scores in maths and English; there is similar qualifying College Board Advanced Placement (AP) Examination. Some of these minimum requirements are set out below in Table 3.

At the University of Tampa in Florida, existing undergraduate students can apply to an ITE programme in their second year of study. Aside from being required to hold a minimum 3.0 GPA in undergraduate studies, successful applicants need to 'Demonstrate mastery of general knowledge, including the ability to read, write and use computers by passing all sections of the General Knowledge Test (GK)'.[14]

[12] Studies cited by Hannan and Mulford (1995: 61-62) include: Wilson and Mitchell 1985, Twa and Greene 1980, and Benjamin and Erdman 1977.

[13] https://www.ctc.ca.gov/docs/default-source/leaflets/cl667.pdf?sfvrsn=91a6cf60_22

[14] http://www.ut.edu/education/admission/

Table 3: Standardised Assessment Score Required for Admission to ITE Programmes in California[15]

Examination	Maths	English
College Board SAT	550	500
ACT	23	22
College Board Advanced Placements	Score of 3 or above on one of: • AP Calculus AB • AP Calculus BC • AP Statistics	Score of 3 or above on one of: • AP English Language Composition • AP English Literature Composition
CSU EAP Placement Tests (taken in 11th grade) **Early Assessment Program**	'College Ready' or 'Exempt'	'College Ready' or 'Exempt'
CSU Placement Tests		
Entry Level Math	50	-
English Placement Test	-	151

The National Council on Teacher Quality (NCTQ) identify 11 US states that they name as having strong admissions requirements (high GPAs and a basic skills test) in state law: Alabama, Georgia, Mississippi, Montana, New Jersey, North Carolina, Pennsylvania, Rhode Island, Texas, Utah, and West Virginia (NCTQ 2016).

As Corcoran and O'Flaherty (2018: 175) note, 'Understanding the factors that contribute to effective teacher instruction has the potential to influence selection and preparation of pre-service teachers and may influence student outcomes'. While some research has indicated a link between teacher characteristics (e.g., SAT scores, grade point averages, verbal ability, gender, ethnicity; Corcoran and O'Flaherty) and teacher effectiveness, other more recent scholarship questions this relationship. In these works, only a small proportion of the variation in teacher effectiveness is the result of these influences (Aaronson, Barrow, and Sander 2007; Bastian et al. (2015); Corcoran and O'Flaherty 2018). Corcoran and O'Flaherty's (2018) own research into the predictors of effective teachers in Ireland found 'no evidence of a relationship between pre-service teachers' personality traits[16] and their performance during their final pre-qualification placement' (184). Similarly, Menter et al. (2010) note that:

> Academic skills tests to regulate entry to the profession are not reliable predictors of teacher quality. Many dimensions of effective teaching are not reliably predicted by tests of academic ability … Research on the impact of testing as a means of regulating entry to the profession is inconclusive. Few jurisdictions operate tests to regulate entry to the ... Forty-one US states require prospective teachers to pass licensure tests. However there is considerable variation in *what* is tested (basic skills, pedagogical knowledge, content knowledge), *how* it is tested (multiple choice, open-ended questions, portfolios or performance-based measures), and the required minimum performance (Committee on Assessment and Teacher Quality, 2000). A review of research evidence on the effectiveness of testing policies reports, *'there is currently little evidence available about the extent to which widely used teacher licensure tests distinguish between candidates who are minimally competent to teach and those who are not'* (ibid.: 3). (Menter et al. 2010: 26, 27; original emphasis)

Similarly, Ackley et al. (2007: 659) note that 'there is little research that indicates a relationship between a score on a teaching examination, teaching performance and student learning in the classroom' (see also Mitchell et al. 2001). Raising minimum passing scores in

[15] https://www.ctc.ca.gov/docs/default-source/leaflets/cl667.pdf?sfvrsn=91a6cf60_22

[16] These traits are *conscientiousness*, *openness*, *extraversion*, *agreeableness* and *neuroticism*, and derived from McCrae and Costa (1991).

standardised tests can also eliminate otherwise competent candidates and reduce the diversity of the pool of applicants (Ackley et al. 2007).

3.2 *Specific teacher-oriented tests*

While generic standardised tests are commonplace, specific ITE-oriented tests are required in several nations. Following on from the outline above, as part of their multi-phase application process, institutions in **Finland**, often require primary teacher applicants to sit a VAKAVA literacy exam for those who have a sufficient matriculation score (Darmondy and Symth 2016; VAKAVA is the Finnish acronym for National Educational Selection Cooperation Project; Malinen et al 2012). This exam is used for entry to 34 education degree programmes in seven universities.[17]

At the time of writing, all potential entrants to ITE programmes in **Australian** universities are now (as of 2018) required to sit a test that assesses suitability for teaching in both academic and non-academic areas. For example, CASPer is required for all ITE programmes offered in the state of Victoria, with the exception of the University of Melbourne.[18] CASPer describes itself as:

> an online screening tool designed to evaluate *key personal and professional characteristics* that make for successful students and graduates.
>
> Traditional evaluations of personal characteristics (e.g. standard interviews, reference letters, and personal essays) have shown to be ineffective in discerning good applicants. CASPer increases fairness in applicant evaluation by providing admissions and selection committees with a reliable measure of traits like professionalism, ethics, communication, and empathy.[19]

A number of other universities, most notably the Melbourne Graduate School of Education (MGSE; who appear to have devised the test, led in part by Prof John Hattie) use the Completion of Teacher Capability Assessment Tool (TCAT).[20] MGSE staff describe the Tool as aiming to

> *improve the quality* of selection of pre-service teaching candidates and to provide the candidate with a personal profile which forms the starting point of progress towards classroom readiness [*cf TEMAG 2014*]. This online assessment tool provides a cognitive and non-cognitive profile of characteristics for effective teaching. The tool and its associated research are amongst other objectives, the basis of identifying the *precursor skills and dispositional traits to developing an evaluative teaching mindset*. (Clinton and Dawson 2018: 319; emphasis added)

To date, the critical literature on this testing tool is essentially non-existent. What is published, however, is authored by the designers of the tool (e.g. Clinton and Dawson 2018) with the aim of arguing for its take-up as a response to what they regard as the deficiencies of existing approaches to ITE entry. The Tool is also clearly linked to the 'clinical model' of teacher education that has had limited success in Scotland (McLean Davies, et al. 2015).

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[17] https://www.helsinki.fi/en/networks/vakava/about-vakava-0

[18] https://takecasper.com/test-dates/#ausundergraded

[19] https://takecasper.com/aboutcasper/#aboutcasper emphasis added.

[20] https://tcat.edu.au/

In relation to the widely used Pre-Professional Skills Test in the **US** (which is more generic than the TCAT described above, but education-specific) Mikitovics and Crehan (2002) found that they are weak predictors of success in ITE courses. Indeed, they argue that the PPST is no better than standardised tests in this respect:

> None of the correlations between PPST subtest scores and student teaching grades was statistically significant. Hierarchical regression analysis showed that PPST Reading and PPST Mathematics scores do not predict student GPAs over and above ACT English and ACT Mathematics scores. This finding supports those of Dybdahl et al. (1997), Hicken (1992), and Sentz (1991) that the PPST subtests have not been proven to separate students who are likely to succeed in a teacher education program from those who are not. (Mikitovics and Crehan 2002: 221)

The authors conclude that not only 'the use of these tests for college of education admission purposes is inappropriate' (222), but they also negatively affect minority groups.

3.3 *Interviews*

Many institutions require that applicants to ITE programmes be interviewed for suitability. While the content and focus of interviews will vary from place to place, the overall aim is to ascertain the suitability of an applicant to the teaching profession in ways that cannot be discerned by school results or other standardised tests. The literature is in general agreement about the need for admissions interviews to assess candidates' qualities or dispositions, for example:

> What is needed is a system using qualitative in addition to quantitative methods, that takes into consideration multiple and related student, family, teacher and school variables, captures intervening variables such as student knowledge, beliefs, aptitudes and behavior. (Katz and Frish 2016: 467)

Importantly, 'traditional indicators tell little about the affective, moral, or ethical dispositions of the candidates who are admitted' (Denner et al. 2001: 166). Similarly, the OECD has argued for the need to widen selection processes to include measures such as interviews that give more weight to

> characteristics which are harder to measure—enthusiasm, commitment and sensitivity to student needs—but which may be more directly related to the quality of teaching and learning than the traditional emphases on qualifications and years of experience. (OECD 2005: 164)

Universities in **Finland** use interviews as part of their multi-stage process. Applicants who have passed earlier steps (typically matriculation results and the VAKAVA, see above) are then selected for interview to assess their potential as a primary school teacher. In contrast with the earlier application phase, the interview focuses less on academic skills and more on motivation, social and communication skills, and particular talents (such as music or art) (Darmondy and Smyth 2016). Darmondy and Smyth (2016: 48) elaborate on the importance and role of the interview process:

> As the interview process provides half of the points necessary for entry, it is a crucial step for a student. The interview panel consists of lecturers and teachers from the University's teacher education school (every faculty has one). In Oulu, 250 students are interviewed, while 100 are enrolled, compared to Helsinki where 360 students are interviewed and 120 enrolled.

According to UCAS, the general types of qualities that institutions in the **UK** look for when interviewing potential ITE students include: passion, confidence, professionalism, personality, energy, resilience, and an understanding of the commitments for teaching.[21] Indeed, a significant aim of interviews is to assess a candidate's dispositions towards teaching and the alignment of their values with that of the programme (e.g. Ackley et al. 2007; Katz and Frish 2016). It is this assessment of the moral and ethical dispositions of potential teachers that is perhaps the most significant (Jacobwitz 1994).

The research evidence on the efficacy of interviewers is mixed. Some research (albeit rather dated)[22] argues that interviews are an effective method of determining a candidate's skills as well as 'cognitive decision-making and perceptual skills', self-efficacy, and verbal and reasoning abilities (Ackley et al. 2007: 660). Other studies have found that interviews are a better predictor of future teaching success than academic criteria (Darmony and Smyth 2016). Again, this literature is often over 20 years old.[23]

Despite the popularity of individual interviews, some question their effectiveness, highlighting their 'low reliability, particularly those interviews which are less structured or which focus on past behaviour rather than situational responses' (Holden and Kitchen 2016/17: 26; see also, Blouin, 2010; Petrarca and LeSage, 2014; Smith and Pratt, 1996). Furthermore, Guinier (2003) cautions against relying on standardised test scores as they are more closely associated with socioeconomic status than future academic performance. This is consistent with more general arguments that school performance is highly associated with SES (e.g. Teese and Polesel 2003).

Judgements about an applicant's strengths in terms of these qualities will be inherently norm-referenced rather than criterion-referenced. There is also the danger that such judgements will favour 'people like us'—those applicants that possess the same cultural and social sensibilities as the interviewers at the expense of a more inclusive selection process. Personal interviews are also time-consuming and resource-intensive compared with other entry mechanisms (Darmony and Smyth 2016). As Bowles et al. (2014: 368) remark, this can be problematic in very large faculties which can receive thousands of applications and consequently have too little time to interview effectively.

3.4 *Graduate entry to ITE—consecutive qualifications*

Many nations provide post-graduate ITE programmes, whether this be the PGDE or PGCE seen in Scotland, or two-year Masters programmes seen elsewhere. In some jurisdictions, the once traditional route of a one-year top up DipEd is now being phased out in favour of Masters qualifications.[24] In some nations, such as Finland, the 'standard' ITE qualification is a Master's degree (Darmondy and Smyth 2016)

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[21] https://www.ucas.com/postgraduate/teacher-training/apply-through-ucas-teacher-training/ucas-teacher-training-preparing-interviews

[22] The works Ackley et al. 2007 cite on this are largely from the 1990s: Shechtman and Godfried (1993), Jablonski (1995), Featherstone (1993) and Pascarelli et al. (2001).

[23] Darmondy and Smyth (2016) cite Haberman (1987), Jacobowitz (1994), Malvern (1991), and Shechtman (1992), among others.

[24] There are also non-ITE Masters programmes in education that practicing teachers may take as part of their professional development.

Entry to graduate level ITE programmes requires at least a bachelor's degree with a certain minimum GPA, often accompanied by school subject combinations and an interview. For example, in **Ireland**, the requirements for consecutive ITE primary qualifications are similar to those for undergraduate courses, including:

- a grade C3 or above in Higher Level Irish; a grade D3 or above in Mathematics (Ordinary or Higher level); and a grade C3 or above in English (Ordinary level) or grade D3 or above in English (Higher level) in the Leaving Certificate;
- an interview; and
- a high degree of fluency in in Irish as evidenced by passing an Oral Irish Examination. (Darmondy and Smyth 2016: 66).

To qualify to teach in post-primary schools, Irish ITE students need to complete the Professional Master of Education (PME) which requires a Level 8 qualification (Honours Bachelor Degree) for entry (Darmondy and Smyth 2016) and a combination of high grades in Irish, English and Maths (see Table 4, below).

Table 4: Minimum Required Subject Grades for Entry to Professional Masters in Education (PME) (Primary Teaching) in Ireland[25]

Subject	Irish	Mathematics	English
Minimum Grade (new 2017 Scheme)	H5	H6 or O6	O5 or H6
% Mark	50%-59%	40%-49%	50%-59% or 40%-49%

H—Higher Level
O—Ordinary Level

In **Australia**, the one-year graduate ITE qualification (often a Graduate Diploma in Education) is generally being phased out in favour of Masters qualifications. The Australian Institute for Teaching and School Leadership (AITSL) now mandates that all initial teacher education courses must be at least two years,[26] meaning that the 'traditional' one-year DipEd for graduates has become a thing of the past. The implication is that a one-year programme is insufficient time for candidates to develop the necessary pedagogical and other skills. Masters level ITE programmes however, have proliferated. For example, Deakin University offers a number Master of Teaching programmes (including Primary, Primary and Early Childhood, Primary and Secondary). Qualification for entry to these requires a Bachelor degree and undertaking the CASPer test (described above). For Early Childhood the prior degree can be in either education or another discipline.[27] Entry into secondary level courses requires a degree in a *different* discipline, specifically:

> Secondary Teaching applicants must meet the requirement for prior studies from disciplines that enable them to qualify for either two single teaching methods or one double method, in secondary teaching areas offered at Deakin University …[28]

[25] https://www.education.ie/en/Education-Staff/Information/-New-Teachers/Entry-Requirements-Professional-Master-of-Education-Professional-Masters-in-Education-Primary-Teaching-.pdf

[26] https://www.aitsl.edu.au/deliver-ite-programs/standards-and-procedures

[27] http://www.deakin.edu.au/course/master-teaching-early-childhood

[28] http://www.deakin.edu.au/course/master-teaching-secondary

Also in Australia, the University of Melbourne only provides specialist teaching qualifications (of all disciplines) at postgraduate level. This includes several Masters of Teaching qualifications, the entry requirements of which are not readily evident.[29]

The value of more highly qualified teachers (either for ITE, CPD purposes, or as a prerequisite for ITE entry) is not universally accepted despite there being 'several countries where it is becoming expected that new teachers will either enter the profession with a Master's degree or swiftly move towards it' (Menter and Hulme 2011: 395). Although Graham Donaldson recognised the potential for Masters level qualification, he did not recommend that should be a standard requirement (Donaldson 2011; Menter and Hulme 2011). Furthermore, as (Wright 2015: 2) notes:

> the evidence in favour of requiring higher degrees for entry into ITE is inconsistent, despite such level of qualification being expected in some successful systems such as that in Finland. Possession of a Masters level degree by the teacher does not translate into higher gains in mathematics and reading for elementary (primary) students (Hanushek, 2011; Harris and Sass, 2011). In some studies higher degrees in subjects like mathematics have actually been associated with negative gains in student achievement (Zuzovsky, 2009) … It seems that *gaining a higher degree does not necessarily translate into stronger content knowledge and pedagogical content knowledge for pre-service teachers*. (emphasis added)

3.5 *Fast track routes to teaching*

The shift from university-based ITE to school-based training has characterised the sector in England. School Direct and Teach First now dominate. Teach First is part of a broader global movement of education reforms that fall under the umbrella of *Teach for All*. There are now Teach for ... programs in 48 countries around the world.[30] Teach First and related programs aim to take high achieving graduates from a range of disciplines and provide them with short, intensive training (of 6 weeks) before placing them in schools, often in 'challenging' circumstances. Teach First students are obliged to teach for a minimum of 2 years, after which time they are free to pursue other careers. Tellingly, the TF programs are explicitly named *Leadership Development*.

This approach to ITE has been criticised[31] on many fronts including the relatively high rate of attrition among its alumni (Donaldson and Johnson 2011). Given TF's broader focus on 'affecting social change through the development of leadership skills and social entrepreneurs' (Parker and Gale 2016: 2), the emphasis is not on educating future teachers but rather on 'serving the career interests of its trainee teachers' (Parker and Gale 2016: 2). As has been noted:

> The relatively high attrition rate [of TF], then, is not simply an unfortunate and unforeseen side effect, but it is a fundamental part of the programme itself. Teach First, as the name suggests, is designed to be a stepping stone to other careers where graduates can apply their 'inspiring leadership' skills to other ventures ... (Parker and Gale 2016: 4)

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[29] https://education.unimelb.edu.au/masterofteaching

[30] https://teachforall.org/network-partners

[31] The critical literature on TF, especially in the US, is legion. See Parker and Gale (2016) for an extensive, but incomplete list.

As Ellis et al. (2016: 61) have put it, TF is about teaching *other people's children*, *elsewhere*, and *for a while* only.

TF has also come under fire for its deficit account of both existing education systems and structures (including ITE provision), and of the students it aims to assist. At a rhetorical level TF's approach to teaching and ITE is 'built on want, need and ultimately deficit. There is no detail of what these sorts of schools and students have to offer' (Ellis et al. 2016: 68). The model of teaching put forth in TF training is one that has been disputed, debated, and largely discredited by scholars in the field. In summary, this research indicates that:

- It is unclear whether or not TF increases the supply of teachers at a systems level;
- TF teachers have higher rates of attrition than teachers in general;
- Teaching is considered by TF as a temporary proposition and an intermediary step.

Similarly, Teach For Australia is also criticised as being very costly for government, creating high levels of stress among its students (Dandolo Partners. (2017), and as not producing teachers any more effective than those trained through traditional routes.

4| Equity and social justice issues

Tightening entrance criteria for ITE programmes also has implications for social justice, equity of access and widening participation. In general, more selective universities tend to admit fewer students from lower socioeconomic (SES) backgrounds. For example, in the 2008 review of Australian higher education (Bradley et al. 2008: 30) noted that :

> A student from a high socio-economic background is about three times more likely to attend university than a student from a low socio-economic background. The current access rate for this latter group is about 16 per cent, and has remained relatively unchanged since 2002.

Furthermore, this low participation rate is compounded when considering institution type, with high equity / low status institutions enrolling significantly more low SES students than low equity / high status universities, as illustrated in the table below.

Table 5: Low SES Domestic Undergraduate, Selected 'elite' and 'equity' Institutions

	2009	2010	2011	2012	2013	2014	2015	2016
Macquarie University*	6.2%	6.6%	7.0%	7.2%	7.7%	8.0%	8.6%	9.1%
Western Sydney University**	22.8%	23.5%	23.7%	24.3%	24.9%	24.9%	25.4%	26.0%
The University of Melbourne*	7.5%	7.7%	8.5%	8.4%	8.9%	8.7%	8.8%	8.7%
Victoria University**	21.4%	21.3%	21.6%	19.3%	19.8%	20.3%	20.7%	21.7%
Central Queensland University**	47.0%	47.1%	46.0%	53.0%	51.1%	50.3%	50.1%	50.7%
The Australian National University*	4.1%	4.4%	4.4%	4.1%	3.9%	3.9%	4.1%	3.9%
Sector	**16.2%**	**16.5%**	**16.8%**	**17.1%**	**17.3%**	**17.5%**	**17.7%**	**17.9%**

* high status; low equity
** low status; high equity
SEIFA 2011 methodology, except 2009-2011 data, which are SEIFA 2006 methodology
Source: Australian Department of Education, Selected Higher Education Statistics, various years

Similarly, in the UK Moran notes that:

> patterns of participation in higher education are highly influenced by family background and early experiences, and the grades that students achieve are strongly stratified in terms of ethnicity, social class, gender and a variety of other socio-economic factors. (Moran 2008: 64)

In Scotland specifically, the representation of people from the most deprived backgrounds is relatively low and concentrated in newer, teaching focused institutions (CoWA 2015). The Commission on Widening Access noted that the 'institutions with lower representation of SIMD20 [most deprived] entrants are often, but not exclusively those that have the highest entry requirements in terms of school grades …' (CoWA 2015: 21).

In regards to the specific effects of pre-ITE testing, Menter et al. noted that disadvantage can be further entrenched by selection tools:

> Where testing systems operate they have been challenged on equity issues. Records of US licensure tests show lower success rates for black and Hispanic candidates, impeding policies to widen access to the profession. In a review of UK and US research literature on widening access to initial teacher education, Moran (2008) notes that many dimensions of teacher effectiveness,

> especially those associated with successful practice in high needs schools, are not reliably indicated by tests of academic ability. (Menter et al. 2013: 27)

Access to ITE, and in turn to the teaching profession, for those from lower socioeconomic backgrounds has further implications for the extent to which schools are inclusive and equitable. Mills (2009: 279) notes that 'As populations in contemporary Western societies grow more diverse, the need for teachers to better understand and work with difference productively becomes increasingly critical'. Yet the demographic profile of teachers in many nations, such as Canada and Australia, remains predominantly white and middle-class and excludes minority groups such as Aboriginal and Indigenous populations (Holden and Kitchen 2016/17; Holden et al. 2016; Childs and Ferguson 2015; Childs et al. 2011). The cultural incongruence between teacher and pupil may lead to negative stereotyping of young people from disadvantaged backgrounds, contributing to alienation and undesirable educational outcomes (Mills and Gale 2010; Delpit 1995).

In this context, DeLuca (2012) advocates not only making recruitment to ITE more inclusive, but devising measures that select potential applicants that have a disposition for inclusive teaching practices. DeLuca's research indicates that while such inclusive recruitment is well intentioned, this can be undermined by a lack of shared conception of what counts as 'inclusive'. This can result in reduced validity and reliability of the entry measure compared with more 'objective' criteria, such as test scores. However, as noted below, the 'subjective' assessments of suitability are highly important as they can articulate the underlying values of ITE programmes.

5| Conclusion

This literature review has outlined some of the various methods by which potential ITE candidates can qualify for entry. While high school achievement levels (A Levels, ATAR, Highers etc.) are significant and important, other criteria such as general literacy and numeracy tests are the most common criteria used in many national contexts (Denner et al. 2001). The introduction of these examinations has in part been driven by the (arguably overstated) concern that ITE programmes do not have sufficiently rigorous entry standards, and that too many people enter ITE who are either academically underprepared or otherwise unsuitable. This has been particularly true in Australia where the conservative media and conservative politicians have undermined public trust in ITE and the teaching profession. The same discourse has been evident in England (see DfE 2010) and to a lesser extent Scotland (Donaldson 2011; McKechan and Day 2015), though perhaps expressed in less strident and more measured terms (Menter and Hulme 2011).

There is mixed evidence about the efficacy of these tests in producing more 'effective' teachers. Standard measures to assess ITE candidates for teaching have very limited predictive validity (Ackley et al.2007; Thomas et al 2015), and are often not very useful in identifying non-cognitive abilities (Dore et al. 2009).

Much of the research on the effectiveness of teachers also relies on the assumption of a linear relationship between what teachers teach and what pupils learn. As discussed above, this assumption has dominated politically driven critiques of teacher education in a number of countries, critiques that have played a significant role in casting teachers (and ITE) as the 'problem'. There is a great deal of literature that emphasises the importance of the socioeconomic contexts of pupils and the schools they attend, and that argue that the effects on achievement cannot be reduced to the abilities of the teacher (e.g. Berliner 2013, 2014; Skourdoumbis 2012, 2014; Thrupp 1999; Thrupp et al. 2002).

Finland has perhaps the most elaborate admissions mechanism with multiple stages and only a small proportion of applicants being successful. That nation also scores well on PISA (Sellar and Lingard 2014) and other international large-scale assessments, and is generally regarded as having a high quality education system from which other countries should learn (Sahlberg 2011). This might suggest that greater selectivity in ITE programme entry is required for improved educational outcomes. However, this reduces the benefits and purposes of education to what counts in these large-scale assessments rather than what a particular country may value in their education system and what 'capabilities' it enables (Gale and Parker 2017; Sen 2009).

5.1 *Recognising the complexity, context and value-laden nature of ITE*

The lack of clear consensus (Holden et al. 2016) regarding what constitutes a suitable mechanism for assessing entry to ITE highlights the complexity of the issue. Different measures may serve particular needs—for example, minimum academic standards can 'serve as accountability function by providing objective evidence to policy-makers that only academically talented candidates have been admitted' (Denner et al. 2001: 166). But quantitative measures alone are unlikely to satisfy all stakeholders or encompass all the desirable characteristics of ITE students (Katz and Frish 2016).

As Katz and Frish (2016: 467) argue, it is very difficult to specify precisely what academic skills, personal competencies, and attitudinal dispositions are required to be an effective teacher:

> Even if more empirical research were available about quality characteristics of teachers, it would never be able to provide definitive criteria for policy makers in relation to recruitment of teachers because *teaching is such a complex, value-laden social and political activity*. Aspects of intellectual competence would not be sufficient for quality teaching, as some of those accepted for teaching programs are not always fit for teaching … On what basis has the profession made decisions about who is fit to teach? How can we assess those who should be allowed to teach? The reality is that *teaching requires a mix of intellectual and personal qualities*, such as being adaptable, questioning, critical, inventive, creative, self-renewing and oriented to moral principles. Profiles based on assessment of all these qualities do not exist. (emphasis added).

Reaching consensus on these elements must therefore be sensitive to context, and pay due regard to broader societal norms regarding the value and purposes of education, as well as the values that underpin specific ITE programmes (Biesta 2010). This consideration needs to include norms that go beyond an instrumental conception of education as simply training for a place in the economy. The values of social justice and education for its own sake that have historically been part of Scotland need to inform the values and dispositions that teacher educators look for in potential teachers.

This values-based approach might be contrasted with a 'policy borrowing' approach (Lingard, 2010) where 'evidence-based' 'best practice' from other nations is transposed to new contexts. Finnish scholars (Malinen et al., 2012: 568) counsel against replicating their ostensibly successful education system elsewhere: 'we do not believe that simply modelling Finnish practices in some other cultural and geographical contexts would automatically result in higher rankings in school system league tables'.

The need to be aware of and to articulate the purposes and values of Scottish education is paramount and ought to take precedence over evidence from 'what works' in other contexts. As Biesta (2007) cautions, following a

> 'what works' agenda of evidence-based practice is at least insufficient and probably misplaced in the case of education, because judgment in education is not simply about what is possible (a factual judgment) *but about what is educationally desirable* (a value judgment). (Biesta 2007: 10; emphasis added)

Caution must also be heeded when following research that attributes causal relationships between particular student characteristics or entry criteria, and measures of student achievement.

Furthermore, given the inconsistent and variable evidence on the effectiveness of various entry requirements, it is important to place the emphasis on the competencies of ITE students once they move into the teaching profession. This involves maintaining a focus on what is taught *with* ITE.

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