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WHO TEACHES THE TEACHERS?

Reforming Initial Teacher Education in New Zealand

Michael Johnston and Stephanie Martin

THE NEW ZEALAND INITIATIVE

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The New Zealand Initiative is an independent public policy think tank supported by chief executives of New Zealand businesses. We believe in evidence-based policy and are committed to developing policies that work for all New Zealanders.

Our mission is to help build a better, stronger New Zealand. We are taking the initiative to promote a prosperous, free and fair society with a competitive, open and dynamic economy. We are developing and contributing bold ideas that will have a profound, positive and long-term impact.

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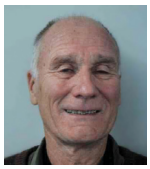
Foreword



Initial Teacher Education (ITE) in New Zealand has never been ideologically neutral. Neither has it been so politicised as in recent decades. A report on teacher education and training prepared for the Business Roundtable by Geoffrey Partington (1997) described teacher educators as being "several notches" to the "left" of the general public. He drew particular attention to what he termed the "ideological capture" of ITE by reconstructionist and child-centred clusters seeking to counter the alleged evils of capitalism. Some 26 years later, this report by Michael Johnston and Stephanie Martin highlights the ideological capture of ITE by those who promote cultural essentialism, identity pedagogy, and constructivism.

Elizabeth Rata defines culturalism as an ideology that; "…promotes a belief in the foundational status of racial/ethnic or religious/cultural groups with their distinctive 'knowledges and ways of being.'[1] Within education, culturalism also plays a significant part in supporting the dominance of relativism, identity focused pedagogy, and constructivism.[2] Paradoxically, its adherents appeal to the Enlightenment ideal of human rights. Whilst disillusionment with culturalism has gained momentum in the United Kingdom in recent years, educational and governmental promotion of the Treaty of Waitangi has muted reaction in New Zealand. Within ITE, culturalism, relativism and constructivism enjoy widespread acceptance, being strongly endorsed by many teacher educators as the only legitimate vehicle by which schools might achieve the elusive goal of social justice.

Enthusiastically promoted by its designers and many teacher educators as the answer to Māori educational underachievement, the government-funded Te Kotahitanga professional development programme furnishes an illustrative example. A questionnaire developed by the Post Primary Teachers' Association (PPTE) aimed at measuring teacher reaction to the programme, however, found that school principals, under intense political pressure to ensure the programme's success, sometimes demanded absolute and unquestioning commitment to the programme's proclaimed culturalist, Kaupapa Māori ideology whilst demonstrating "vehement" opposition to any other explanation for underachievement.[3] Today, it seems that teachers are increasingly encouraged to view student cultural identity as central to pedagogical practice. Alexis Siteine has recently demonstrated that the type of knowledge to which primary school students currently have access is largely determined by how students are ethnically identified by their classroom teacher.[4] Hence, universal academic learning for all is subordinated to an individual's perceived cultural needs.

A similar culturalist dominance is manifested in contemporary curriculum design, an area in which teacher educators have traditionally exercised considerable influence. Christopher Lynch argues that culturalist ideology has impacted detrimentally upon secondary school science, with negative results for student achievement.[5] This is because, whilst culturalism holds that all ethnic understandings are equally valid, "Western" knowledge is largely excluded on the basis that it is synonymous with Western imperialism. As a result, traditional science teaching is increasingly marginalised. It has even recently been claimed that the new science curriculum has little actual science in it.

Within ITE, the progressive downgrading of content knowledge originated some decades ago.

In the mid-1990s, M.R. Matthews raised significant questions about constructivist approaches to the teaching of science, which placed the child's understanding of the world at the heart of the learning process, even superseding existing research in the field.[6] His conclusions, however, were fiercely resisted from within New Zealand's already well trenched ITE establishment.

Changes in the way science is now viewed within ITE, has parallels in curriculum elsewhere. Prominent Pacific historian Kerry Howe observes that, beginning in the 1980s, culturalist advocates in academia sought to reduce Pacific history to a "…simplistic morality play where the evil colonisers subdue and victimise innocent 'indigenous' peoples.[7] From the culturalist standpoint Māori were "…rural, communal, caring and cooperative, spiritual, non-materialistic," whilst European colonisers and their descendants were: "…urban, individualistic, selfish, materialistic and aggressive.[8] As a result, there is a strongly binary "oppressor/victim" approach to European colonisation in the compulsory Aotearoa-New Zealand history curriculum. The allocation of praise and blame is a distinctive feature, with students being encouraged to reach essentially predetermined conclusions.

It is not only the formal curriculum that has been affected by the spread of culturalism throughout the education sector. The central place of compulsory karakia in many schools provides an outstanding example of historical progress in education being effectively reversed. In previous centuries emerging state education systems blended the secular and the religious until, beginning in the mid-nineteenth century, legislation was progressively introduced to maintain the distinction.[9] However, within New Zealand public schools and in ITE today, the sharp demarcation between religion, spirituality and Māori ways of knowing is, once again, becoming blurred. The presence of karakia in the corporate life of the school is commonly upheld in terms of respect for Māori culture and hence, social justice. For this reason, teachers and students who refuse to take part are sometimes labelled culturally insensitive or even racist. This situation was exemplified at Kelston Intermediate School in 2013.[10]

In questioning the dominance of culturalist ideology amongst teacher educators, Michael Johnston and Stephanie Martin point to existing regulatory processes both within ITE and in the wider education sector it supports. Some 37 years ago, Peter Ramsay, a member of the Picot taskforce remarked upon the extent and influence of centralised bureaucratic controls.[11] The contemporary Ministry of Education has clearly inherited this characteristic. Changes in the way school curricula are developed and conceived is a good example. Whilst further research is needed, there has been a decisive shift away from curriculum committees largely comprised of individuals possessing particular subject expertise, in favour of reaching desirable equity outcomes as conceived by a new generation of moral entrepreneurs. The result has seen curriculum committees increasingly dominated by largely self-proclaimed advocates for particular constituencies they claim to represent, such as Māori, Pasifika, women, trans-gender and other interest groups. This shift directly impacts, not only the content and delivery of curricula to students, but also the ways in which teacher professionalism is now conceived.

Whilst, once again, further research is necessary, Archives New Zealand files accessed by the author document the increasingly rapid spread of culturalism within the education sector, and especially within ITE through what can best be described as a process of "conscientisation."[12] Beginning in the early 1970s, conscientisation amongst those who were to later to become the nation's key educational leaders was in certain respects, akin to the process of religious conversion. Significant vehicles of conscientisation included compulsory *marae* visits and in-service courses, supported by a growing number of influential

educational reports that endorsed culturalist, relative and constructionist values. Central to conscientisation was the necessity for teachers to confront their alleged racism through radically changed pedagogical priorities and practices.

Whilst, following the mergers of the 1990s, ITE has been largely taken place within universities, here too, and at much the same time, the rapid conscientisation of tertiary educators was encouraged by the appearance of a new generation of radical textbooks.[13] Contributors to these texts typically invited teacher educators and academics to change their practice, based on a new, politically correct, theoretical model – one that drew special attention to alleged systemic inequalities based largely on race and culture. This development was accompanied by key changes in tertiary governance, which saw institutional bureaucracies exercising ever tighter controls over research, aided by the establishment of institutional human ethics committees. These, it should be noted, reflected the same characteristics of capture by interested parties to the new curriculum committees described above. Hence, any advantages that might have been expected from university control of ITE through independent scholarship was to be largely nullified. In this context too, one might note the recent attempt by Massey University authorities to ban former National Party leader Don Brash from speaking on campus, together with the abrupt decision of Auckland University authorities to prohibit further debate on campus over Māori science following pressure from committed culturalists.[14]

Whether one agrees or not with the recommendations Johnston and Martin advocate in their report, they are right to emphasise the need for informed debate regarding ITE, and specifically, the ideological directions in which ITE, and the education system into which it feeds beginning teachers, is currently being taken. If teacher educators react to such calls through outrage and name calling, there may well be stronger public and political pressure to reduce ITE to an instrumentalist extreme. In this context, it is encouraging that Johnston and Martin have largely refrained from recommending such an option. Regardless of where and when those intending to become teachers are exposed to courses in educational foundations, contributory disciplines such as history, sociology, philosophy and psychology can, and must, continue to make major contributions to the wider professional milieu. This, however, can only bear fruit if teacher educators are willing and able to step down from the pulpit and instead, embrace genuine evidence-based research that might better enable ITE students to make genuinely informed choices, independent of entrenched ideology.

Emeritus Professor Roger Openshaw

Executive Summary

How well do New Zealand's initial teacher education (ITE) programmes prepare new teachers for the classroom?

At present, approximately 90% of primary and secondary teachers complete their professional qualifications at universities. Yet, both the structure of university-based ITE and its pedagogical ethos have a number of serious flaws.

The coursework components of these programmes are dominated by social constructivist and 'social justice' theory. They have almost no focus on scientific understanding of human learning. In Chapter 5 of this report, we present a thematic analysis of every course offered in teacher education programmes in New Zealand universities. Less than 1% of the thematic descriptors we analysed showed evidence of a focus on the science of learning. More than 30% were associated with a socio-cultural focus. Yet, there is little evidence that pedagogy based in sociocultural theory is effective.

Primary school teachers are not being prepared well by university programmes to teach the foundational skills of literacy and numeracy. This leaves too many young people ill-equipped to succeed at secondary school, and to function successfully in society and employment as adults. In mathematics, far too many primary teachers lack basic numeracy knowledge themselves and many more lack the pedagogical skills to teach either literacy or numeracy effectively.

Teachers-in-training in university programmes receive too little practical experience in classrooms – often as little as 16 weeks. Furthermore, because this practicum experience occurs in blocks, classroom experience is disconnected from the theoretical components of the programmes.

The academic staff who deliver university-based ITE programmes spend little time observing teachers-in-training during these practicum blocks. Often, even the limited observational time allocated to each student is conducted by external contractors. In part, this is because, following the mergers of the former Teachers Colleges with universities in the 1990s and 2000s, teacher educators became academics. As academics, they now have a responsibility to carry out and publish research, in addition to their teaching duties. As a result, they lack time to conduct as many classroom observations as would be desirable.

The primary responsibility for managing, mentoring and assessing teachers-in-training during the practicum experience rests with Associate Teachers, who themselves might have as little as two years classroom experience. This, inevitably, results in inconsistency in the quality of practica and unreliability in their assessment.

The most effective lever to improve the quality of ITE programmes is to reform the *Standards for the Teaching Profession* set by the Teaching Council. Teachers must be registered and certificated by the Council to practice lawfully. To become fully certificated, teachers must complete two years of classroom practice under provisional certification and be assessed as meeting the *Standards*.

If the *Standards* specified that teachers must have sound, evidence-based, pedagogical knowledge, and have demonstrated an ability to deploy that knowledge fluently and consistently in the classroom, then ITE providers would have to prepare teachers-in-training accordingly. If they did not, their graduates would not be certificated.

Unfortunately, the *Standards* are vague. They do not require teachers to prove to an expert observer that they are causal in young people's learning. They do not require graduates to demonstrate pedagogical content knowledge in the subjects they will later teach. Furthermore, like the assessment of practica in ITE programmes, assessment of provisionally certificated teachers against the *Standards* takes place at a school level. This comes with an inevitable lack of reliability, as experience with National Standards during the 2010s attests.

The *Standards for the Teaching Profession*, then, are key to reforming ITE. This presents a dilemma. The Teaching Council is a professional body established under the *Education and Training Act 2020*. Under the provisions of The Act, a majority of Council members are elected by teachers. The *Standards*, then, are under professional control. A move by a Minister of Education to enforce reform of the *Standards* would politicise them and, thereby, deprofessionalise teachers.

Arguably, the parlous nature of the current *Standards* might warrant such a political move. But it would open the door to future political interference with the teaching profession, that may be less defensible. It is highly desirable that the teaching profession maintains ownership and control of its professional standards. Unfortunately, the *Standards* are unlikely to be reformed while the Teaching Council retains its current hegemony over registration and certification.

In this report we argue that the *Education and Training Act* should be amended to enable more than one professional body for the teaching profession to be established. The aim is to promote competition between different bodies. Those whose standards most reflect effective classroom practice would attract teachers to register with them. This would provide strong incentives to ITE providers to prepare teachers-in-training to meet these more rigorous standards. This approach would require the collection and publication of evidence on the educational progress made by students being taught by teachers certificated under each set of standards. This would enable prospective teachers to make informed choices about which standards and teaching bodies to register under.

This approach, if adopted, would not yield immediate improvement. It will take time for new professional bodies to be established and to gather evidence on the performance of their respective standards. Furthermore, some sets of standards are likely not to perform well. Even so, this approach is more likely to produce durable change than a political approach. In the medium term, only the most effective sets of standards would remain, and all ITE providers would need to prepare their graduates to meet them.

In addition to reforming teachers' professional standards, greater competition for the universities in the provision of ITE is desirable. One reason for the near monopoly of Universities on ITE for the compulsory education sector, is an expectation that teacher educators will be active researchers. This expectation can only reasonably be met by universities, where research nominally accounts for 40% of academics' full-time workload. It is, however, largely a distraction from the delivery of ITE and precludes academics involved in ITE from spending sufficient time overseeing practica. Critically, it may also establish an expectation that ITE qualifications should be taught only by academics.

This was not the case before the Teachers Colleges merged with universities. Teacher educators certainly need to be research-informed, but it is not necessary for them all to be active researchers themselves. Indeed, this has arguably been a distraction from their core ITE roles.

The best way to relax the expectation for university ITE staff to be research-active would be to remove them from the denominators for the Performance Based Research Fund.

In addition to removing a potential barrier to non-university providers having ITE qualifications registered on the New Zealand Qualifications Framework (NZQF), it would free staff in universities' Schools of Education to focus on delivering ITE programmes.

Recommendations

1. Registering and certifying teachers

The *Education and Training Act 2020*, which established the Teaching Council of Aotearoa New Zealand, should be repealed and replaced with legislation setting out:

- Rules for establishing a professional registration and certification body for teachers.
- Requirements for the composition of governing boards for professional teaching bodies.
- Mandatory roles of professional teaching bodies.
- Mandatory characteristics of professional standards for teachers.
- Parameters for ways in which teachers must be assessed against professional standards to gain and renew certification.

2. Encouraging new approaches to ITE

ITE staff in universities should be removed from the denominators for the Performance Based Research Fund, allowing them to concentrate on their core roles as teacher educators. This would eliminate the expectation that teacher educators should be research active. Teacher educators should, of course, be informed by valid, reliable and generalisable research on the practice of teaching.

3. Associate and mentor teachers

Accreditation of Associate Teachers overseeing the practica of teachers-in-training, and of Mentor Teachers for provisionally certificated teachers, should require minimum levels of experience. Accreditation should also depend on demonstrating a high level of pedagogical and curriculum knowledge. This accreditation would ideally be implemented in tandem with that of a four-tier career structure for teachers. Promotion to the third tier should qualify a teacher to be an Associate, and promotion to the top tier should qualify a teacher to be a Mentor. These roles should be accepted responsibilities of teachers at those career stages.

A first-hand account of primary ITE

Stephanie Martin

I decided I would become a primary school teacher when I was seven years old. My tale would be familiar to many teachers: I was impacted, at a crucial moment in my life, by the positive influence of an amazing teacher. Perhaps out of a sense of cosmic gratitude, or perhaps because it's inherent in my nature, I resolved that I wanted to have the same influence on others. I felt teaching would allow me to care for young people, to nurture their growth, and inspire them with a love of learning that has always been intrinsic to me.

After an interval of postgraduate work in Ancient History, I committed myself to primary school teaching. I signed up for a new teaching degree, the Master of Teaching (Primary) at the University of Auckland. I had just completed a Master of Arts at the same university and had spent a number of years tutoring in the tertiary setting. My experiences teaching in that context had been decidedly positive and had confirmed that teaching was a worthwhile and appropriate path for me.

Entering the degree, I expected to learn about the fundamentals of human learning and the practical aspects of being a classroom teacher. I expected to be steeped in the science of learning and educational psychology. I expected to learn how to plan, assess and mark students' work, how to unpack the curriculum and to sequence my teaching effectively. I was hopeful that we would learn strategies for managing behaviour in the classroom and supporting positive interpersonal relationships between young learners. Some of these things were covered in the programme, albeit in a somewhat piecemeal way. Other things, though, especially insights from the science of learning, were missing.

The Masters programme I enrolled in had been specifically designed to address the underachievement of 'priority learners' (Māori and Pasifika children, children from low socioeconomic areas, and children with special needs). The entire degree was specifically crafted around ideas that, our lecturers believed, would enable these marginalised groups to experience greater success. Its orientation was more sociological than scientific. It was not focussed on the universals of developmental psychology or the science of learning. In fact, the idea that human beings learn similarly, regardless of culture, was side-lined.

Instead, concepts of 'social justice' underscored the programme. We were introduced to Grudnoff's Facets of Practice for Equity, which describes aspects of teaching practice that, if enacted, would ostensibly support 'equitable' learning experiences.[15] These practices formed the basis of a majority of our assignments. Notably, though, we were never presented with evidence that this practice would produce the desired effects. Indeed, the very concept of scientific evidence was held to be suspect. My peers and I were actively encouraged to reject the scientific worldview, which was, pejoratively, cast as 'Western'. It occurred to me as ironic that, in a course about teaching science, the scientific worldview itself was deconstructed and undermined.

Over time, it has become increasingly clear to me that the *Facets of Practice for Equity* provided a mechanism to leverage social justice ideology into my teacher training. In our assignments we were repeatedly asked to demonstrate how we were embodying Grudnoff's *Facets* in our

developing teaching practice. We were marked more positively if our lecturers considered us to be exhibiting them more enthusiastically. In this way, I was essentially forced to adopt a social constructivist philosophy and social justice values as if they were my own.

The assignments I produced during this time illustrate the kinds of ideas I was being encouraged to challenge, and those I was exhorted to adopt. One example, drawn from an assignment I produced for a science teaching paper, reads:

> The scientific worldview which informed my teaching in this lesson sequence was, in reflection, very much the mono-worldview orientation which Fleer (1997) criticised. The kind of knowledge which Jane[16] and I sought to convey, and the way we sought to engage children in the learning process, relied fundamentally on our own Western worldviews. This represents a real challenge … we as teachers are implicitly encouraged to do this, since our curriculum implores us to teach particularly Western ways of knowing … we are also as individuals limited by what we can conceive; we cannot possibly impart to children a kind of worldview which we do not possess.

One of the first papers we undertook was *Te Ao Māori* (the Māori worldview). We learned te reo Māori and were taught about historical challenges faced by Māori communities, including language loss and the marginalisation of young Māori in the education system. We were given an assignment to design a lesson for a small group using Te Aho Arataki Marau mō te Ako i Te Reo Māori – Kura Auraki, the Te Reo Māori curriculum.[17]

I didn't really question any of this. Something began to feel uncomfortable, though, when I was asked to write an assignment that required me to reflect on my own 'locatedness,' the privileges inherent in my experience and how these might influence my interactions with Māori learners. Like many in the programme, what we had learned in the weeks prior had set off an internal chain-reaction of 'white guilt.' My privileges felt like marks against me, for which I had to repent and apologise. I articulated this guilt in my assignment. I poured my heart into it. I was self-effacing and remorseful. Yet, the feedback I received indicated that my markers were not sufficiently pleased with my efforts. I had not been self-effacing enough. I had failed to convince them that I was *really* sorry for my identity and the advantages they assumed it had afforded me. I felt, directly, from my lecturers to *me*, specifically *me*, that my guilt wasn't guilty enough. I hadn't expected to be made to feel that way, especially given my reasons for pursuing teaching to begin with.

In a sense, I get it. Deficit beliefs about Māori learners exist in the teaching profession, and they are terribly detrimental to those learners. But undermining and belittling prospective teachers who are not Māori, and rejecting evidence-based practice as 'colonising,' will not improve their situation.

Something that my lecturers got very right, and which has stood me in good stead in my teaching practice, was the sense of personal agency that they sought to imbue in us. We were taught about the psychological mechanisms of self-efficacy, a theory developed in the 1970s by Albert Bandura (described in greater detail in Chapter 4). Self-efficacy describes the beliefs that individuals hold about whether they can successfully perform a specific task. We were asked to write reflections of various teaching experiences and analyse their influence on our self-efficacy and practice. The exercise provided us with understanding of a psychological concept that is crucial to teaching and learning. It encouraged us to see ourselves as active agents in the teaching process. We recognised that, in terms of learning, the locus of control was us – the teachers – and that we were responsible for causing learning to occur. Unfortunately, as we

will see later in this report, there is little evidence that concepts like self-efficacy are prominent in most current ITE programmes. Yet this, much more than 'social justice' theory, was what would equip me to support struggling learners.

Another strength of my degree programme was a close connection between the university-based assignments and the practica we were placed in. This was a unique feature of the Masters-level programme. At least two days of every week during the school terms were spent in classrooms on practicum, in addition to lengthy, full-time blocks each semester. It was this structure that enabled the close connection between the theoretical and practical aspects of the programme. Many of our assignments had us engage in practical teaching sequences; for example, planning and teaching a small group lesson. Sometimes we were asked to collect examples of children's work to serve as formative assessment. This gave us useful experience in the everyday processes of collecting information, reflecting on it, and using it to plan subsequent lessons. Unfortunately, typical graduate diploma programmes, which comprise a majority of teaching qualifications in New Zealand, separate coursework and practica into 'blocks,' each of several weeks' duration. These blocks are essentially 'islands,' that give little insight into long-term teaching cycles. They do not facilitate a close and ongoing connection between coursework and practica.

When I graduated and commenced my first full-time teaching role, I was quickly confronted by all the holes in my training. Teaching involves a lot of pragmatics, and I didn't have the knowledge base to enact them. A large majority of my content knowledge had been gathered during my practicum experiences. Yet I found myself teaching in a Year 4 classroom, after spending the bulk of my practicum in a mixed Year 1 and 2 class. This meant that all the Junior School content knowledge I had gained was of little use. And because I didn't have the generalised content or pedagogical knowledge that I needed to plan for other year groups, I found myself essentially having to start all over again.

In one of our early meetings, my Mentor Teacher[18] asked me what I was planning to teach in my mathematics programme when the new term commenced. I realised that I had absolutely no idea, nor any concept of where to begin to work it out. I didn't know the stages of learning that these children would likely be at. I didn't know what I should plan to teach them.

So, my Mentor Teacher planned with me. She showed me the assessment data for my students in the domain of mathematics. We perused the school's curriculum for the following term. She explained to me the relevant stages of learning for that domain. I was fortunate to have a Mentor Teacher who was patient, understanding, and generous with her time. But she should not have had to do this. I should already have known those key stages of mathematics learning and have been able to locate resources to help me to foster the development of those skills. I should have accrued that knowledge during my teacher training degree. I shouldn't have been able to graduate without it.

I did, throughout my training, have to provide evidence that I could enact aspects of teaching that were aligned with the *Graduating Teacher Standards*,[19] in relation to the individual learners and classrooms with whom I was working. But at no point did I need to demonstrate knowledge of curriculum subjects or the expectations for students at different year levels. Those things, I came to understand, I would need to teach myself.

My first two years in teaching were challenging. I undoubtedly benefitted from being in a supportive environment in which I always received my release time (allotted time outside the classroom for planning and professional development). I was offered high-quality professional development and held accountable to high standards. The workload was immense.

I was the last to leave school most days for at least eighteen months. A senior leader would regularly pop in and tell me to "go home" as 6pm approached. I hardly experienced weekends. But I was determined, I learned, and eventually I found my footing.

About three years after I began my first teaching role, the Deputy Principal of my school and I participated in a Learning Symposium at the University of Auckland. It took the form of a 'Socratic Fishbowl,' a model of conversational debate, in which twelve key speakers, including her and me, engaged in a structured conversation, with the input of the audience. I was, by that stage, working with a group of teachers-in-training who were struggling to navigate the practicalities of the classroom. Yet one speaker after another argued that what teachers-in-training *really* need to be prepared for the classroom, is more theory.

I might have agreed with them, had they been suggesting that more time be spent on scientific theory underpinning effective teaching – things like developmental psychology and the science of reading. But these were primarily speakers with backgrounds in sociology and social aspects of education. It quickly became plain that what they were really pressing for, was even more of the 'social justice' theory that I had encountered in my own training.

In light of my experience, and the experiences of the student teachers I was then working with, I couldn't help but feel that these academics were prioritising their own ideological perspectives above the needs of teachers-in-training, for whom they were supposed to be advocating. They were setting our next generations of teachers up to fail when they graduated. Whatever they said or believed, those new teachers were going to have to learn to manage the realities of the classroom.

Throughout my teacher training, and for my first few years of professional practice, I carried with me a belief that the gaps in my knowledge, and the immensity of workload that it created, resulted from my own deficiencies. I felt that I hadn't worked hard enough, hadn't absorbed the right information at the right time or wasn't managing my time efficiently. But the valuable lens of hindsight, and the sheer number of conversations I have had with others who had similar experiences, have made it clear that I was never the problem.

This is a system issue, and it is the system that needs to change. The gaps in ITE are being filled by through the hard work, perseverance, and personal sacrifice of the teachers it has let down. It is no wonder that so many teachers burn out and leave the profession. From the inside, it's hard to watch. And yet, there are solutions.

In this report we analyse the deficiencies in our current ITE model. We lay out a path towards a system in which new teachers would start out well equipped with the knowledge and skills they need to be successful for our young people, and less personally burdened.

CHAPTER 1

Introduction

Teachers are the single-most important component of any education system. Arguably, no profession makes as great a contribution to a country's future. A good teacher awakens in young people an appetite for learning and feeds them with knowledge. A poor teacher confuses and disengages even the brightest students. The way in which new teachers are selected, educated and prepared for the profession is thus of utmost importance.

As we will show in this report, New Zealand's Initial Teacher Education (ITE) programmes for primary and secondary schooling are overburdened by academic sociocultural theory. Most teachers-in-training receive insufficient classroom experience, often with only a loose connection to the coursework they undertake with their ITE providers. Associate Teachers – the teachers who oversee these practica – have often themselves been trained to use ineffective teaching methods. The ways in which the practical skills of teachers-in-training are assessed are often unreliable and insufficiently rigorous.

In New Zealand, universities enjoy a near monopoly in primary and secondary ITE. Our universities' Schools and Faculties of Education teach predominantly from sociological perspectives. This has contributed to social constructivism becoming the dominant pedagogical approach in New Zealand's schools, to the detriment of young people's learning. The science of learning and its implications for classroom practice is all but absent from university-based ITE programmes (see Chapter 5). Moreover, lecturers do not observe teachers-in-training undertaking their teaching practice frequently enough. The structure of ITE programmes does not typically coordinate the theoretical and practical components.

In *Save Our Schools*, Michael Johnston details many interconnected problems that beset New Zealand's failing school education system.[20] To sum up that report, the two crumbling pillars on which New Zealand's failing school system stands, are a deeply flawed curriculum and an inconsistent quality of teaching practice.

We need a new, knowledge-rich curriculum. But just as important as the curriculum is the quality of teaching practice. Without high-quality teaching, even the best curriculum will fail – because it is teachers who must implement it. Conversely, teachers with sufficient content knowledge and pedagogical skill can compensate for a flawed curriculum with their own expertise.

Such teachers exist in New Zealand. Thanks to excellent leadership and recruitment, some schools have whole cadres of such teachers. These are the schools that make a real difference, especially to students from disadvantaged backgrounds. But there are not nearly enough of these teachers to go around.

In his influential book *Visible Learning*, Professor John Hattie reported on a synthesis of more than 800 meta-analyses to determine the most important drivers of learning in schools.[21] He concluded that *collective teacher efficacy* is the greatest contributing factor to successful learning. Collective teacher efficacy is more than a common belief amongst teachers that they, as a community, have a positive impact on students' learning. As Hattie (2017) has explained, collective teacher efficacy …

> … is teachers working together to have appropriately high, challenging expectations of what a year's growth for a year's input looks like, fed with the evidence of impact, and that's what sustains it. It isn't just growth mindset, it's not just "rah-rah" thinking, it's not just, "Oh, we can make a difference." But it's that combined belief that it is us that causes learning. It is not the students. It's not the students from particular social backgrounds. It's not all the barriers out there. Because when you fundamentally believe you can make the difference, and then you feed it with the evidence you are, then that is dramatically powerful.[22]

In this quote, Hattie alludes to the most important element of teacher efficacy: teachers seeing themselves as *causal* in the learning process. It is teachers collectively believing that the fundamental responsibility for students' learning lies, not with their students, but with themselves. That belief is contrary to the doctrine of student-led learning promulgated by the Ministry of Education, which positions students as the primary agents of their own learning and relegates teachers to the role of 'guides on the side'.

Naturally, the *goal* of school education is to nurture in young people the ability to lead their own learning. When they move on to tertiary education, the workforce, and other pursuits, this ability sets them up to be life-long learners. But school children need guidance and a firm grounding in literacy, numeracy and disciplinary subjects, which they can learn reliably only from skilled teachers.

Another element of sound teaching practice emphasised by Hattie is evidence of learning. Teachers collectively believing they are causal in students' learning is not enough on its own. That belief must be nourished by evidence. Broadly speaking, there are two sources of such evidence. One is the research literature on effective pedagogy. There are many elements to effective pedagogy, including classroom management, student motivation, sound lesson design and applying the science of human learning. The other source is evidence teachers collect themselves, to inform and improve their practice. This involves the measurement of learning progress, the collection and analysis of achievement data, and adjusting practice based on that analysis.

At present, most ITE programmes have insufficient focus on either of these sources of evidence. As a result, most new teachers do not commence their careers with a sound knowledge of effective pedagogy. They do not know the key principles of the science of learning. Less still do they know how to apply them in the classroom. Typically, there is insufficient focus on the assessment techniques required to collect and analyse student achievement data.

In addition to knowledge of relevant research literature and the skills required to collect and analyse assessment data, teachers must develop a critical mindset regarding received wisdom, to avoid perpetuating ineffective pedagogy. Many common pedagogical practices used in New Zealand schools, and many common beliefs about children's learning, are not based on reliable evidence.

Even at the level of basic content knowledge, many ITE programmes are lacking. This is a particular problem in primary school teacher education, in subjects like mathematics and science. Only 4% of Year 4 teachers and 15% of Year 8 teachers specialised in mathematics in their ITE programmes, according to the most recent survey run by the National Monitoring Study of Student Achievement (NMSSA) in 2018.[23] Only 4% and 8%, respectively, had university-level qualifications in mathematics. The Education Review Office (ERO) found in 2010 that "most schools … faced some challenges in developing high-quality science education."[24]

The Teaching Council of Aotearoa New Zealand registers and certificates teachers. But its professional standards are vague, and the process by which teachers are assessed against them is weak and unreliable. The standards do not require teachers to demonstrate knowledge of, or the ability to implement, sound pedagogical practices. New teachers are not rigorously assessed for "classroom readiness."

In this report, we review the ITE programmes currently offered by New Zealand's universities and recommend ways to improve ITE. We focus on ITE for primary and secondary education. We set aside ITE for early childhood education (ECE). The issues for that sector are somewhat different than those for the compulsory sector, not least because New Zealand ECE is largely run by private providers.

In Chapter 2 we discuss the Teaching Council of Aotearoa New Zealand, which sets the *Standards for the Teaching Profession*. To attain certification, teachers must be assessed as meeting these standards. The Teaching Council also accredits ITE programmes. It is, therefore, highly influential on their content and structure.

Chapter 3 describes the background and current structure of university-based ITE. In Chapter 4, we review the theoretical perspectives typically included in these programmes, and those that ought to be included but often are not. Chapter 5 reports on a survey of the content of university-based programmes. We observe that social constructivist and social justice orientations are pervasive, to the near exclusion of psychological content, especially scientific understanding of human learning and its implications for teaching.

Chapter 6 presents three case studies of alternatives to university-based ITE: programmes run by the New Zealand Graduate School of Education (NZGSE); a partnership between a group of Auckland schools and the University of Waikato; and Teach First NZ.

In the final chapter, we make recommendations to reform ITE in New Zealand and discuss strategies for implementing those recommendations.

CHAPTER 2

The Teaching Council and Standards for the Teaching Profession

The Teaching Council of Aotearoa New Zealand is a body corporate that oversees the teaching profession in New Zealand. The composition, roles and powers of the Council are set out in subpart 4 of the *Education and Training Act 2020*. One overarching role is to enhance the status of the teaching profession and "identify and disseminate best practice in teaching … in light of research and evidence."[25]

A central responsibility of the Teaching Council is to register teachers, issue them with practising certificates, and oversee a process for regular renewal of those certificates. Both registration and a practising certificate are required for any teacher to practice lawfully in New Zealand.[26] The Council sets both the criteria for issuing practising certificates and the *Standards for the Teaching Profession*.[27] To be fully certificated, teachers must meet these standards.

ITE qualifications must be approved and accredited by the Teaching Council for graduates to be eligible for provisional certification as teachers.[28] The *Standards for the Teaching Profession* inform the accreditation process and, thereby, influence their content and delivery. Provisionally certificated teachers practise under the supervision of a Mentor Teacher. After two years of practice, teachers are fully certificated if they are assessed as meeting the *Standards*.

The Council maintains a code of conduct for teachers. It investigates alleged breaches of that code through its Complaints Assessment Committee. If the Committee deems that a teacher has a case to answer, that teacher may be referred to the Council's Disciplinary Tribunal.

The Council also maintains a Competence Authority, which investigates complaints against teachers' competence when they cannot be resolved by the schools employing them.

Composition of the Teaching Council

The Teaching Council comprises 13 members, six appointed by the Minister of Education and seven elected by members of the teaching profession. Each of the seven elected members represents, and is elected by, a different sector of the education system. They comprise a teacher and a service leader from each of the early childhood, primary and secondary sectors, as well as a teacher educator working in ITE. All elected members must be registered teachers and all but the ITE representative must hold current practising certificates.

Ministerial appointments are relatively unconstrained. However, in making appointments, the Minister must "have regard to the collective skills, experience, and knowledge of members."[29] The Minister also appoints the chair of the Council from its 13 members – and may also appoint a deputy chair. It is notable that members elected by the teaching profession comprise a majority on the Council. The Teaching Council is a professional body, and it is appropriate that it is under professional rather than political control.

Standards for the Teaching Profession

The *Standards for the Teaching Profession* are central to the work of the Teaching Council.

To be fully certificated, teachers must be assessed as meeting all the standards. The standards are laid out in *Our Code Our Standards: Code of Professional Responsibility and Standards for the Teaching Profession*.[30]

As noted in the opening paragraph of this chapter, the Teaching Council has a responsibility to disseminate research-based practice to teachers. The *Standards* arguably comprise one of the best vehicles to do this. To the extent that the *Standards* reflect teaching methods that have been shown by reliable research to be effective, and teachers are rigorously assessed against them, the quality of teaching and learning in our schools is maintained and strengthened. Strengthening teaching and learning, in turn, improves the standing and status of the teaching profession – another purpose of the Teaching Council.

Unfortunately, the *Standards* do not describe specific acts of teaching. Neither, as we shall see, are the current methods of assessing teachers against them sufficiently rigorous. The *Standards* are explicitly described in the Teaching Council's documentation as 'high level'. This is presented as a virtue: "The Standards are purposely designed at a high level so every practitioner can apply them to suit the context they are working in."[31] But the intention of the *Standards* is to provide benchmarks against which to reliably measure teachers' competence. They should, therefore, be specific and refer to observable behaviour and demonstrable knowledge. Some of the standards are, arguably, not central to high-quality teaching and learning, although that is not always clear, given their vague nature.

The Teaching Council has six standards in total, each with elaborations to guide their interpretation. A commentary on each standard follows.

1. Demonstrate commitment to tangata whenuatanga and Te Tiriti o Waitangi partnership in Aotearoa New Zealand.

It is notable that the first standard to appear the Teaching Council's documentation has nothing directly to do with teaching. Its elaboration enjoins teachers to "understand and recognise the unique status of tangata whenua in Aotearoa New Zealand"; "understand and acknowledge the histories, heritages, languages and cultures of partners to Te Tiriti o Waitangi"; and "practise and develop the use of te reo and tikanga Māori."[32]

Teachers should establish welcoming environments in schools for students from different cultural backgrounds. To the extent that this standard ensures that teachers are equipped to do that for Māori students, it is a good thing. Māori students comprise a significant proportion of the student population, and their average educational achievement is substantially poorer than that of New Zealand European and Asian students.[33] Furthermore, historically, Māori students have been subject to overt racism in our school system. It is thus appropriate to have a degree of emphasis on practices that engage them.

There is a risk, however, that students from other minority cultures may be overlooked. If a standard of this nature is necessary, it might be better to cast it more generally. Teachers could be exhorted to understand the historical, linguistic and cultural backgrounds of *all* their students, and to be respectful of those backgrounds in their practice.

2. Use inquiry, collaborative problem-solving and professional learning to improve professional capability to impact on the learning and achievement of all learners.

The elaboration of this standard stipulates that teachers should "be informed by research and innovations related to … content disciplines [and] pedagogy."[34] All teachers should indeed maintain focus on improving their professional capability, based on sound evidence. The standard does not, however, direct teachers towards valid and reliable

research based on scientific methodology. In fact, high-quality research of this kind is relatively uncommon in the New Zealand education academy. Furthermore, teachers are not typically trained to evaluate the quality of the research they read. It is likely, therefore, that teachers will most often read, and be influenced by, qualitative and sometimes ideologically motivated research. Such research is likely to misinform rather than inform their practice.

Rather than focussing on the universal mechanisms of human learning, the elaboration emphasises differences between students, and between teachers and students. It requires teachers to "critically examine how [their] own assumptions and beliefs … impact on … the achievement of learners with different … backgrounds, genders, identities, languages and cultures."[35]

3. Establish and maintain professional relationships and behaviours focused on the learning and wellbeing of each learner.

This standard, again, has no direct link with effective teaching – although it undoubtably contributes to creating environments in which students can learn effectively. Teachers do need to form sound professional relationships with their colleagues – and with students and their families.

Embedded in the elaboration of this standard are some dubious pedagogical assumptions. For example, teachers must "engage in reciprocal, collaborative learning-focused relationships with … learners …"[36] If this is taken to mean that the teaching and learning relationship between teachers and students is reciprocal, then it fails to acknowledge the greater expertise of the teacher. This failure is a hallmark of social constructivist pedagogy. Social constructivism dominates university-based ITE (see Chapter 5). However, there is little evidence that pedagogy based on social constructivist philosophy is effective.

In fact, the most effective pedagogy is often direct instruction.[37] Direct instruction does not mean teachers should didactically lecture students. It means that they must see themselves as primarily responsible for the learning that occurs in their classrooms. This understanding is not necessarily well served by framing the teaching-learning relationship as "reciprocal."

4. Develop a culture that is focused on learning, and is characterised by respect, inclusion, empathy, collaboration and safety.

In many ways, this standard is an extension of the previous one. It has some helpful elements. For example, the elaboration requires teachers to "demonstrate high expectations for the learning outcomes of all learners …"[38] Again, however, it connotes social constructivist pedagogy: "Develop learning-focused relationships with learners … sharing ownership and responsibility for learning."[39]

Students should be "active participants" in their learning. The responsibility for students' learning, however, should rest primarily with teachers. This is a crucial component of collective teacher efficacy, which Hattie's meta-analysis identified as the strongest correlate of learning among the pedagogical actions and dispositions he identified.[40] It also resonates with NZGSE's aim for teachers see themselves as causal in the learning process (see Chapter 6).

5. Design learning based on curriculum and pedagogical knowledge, assessment information and an understanding of each learner's strengths, interests, needs, identities, languages and cultures.

This is the first of the six standards that unequivocally focusses on teaching as such. The elaboration describes some sound approaches to learning design, such as selecting "… teaching approaches, resources, and … activities based on a thorough knowledge of curriculum content,

pedagogy [and] progressions in learning …"[41] and using "appropriate assessment information, identifying progress and needs of learners to design clear next steps in learning …"[42]

If a majority of the standards comprised specific behaviours that reflected these elaborations in ways evinced by reliable and valid scientific evidence, they would be much more useful than they are. They would condition ITE programmes to focus on effective pedagogy and curriculum knowledge.

The emphasis on differences between students – their "strengths, interests, needs, identities, languages and cultures"[43] – ought to be balanced by more focus on the universal mechanisms of human learning. While differences exist at the margin, scientific evidence suggests that human beings are more alike than different in the ways we learn. However, the *Standards* do not refer to the science of learning at all – nor do university-based ITE programmes (see Chapter 6).

6. Teach and respond to learners in a knowledgeable and adaptive way to progress their learning at an appropriate depth and pace.

This standard appropriately focuses on teaching and its elaboration describes some effective practice. It stipulates that teachers should "monitor the extent and pace of learning", "use [a] … repertoire of teaching strategies", and "ensure learners receive ongoing feedback …"[44] These are key elements of effective pedagogy. However, this standard would be more useful if it were broken down into multiple, more specific standards, each describing an element of effective teaching, educational monitoring, or formative feedback.

Other elements of the elaboration are less helpful. While teachers should certainly "support the educational aspirations for Māori learners"[45] (as well as those of other students), the stipulation that Māori should "achieve educational success *as Māori*"[46] (emphasis added) is notable. It again seems to emphasise sociocultural differences between students in the learning process, rather than the universal cognitive architecture that governs learning in all human beings.

Accreditation of ITE programmes

In 2019, the Teaching Council reviewed its requirements for approving, monitoring and reviewing ITE programmes. The Council cites four points of focus in "ITE Programme Approval, Monitoring and Review Requirements":[47]

1. the quality of the assessment processes in ITE programmes
2. partnerships between ITE providers, schools and Māori
3. increasing the diversity of the teacher force
4. ensuring that graduates of ITE programmes are on-track to meet the *Standards*.

Of the 27 specific requirements, some relate to entry requirements for courses, such as a need to interview and obtain police vetting for candidates. One stipulates that ITE qualifications must be at least at Level 7 (Graduate Diploma level) of the New Zealand Qualifications Framework. Several relate specifically to Māori immersion and bilingual programmes. Of particular relevance to this discussion are requirements relating to the *Standards for the Teaching Profession*, the content and delivery of ITE programmes, and the conduct and assessment of practica.

ITE programmes must ensure that teachers-in-training come to understand the *Standards* "in a contextualised, comprehensive and rigorous way" and assess their capability to meet the intent of each.[48] However, as noted in the *Requirements*, "[the] Standards are framed in general terms and therefore, need to be unpacked, or interpreted, by providers."[49]

As we have observed, the *Standards* are very general. They are not necessarily intended to be assessed individually. Rather, according to the *Requirements*, "there must be sufficient assessment evidence collected to demonstrate depth and breadth of coverage of the Standards over the whole programme."[50] Contrary to the stipulation in the *Requirements*, the vagueness of the *Standards*, and the poorly specified nature of the assessment processes to ensure that teachers meet them, make it unlikely that they will be understood either comprehensively or rigorously.

Another requirement is that ITE programmes "must integrate theory and practice in an effective and coherent way."[51] However, the only evidence that providers must furnish to demonstrate meeting this requirement is "a diagram setting out the way in which theory and practice have been integrated."[52] University-based ITE programmes are not well suited to this kind of integration. In university-based ITE, the coursework in which theoretical concepts are encountered, and the practica in which they might be demonstrated, are typically separated in time by a period of weeks. Furthermore, the course work and practica are assessed by different people – the former by ITE academics and the latter by Associate Teachers.

ITE programmes must include a culminating assessment to determine "whether a student teacher is able to effectively integrate theory and practice."[53] However, guidance on the nature of this assessment reveals that it need not be based on direct observation of a teacher-in-training. It may be "drawn from the student teacher's own description", "a vignette or scenario" or a "photo."[54]

The most encouraging requirement is that teachers-in-training must be assessed on "a set of at least 10–15 key teaching tasks that [they] can be entrusted to be capable of carrying out as a beginning teacher on day one on the job."[55] The nature of these tasks, however, is not specified. It is noted in the *Requirements* that they should be based on research evincing their effectiveness. However, given the often qualitative and unreliable nature of educational research, there is no guarantee that the research base supporting selected tasks will be valid. Furthermore, ITE providers are not required to cite any evidence proving that the selected tasks are pedagogically effective.

Under the *Requirements*, "what constitutes key teaching tasks essential to successful beginning teaching is commonly reflected in the professional experience placement (or practicum) report."[56] Unfortunately, there are currently no mechanisms to ensure consistency across ITE providers, in terms of what might be regarded as a "key teaching task." Each ITE provider produces its own placement (or practicum) report, containing the key teaching tasks they consider important for their teachers-in-training to demonstrate. The *Graduating Teaching Standards*, which gave consistent (if imperfect) parameters to evaluate the developing practice of teachers-in-training, were discontinued in 2019 (see Chapter 3). This inconsistency in tasks is compounded by inevitable inconsistency in their assessment, given that Associate Teachers assess tasks with no meaningful moderation.

Provisional certification

Graduates of ITE programmes are eligible for provisional certification with the Teaching Council, enabling them to apply for teaching jobs. Schools that hire provisionally certificated teachers are required to provide induction and regular non-contact (classroom release) time. Provisionally certificated teachers are also allocated a Mentor Teacher for two years. After this period, they can apply to become fully certificated teachers.

Mentors are expected to provide support and supervision for the duration of provisional certification, including guidance on planning,

teaching delivery, assessment, relationship-building strategies, reflective practice, and professional development. Often, schools identify Mentor Teachers and secure their agreement before employing a provisionally certificated teacher. Sometimes, though, school leaders employ provisionally certificated teachers without first securing the agreement of a suitable mentor. This is especially likely when, as is the case at present, there are teacher shortages and few applicants for vacant positions. In these situations, teachers might be required to accept mentoring roles unwillingly. In their advice to Principals, the New Zealand Education Institute (NZEI, the union for primary school teachers), note that:

> When approaching a teacher about mentoring a beginning teacher, it is preferable that this is a role that the teacher taken on willingly. While there may be cases when you will have to require this regardless of the teacher's wishes, this is not ideal.[57]

Clearly, a reluctant Mentor might impede the early professional development of a provisionally certificated teacher.

Factors such as availability, experience and character might all influence who is approached to mentor a provisionally certificated teacher. In practice, though, availability is often the decisive factor. Mentoring roles are often not sought after. They are not well remunerated and carry considerable workload and responsibility. The assignment of mentors to provisionally certificated teachers is often *ad hoc*, inevitably resulting in wide variation in quality.

The Teaching Council suggests that throughout the period of provisional certification, the teachers, their mentors, and the programme leaders keep records of induction and mentoring. Provisionally certificated teachers are expected to make progress towards meeting the *Standards for the Teaching Profession.* Progress may be demonstrated with evidence of the same kind as teachers-in-training are expected to collect, outlined above. Documents may include notes from observations by the Mentor Teacher; records of how non-contact time is spent; evidence of planning; reflections on their teaching; professional development; and records of conversations with Mentor Teachers.

At the end of the 24-month provisional certification period, school leaders review the evidence to assess whether a provisionally certificated teacher has met the requirements of the *Standards* sufficiently to justify endorsement with full certification. Given the ill-defined nature of the standards and lack of guidance on conducting the assessment process, the criteria for passing are highly subjective. Particularly during times of teacher shortages, schools have a strong incentive not to fail provisionally certified teachers. They may judge that a poor teacher is better than no teacher at all.

The range of supports recommended by the Teaching Council for provisionally certificated teachers are not reliably implemented. The culture and attitudes provisionally certificated teachers are encouraged to adopt, the professional development opportunities they are offered, and the resources with which they are provided, differ widely between schools.

Schools are required to provide non-contact time to provisionally certificated teachers. In practice, however, many do not receive this time, especially in short-staffed schools. Release time for provisionally certificated teachers is typically covered by part-time and relieving teachers. If insufficient relievers are available to cover staff absences, release time for provisionally certificated teachers is inevitably compromised. Sometimes non-contact time forgone to cover staff shortages may be provided at a later date. However, in schools with chronic shortages, beginning teachers often do not receive the allocations to which they are entitled.

A 2007 survey conducted by Marie Cameron, et al. for the Teaching Council showed that 14.9% of provisionally certificated teachers in Primary Schools had not received their full release time. In secondary schools, 26.1% of teachers surveyed reported receiving no more than 80% of the non-contact time to which they were entitled.[58]

Although this survey was conducted 16 years ago, it is unlikely that the situation has improved. In fact, it may have worsened. A 2023 Staffing Survey from the Post Primary Teachers' Association (PPTA) indicates the lowest availability of relieving teacher availability on record. Approximately one in ten schools have access to just one reliever, or none at all. Without enough relievers, schools are unlikely to be able to reliably provide the release time to which provisionally registered teachers are entitled.

Any registered and certificated teacher is eligible to be a Mentor Teacher, inevitably resulting in widely varying mentoring quality. The *Standards for the Teaching Profession* are designed to provide national expectations for provisionally certificated teachers. However, as we have discussed, the *Standards* are too 'high-level' and, arguably, do not focus on the right things. The assessment of provisionally certificated teachers suffers from the same lack of reliability as that of teachers-in-training in their practica: Because the assessment is in the hands of school staff, there is inevitably substantial variability in these judgements.

Summary

The Teaching Council registers and certificates New Zealand's teachers. As a professional body, it is appropriate that a majority of its members are elected from and by the teaching profession. Two key functions of the Council are to accredit ITE programmes and set and to maintain the *Standards for the Teaching Profession*. Through both functions, the Teaching Council influences the content and structure of ITE.

Unfortunately, the *Standards* are not of high quality. Only two of the six standards are directly relevant to teaching, and none of them stipulates specific teaching skills that teachers should have to reliably cause their students to learn. The abstract nature of the *Standards* is such that it would be very difficult even for expert assessors to apply consistent criteria for meeting them. But assessment takes place at school level by untrained assessors. It would, therefore, be unreliable, even if clear criteria were available.

Reform of teachers' professional standards and processes for accrediting ITE presents a dilemma. Australia's state ministers for education recently agreed to establish a new body, the Initial Teacher Education Quality Assurance Board to oversee teacher education programmes run by universities.[59] The Board will have the power to strip universities of their accreditation to deliver these programmes if they do not implement mandated content and adopt the mandated structure.

This approach has some political appeal. It gives Ministers a way to control ITE and may result in relatively rapid change. However, there are risks as well. It is undesirable, in principle, to establish political control over professional standards. It opens up ITE to political meddling and disempowering the teaching profession.

Change that emerges from the profession itself would, in the medium term, improve ITE more than politically mandated change. This strategy entails altering policy settings to enable pockets of high-quality practice to influence ITE, and then measuring and publicising success. This may be less politically appealing than a top-down approach and take longer to yield results, but, in the long run, the change would be more durable (see Chapter 7).

CHAPTER 3

University-based ITE

Most primary and secondary ITE programmes in New Zealand are run by Faculties and Schools of Education within universities. There are some exceptions, including Te Pūkenga, NZGSE, ICL Graduate Business School, and smaller Christian providers such as Laidlaw College and Bethlehem Tertiary Institute. Even so, a substantial majority of primary and secondary ITE graduates are from universities. In 2021, 91% of first-time primary graduates and 90% of first-time secondary graduates were from university-based programmes. In 2022, the corresponding figures were 90% and 88%, respectively.[60]

Throughout the 20th century, most ITE took place in specialised Teachers' Training Colleges. The first was established in Dunedin in 1876. Additional colleges were opened in Christchurch (1877), Auckland (1881), Wellington (1888), and Hamilton (1965). Throughout the 1970s, nine Teachers' Colleges were operating across the country.

During the 1990s and the first decade of the 21st century, the Teachers' Colleges were merged with universities. By 2007, all had been merged.[61] According to education historian Roger Openshaw, and colleague Teresa Ball, the mergers were the latest phase in the "steady upgrading of institutional aspirations from trade training to 'teacher education'" that had been begun during the 20th century.[62] The mergers may have been partly motivated by the Colleges themselves wanting to improve their status, although the ostensible reason was to improve the status and professionalisation of teachers themselves. Openshaw and Ball argued that this "upgrading of institutional aspirations" was accompanied by a "corresponding increase in state control and surveillance."[63]

Following the mergers, ITE staff from the Teachers' College found themselves expected to complete PhDs and to become active researchers. Most universities had existing Departments of Education, of which the incoming Teachers' College staff became members. These departments were typically not directly involved in ITE before the mergers. There was, nevertheless, interaction between the university departments and Teachers' Colleges. Academics sometimes gave guest lectures at the latter and some teachers-in-training completed courses in university Departments of Education as part of their training.

Another effect of the mergers was to compel teacher education programmes to conform to the processes and priorities of universities. Among other things, that meant adapting to their timetabling and term arrangements. University and school terms do not coincide, which led to some challenges in scheduling in-school practica for teachers-in training. Critically, they also became subject to university funding strictures and lost the operational autonomy they had as Teachers' Colleges. A recent example of the impact of this was a decision by Victoria University of Wellington to terminate its secondary teaching programme to meet budgetary shortfalls.[64] Although the programme received a temporary reprieve following a government bailout of the universities, an autonomous ITE provider would have been more reluctant to take such a decision in the first place.

As academics, university ITE staff have many roles other than leading ITE – and have limited time to spend in classrooms. Often, in-school visits are handled by contract staff, with research grant money frequently used to 'buy out' this duty for university staff involved in funded research.

Masters level ITE qualifications

During the 2010s, five universities – Auckland, Waikato, Canterbury, Otago and Victoria University of Wellington – developed Masters-level teaching qualifications. These qualifications are registered at level 9 of the New Zealand Qualifications Framework (NZQF), whereas the existing Graduate Diplomas of Teaching are registered at level 7.

The first three years of these Masters programmes were supported by special funding from the Tertiary Education Commission (TEC), which allowed them to be run on quite a different model than that of Graduate Diplomas. However, the initial Masters model was more expensive to run. When the additional funding ended after three years, universities made compromises to the programmes, some of which call into question their higher NZQF status.

For the three years during which TEC provided additional funding, Masters programmes entailed full-time placement in schools for several days per week during school term. University contact time was scheduled on the remaining days and during school holidays. To ensure high-quality supervision, in-school supervisors were selected by ITE providers rather than host schools. This contrasted with the 'teaching block' design of Graduate Diplomas. In these programmes, a teacher-in-training attends university full-time for a number of weeks and separately completes several weeks on practicum under the supervision of an Associate Teacher appointed by the host school. Graduate Diploma programmes entail four teaching blocks during the year, giving the teachers-in-training a total of just 16 weeks of teaching experience before they graduate. Masters programmes have now also moved towards the 'teaching block' model, thereby reducing practicum time and losing a critical point of difference from Graduate Diplomas programmes.

Initially, the coursework for Masters programmes was also different and more sophisticated than for Graduate Diplomas, commensurate with their higher NZQF level. That, however, has not changed. Currently three universities – Auckland University of Technology, Waikato University, and Canterbury University – offer both Masters and Graduate Diploma programmes. The course work for the two programmes at all three institutions now overlaps completely, except that the Masters qualifications include a capstone research paper. At Auckland University of Technology and Waikato University, these papers involve individual research projects focused on improving student and teacher learning. At the University of Canterbury, the capstone research paper is not an individual research project, but rather an exploration of education research through self-directed research topics.

Practicum experience

All teacher education programmes in New Zealand include in-school practicum experience. Practica are intended to provide teachers-in-training with the practical knowledge and skills they need to be effective in the classroom. In university-based programmes, teachers-in-training are supervised by Associate Teachers from the schools hosting their practica. Most of these programmes have no consistent approach to pairing teachers-in-training with Associate Teachers. Any fully certificated teacher may act as an Associate Teacher. This means that an Associate Teacher may have as little as two years of full-time classroom experience.

Typically, Practicum Managers from ITE providers inform their partner schools about the number of students they need to place. Each school's University Liaison – a teacher at a host school who coordinates practica and interfaces with the provider – then requests informal expressions of interest from teachers and advises the ITE provider of the number of teachers-in-training they are able to host.

Efforts are usually made to give teachers-in-training experience with a range of student age groups and types of schools during their ITE programmes. Beyond this, the Associate Teacher to whom a teacher-in-training is assigned is essentially a matter of chance.

The classroom-readiness of ITE graduates depends greatly on the quality of their practica. Influences on practicum quality include both the kinds of schools and the kinds of classroom environments in which teachers-in-training are placed. The strongest influence on practicum quality, though, is likely to be Associate Teachers. The attitudes and dispositions of Associate Teachers inevitably influence the developing pedagogical beliefs of teachers-in-training. They can inspire hope and optimism – or leave teachers-in-training cynical and jaded about the teaching profession before they are even registered.

Hattie's research, discussed in Chapter 1, showed that collective teacher efficacy is the most important determinant of effective pedagogy. The many informal interactions teachers-in-training have with Associate Teachers inevitably influence their developing sense of teaching efficacy. Associate Teachers who are inexperienced, burned-out, defeated, changeable, impatient, incompetent or resistant to developing their own practice will not be effective models. Teachers-in-training working with them are unlikely to develop strong teaching efficacy. They are even more unlikely to see themselves as causal in young people's learning. Associates who are calm, patient, resilient, capable and reflective are much more likely to inculcate strong teacher efficacy and adaptive classroom dispositions in teachers-in-training.

Hattie's research also found that feedback is among the most influential educative practices. This applies for teachers-in-training as much as it does for the school students they go on to teach. Throughout each practicum, ITE staff from universities periodically visit teachers-in-training to conduct classroom observations and give feedback on their developing practice. Their involvement, however, is usually minimal. To an extent, this is by design – the university programmes expect Associate Teachers to do the bulk of practicum supervision. Additionally, the time university ITE staff can spend in schools is curtailed by other academic duties, with contract staff often covering in-class visits. These contractors usually are not usually involved with ITE programmes beyond this, further eroding the already tenuous connection between the theoretical and practical aspects of university ITE programmes.

Associate Teachers, then, provide the most frequent, and arguably the most influential, feedback to teachers-in-training. This includes verbal and written reflections on classroom observations, lesson planning, and wider professional conduct. At the end of each practicum, Associate Teachers write reports on the classroom practice of teachers-in-training against criteria set by the ITE provider. These reports determine whether teachers-in-training pass or fail their practica.

Perhaps the most important influence of Associate Teachers on the developing practice of teachers-in-training is on the teaching methods they adopt. Teachers-in-training are generally encouraged to adopt the rhythms and routines of the classrooms in which they are placed. If an Associate Teacher uses teaching methods that are unhelpful, or even detrimental, to children's learning, teachers-in-training are likely to adopt those practices themselves. An incompetent Associate Teacher thus risks perpetuating ineffective teaching methods by inculcating them in the teachers-in-training for whom they are responsible.

There have been efforts to draw newly qualified teachers towards working in low decile – or, under the replacement for the decile system, high EQI – schools. Many Masters programmes were set up with this explicit intention, and the

Teach First NZ programme requires teachers-in-training to work in "schools serving communities made vulnerable by structural inequalities" (see Chapter 6).[65] If teachers-in-training are to work in challenging schools, they need experienced, knowledgeable and supportive Associates, even more than those working in schools serving more advantaged communities. However, the current university-based ITE model does not guarantee teachers-in-training will be well supported on their practica. Placing teachers-in-training in challenging environments without sufficient support runs a substantial risk of setting them up to fail.

Assessment of classroom readiness

Even if all Associate Teachers consistently provided high-quality practica, relying on them to assess the developing practice of teachers-in-training would still have a significant drawback. It is very difficult to maintain consistent assessment standards when thousands of individuals are involved in assessment judgements. This is especially so when those judgements are not meaningfully moderated.[66] Yet, this is how ITE practica assessments are conducted in university-based ITE programmes.

When teachers-in-training commence practica, universities provide them with relevant information about the intended purpose of the practicum, learning goals, and assessment indicators. These might be skills-based (e.g. gathering assessment information) or behavioural (e.g. seeking feedback and acting on it). Universities may also connect these outcomes and indicators with Teaching Council's *Standards for the Teaching Profession* (see Chapter 2).

Historically, the classroom performance of teachers-in-training was assessed against *Graduating Teacher Standards*. These standards were administered by the Teaching Council and its predecessor organisation, the Education Council. They described the understanding and practice that teachers-in-training should demonstrate by the time they graduate. However the *Graduating Teacher Standards* were abolished in 2019.

Presently, the only guidance the Teaching Council provides in respect of expected criteria for graduating teachers is in the *Code of Professional Responsibility and Standards for the Teaching Profession*.[67] This code describes the principles of conduct and integrity expected of practicing teachers, and the standards of practice expected of certificated teachers. It contains a single paragraph on using the *Code* for teachers-in-training:

> For those entering the profession, the Code serves as a tool to assist initial teacher education providers to support [teachers-in-training] to understand the standards of conduct and integrity expected of everyone in the profession.[68]

No universal or explicit standards or expectations exist for teachers-in-training. Each ITE provider sets its own, albeit with guidance from the *Standards for the Teaching Profession*. Teachers-in-training graduate – or fail to graduate – based on their performance against criteria set by individual universities.

Towards the end of each practicum, a progress report with input from both the teacher-in-training and the Associate Teacher, is produced. Teachers-in-training must typically provide written explanations of their practice to demonstrate that they have met the criteria set by their ITE provider. These explanations must be supported by evidence such as assessment data, students' work, lesson plans, reflection notes, and notes from classroom observations.

Associate Teachers judge whether or not teachers-in-training have met the criteria. They are, therefore, responsible for passing or failing them on their practica. While they must support their judgements with written explanations,

there is, inevitably, a great deal of variation in the rigour and consistency of Associate Teachers' assessments. If there is a significant discrepancy between the written account of a teacher-in-training and that of his or her Associate, the University Liaison makes a final judgement. This is a weak mechanism to control variability in the assessment of teaching practica across the country.

Variability in the criteria set by different universities, variability in the assessment judgements of Associate Teachers and lack of classroom experience in many Associate Teachers combine to produce an unreliable mechanism for assessing teaching practica.

Duration of ITE programmes

At present, all postgraduate university-based ITE programmes run for a single year. This includes all secondary and some primary programmes. The remaining primary programmes are three-year undergraduate (Bachelor of Teaching) degrees. This configuration has more to do with the constraints of university timetabling and marketing considerations than it does with what the optimal duration of an ITE programme would be.

The trimester arrangement of the university model does not easily lend itself to part-year or open-ended programmes. Apart from short courses and micro-credentials, university courses must generally fit within a specified number of trimesters with fixed beginning and end dates. There is a mismatch between the trimester arrangement in universities and the four-term school year.

There is certainly a case to be made that one year is too little to adequately prepare teachers-in-training for the classroom. Practicum time in current university offerings is very limited. As we will show in a survey of universities' ITE courses, there is almost no content relating to the science of learning (see Chapter 5). Primary programmes do not adequately cover specific curriculum areas, even critical ones like literacy and numeracy. While all of this suggests that ITE programmes are too brief, a certain amount of their current sociocultural content could be removed to make way for more evidence-based content.

More important than the duration of an ITE programme is the extent to which graduates are classroom ready. From this perspective, prescribing specific durations for ITE programmes puts the cart before the horse. A starting point for the duration of an ITE programme should be a set of graduate or professional standards and a rigorous assessment process for them. The amount of practicum time and content coverage required to prepare teachers-in-training to meet them, could then be more straightforwardly determined.

An alternative to a fixed duration for an ITE programme is a more open-ended timeframe and allowing teachers-in-training to graduate whenever they have met the relevant standards. This approach is taken by the New Zealand Graduate School of Education (NZGCE – see Chapter 6). It is notable that NZGSE is an independent provider and can therefore adopt a flexible approach that would be administratively more difficult for university-based ITE.

Integration of theory and practice

The theoretical aspects of the universities' ITE programmes are not well integrated with the practical aspects. There are three main reasons for this.

First, coursework and practica are typically separated in time. Better integration could be achieved if they were interleaved, so that the theoretical ideas encountered in lectures, tutorials and readings could be applied in practica in a timely way.

Second, the primary supervisors of teachers-in-training are Associate Teachers, who have no connection to the content of ITE coursework. Having different people involved in the two principal components of ITE with limited communication between them makes integration unlikely.

Third, much of the theoretical content of ITE programmes has little evidence to support the pedagogy that follows from it. Teachers must adapt their practice situationally. If theory cannot be translated into effective and pragmatic practice in the classroom, most teachers will discard it.

Teaching theory is necessary in ITE, but it must be translated into effective pedagogy and classroom management. It must be supported by generalisable evidence of its effectiveness, rather than being ideology disguised as theory. A much more even balance between sociocultural and psychological theory is needed. As we shall see in Chapter 5, sociocultural theory is currently hegemonic in the ITE programmes run by New Zealand's universities.

The mergers of Teachers Colleges and universities was a missed opportunity to establish links between Schools of Education and other disciplines within the university. Schools of History, Physical Science, Music and so on could have valuably informed the curriculum preparedness of secondary teachers. Links with cognitive psychologists in Schools of Psychology would have had much wider applicability, given that the science of learning is essentially applied cognitive psychology.

Summary

In this chapter, we have described the format of ITE programmes in New Zealand universities and noted a number of flaws.

Following the merger of Teachers Colleges with universities, teacher educators became academics and were expected to become research active. With notable exceptions, the research output of the Schools of Education in universities is qualitative and not generalisable. It does little, therefore, to inform effective pedagogy. The professional expectation on ITE lecturers to conduct research programmes detracts from time spent on ITE, particularly overseeing the practica of teachers-in-training.

More generally, the merger saw ITE move from the sole focus of Teachers Colleges to competing with the many other priorities of universities. This includes constraints on timetabling and trimester arrangements that do not coincide with school terms. The duration of ITE programmes is constrained by universities' administrative and commercial imperatives. The main potential advantage of the mergers – linking ITE with the university disciplines that correspond to school subjects – has largely gone unexploited.

Despite the flaws in the university ITE model, we do not advocate a return to the historical Teachers College model. Some of the flaws in university ITE were present in Teachers Colleges prior to the mergers. Most notably, the shift towards social constructivism was already well entrenched.

Instead, policy settings enabling private providers to operate more freely would potentially enable competition to enhance ITE quality. An important caveat is that providers are conditioned by rigorous professional standards for teachers. Neither the content of nor the assessment processes for the Teaching Council's *Standards for the Teaching Profession* are rigorous (see Chapter 2). Without rigorous standards, university or private ITE providers will have little incentive to offer high-quality programmes.

We turn to the issue of reforming professional standards for teachers in Chapter 7.

CHAPTER 4

Conceptual issues in ITE

The underpinning philosophy of school education has been contested for decades. One debate concerns whether students should lead their own learning with teachers in a facilitatory role, or whether teachers are ultimately responsible for their students' learning. The former view characterises social constructivist approaches to teaching, and the latter, cognitive approaches. Reflecting developments in this debate, the character of ITE in New Zealand has changed over time. The epistemological bedrock on which teaching rests has shifted away from cognitive approaches, towards social constructivist ones.

Social constructivism emphasises interpersonal (social) processes over individual (cognitive) ones in learning.[69] Knowledge itself is seen as socially constructed rather than objective. Applied to pedagogy, social constructivist theorists hold that knowledge is not simply transmitted by teachers and received by students. Rather, it is taken to emerge from an interplay of individual engagement with phenomena and social participation.[70] This positions the teacher as a facilitator of social interactions and collaborations through which students construct (subjective) knowledge for themselves.[71]

Cognitive epistemology describes the view that human beings (and other organisms) construct mental models of the world by interacting with it, subject to the constraints of perception and cognition (memory, attention, etc.).[72] Under cognitive pedagogy, learning occurs under the direct management of teachers who actively organise activities and transmit information for students to acquire.[73]

While universities' Schools of Education employ both sociologists and psychologists, their predominant educational paradigm is sociocultural rather than psychological. This is partly due to Teachers Colleges merging with universities. Incoming teacher educators were expected to complete PhDs and become active researchers. Lacking the scientific and statistical backgrounds to undertake quantitative research, most teachers chose qualitative work, which is much more likely to have a sociocultural focus than a cognitive one. This reinforced the sociocultural perspective in both ITE and the research that informs it.

The mergers were not the sole cause of the sociocultural bias, however. It had taken root in Teachers' Colleges well before the mergers. Academics from Departments of Education frequently gave guest lectures at Teachers Colleges and their publications influenced their programmes (see Chapter 3).

Writing in 1996, before the mergers, Geoffrey Partington reported on an examination of teacher educators' publications, and the course content of ITE programmes. He found that "reconstructionist and child-centred" educational theory was overrepresented.[74] Partington cited numerous specific examples of radical ideology in teacher education courses. Even so, while Social constructivism and activist politics were already influential on initial teacher education programmes, the mergers certainly solidified it.

In this chapter we first discuss the contrasting epistemologies of social constructivist and cognitive pedagogy. This discussion clarifies the need to achieve a greater balance between these philosophical positions in ITE, and the importance of basing the pedagogy that is promulgated in ITE programmes on testable

theory and generalisable evidence. We then turn to other important elements of ITE, including teacher efficacy, pedagogical content knowledge, and assessment literacy. This provides a background for exploring the current content and structure of New Zealand's ITE programmes in the following chapter.

Social constructivist pedagogy

According to social constructivist theorists, knowledge is not derived from objective sources independent of knowers. Instead, it is shaped by cultural 'worldviews,' which are socially determined.[75] As such, under social constructivism, there is no objectively correct knowledge, but co-existing (and equally valid) 'knowledges.' Indeed, "consensus between individuals is held to be the ultimate criterion upon which to judge the veracity of knowledge."[76]

An aim of social constructivist pedagogy is to redistribute and equalise power dynamics between teachers and students. Responsibility for learning is similarly intended to be equally shared. For example, Rhys Hill and Alison Sewell argued that learning is improved when "responsive, reciprocal power-sharing relationships are developed."[77] Barbara Rogoff, et al. claimed that both teachers and students "contribute support and direction in shared endeavours."[78] Paul Adams suggested that learning should be "dual-agentic: learner and teacher [should] engage to co-construct the sociocultural realm; their decisions [should] scaffold each other."[79]

Rather than being knowledgeable experts, skilled in causing learning for students, teachers are cast as guides, organisers, or facilitators of students' knowledge construction. Social constructivism emphasises collaboration between teachers and students, or within groups of students, as primary means of constructing knowledge. It deemphasises individual learning.

If, as social constructivist theorists claim, there is no objective knowledge, but only 'knowledges' shaped by different worldviews, then knowledge is relative to the characteristics of knowers. Important characteristics that are held to shape worldviews include gender, sexuality, race and culture. From this highly relativist perspective, if some knowledge is afforded higher status than other knowledge, it is not because it more validly represents objective reality (which, according to these theorists, does not exist). Rather, it is attributable to social power dynamics and the domination of some worldviews by others.[80] This latter claim forms the basis of 'social justice' pedagogies.

Social justice theories of knowledge and learning are derived from social constructivism, but go further. Social justice educationalists conceptualise classrooms as spaces of social transformation, in which traditional attitudes and understandings are to be challenged or rejected. One aim of social justice pedagogy is to inculcate progressive values, including equity, racial justice and gender rights. In the context of teacher education, this ambition has been described variously as education for 'social justice' and 'equity.'[81]

Social constructivists hold both knowledge and the process of learning to be relative. This leaves little room for a scientific understanding of universal cognitive mechanisms to inform teaching. Indeed, according to social constructivists, science itself has no greater epistemic status than any other system of 'constructing' knowledge. Social justice theorists, again, go further, frequently claiming that science has been a tool of oppression, rendering its implications for teaching highly suspect. Linda Smith's landmark publication, *Decolonising Methodologies: Research and Indigenous Peoples*, reflects this view. Drawing on Foucaultian themes of knowledge and power, Smith argued that Western systems based on science and objectivity were used as a "regime of truth,"[82] through which colonialists 'other[ed]' indigenous groups.[83]

Social justice theorists attribute the typically poorer educational attainment of students from disadvantaged or supposedly oppressed demographic groups to teaching approaches that do not mesh with their worldviews. Attempting to teach them using such approaches – developed as they ostensibly are by 'privileged' categories of people – is itself seen as a form of oppression.

Throughout out the Anglosphere, social justice pedagogy has been adopted as a panacea for educational inequity. New Zealand is no exception. For example, the "Rethinking Initial Teacher Education for Equity" (RITE) project (2016–18) was funded under the Teaching and Learning Research Initiative (TLRI) scheme and administered by the New Zealand Council for Education Research (NZCER).[84] The six-member team comprised Fiona Ell, Lexie Grudnoff, Mavis Haigh and Mary Hill from the Faculty of Education and Social Work at the University of Auckland, and Marilyn Cochran-Smith and Larry Ludlow from the Lynch School of Education at Boston College. These researchers explicitly positioned achieving social equity as the "ultimate goal" of ITE:

> One fundamental premise underlying this project is that the ultimate goal of initial teacher education, as a values-oriented professional enterprise, is to prepare teachers who challenge inequities by enacting practice that promotes marginalised students' learning.[85]

Marilyn Cochran-Smith, et al. noted that their views are rooted in, and intended to promote, critical socio-historical perspectives on equity and inequality. Indeed, in "Teaching for Equity," Lexie Grudnoff, et al. explicitly stated that their project was "underpinned by a social constructivist epistemology which accepts that knowledge is socially constructed."[86] These perspectives reflect the social constructivist and social justice theories of teaching. Such views are commonplace in New Zealand's Schools and Faculties of Education, where most of our new teachers are trained. Social justice pedagogy in New Zealand has largely focused on improving educational experiences and outcomes for Māori students.

Social constructivist pedagogical assumptions currently underpin the ITE programmes run by New Zealand's universities. Even so, the evidence base showing that this philosophy results in effective teaching, is tenuous at best. While educational inequality is a serious issue in New Zealand and elsewhere, there is little evidence that social justice pedagogy will do much to redress it. To make inroads into the educational disadvantage disproportionately suffered by certain demographic groups – in particular, Māori, Pasifika, students from socioeconomically disadvantaged backgrounds, and male students – New Zealand's teachers must begin their careers equipped with effective pedagogical tools. Epistemologically, a much greater focus on the science of learning is required.

The science of learning

American educational psychologist Nathanial Gage was a pioneer of what is now known as the science of learning.[87] (In fact, a more accurate term might be the science of teaching.) The science of learning is based in cognitive epistemology. It emphasises teaching techniques that have been shown, with scientific evidence, to be universally effective. Prominent contemporary theorists of the science of learning include John Sweller and David Geary.[88]

Sociocultural theories of education and pedagogy focus on differences between groups of people in the way they learn, while the science of learning focuses on human similarities. All human beings have the same memory and attention systems. They are all subject to the same cognitive constraints when learning new things, and all have the same biologically primary propensities to acquire oral language, thinking and social skills.

Rooted in the discipline of cognitive psychology, the science of learning applies universal theories of human information processing to teaching. It is founded on decades of research in human memory and attention, which has resulted in well-understood and widely accepted theories distinguishing and describing the cognitive systems of the human brain. Theories of human motivation also fall within the domain of the science of learning. The theories that inform the science of learning have been rigorously tested using experimental approaches and are supported by evidence from neuroscience.

Cognitive load theory is an important element of the science of learning.[89] It posits that learning most skills and knowledge specified in school curricula requires transferring information in short-term (working) memory to long-term memory. Working memory facilitates powerful cognitive functions – it enables conscious reflection on, and manipulation of, information stored in it. For example, mental arithmetic problems, unless their solutions have been stored in long-term memory, are solved by drawing on working memory resources. However, working memory has a very limited capacity and is subject to rapid decay. Because of these limitations, working memory is a 'bottleneck' in human learning.

Teachers need to understand cognitive load theory to avoid overloading students' working memory with too much information at once. Cognitive overload – as this phenomenon is called – results in confusion. If it occurs too frequently, it leads to a loss of learning efficacy and motivation.

To avoid cognitive overload, knowledge and skills must be *automatised* – they must be transferred to much more durable representations in long-term memory.[90] This frees up working memory capacity, enabling attention to be focussed on new learning. Once encoded in long-term memory, knowledge can be recalled to working memory when it is required to solve problems or make sense of new information. A pedagogical implication of cognitive load theory is that, to avoid overload, knowledge and concepts must be learned in small chunks and staged systematically. Pre-requisite knowledge must be consolidated in long-term memory, which has a practically infinite capacity, before approaching content that depends on it.

Despite strong evidence that pedagogy based on the science of learning is highly effective, it is, at present, almost unrepresented in the ITE programmes offered by New Zealand's universities (see Chapter 5).

Teacher efficacy

Self-efficacy refers to the beliefs individuals hold about their ability to perform specific tasks.[91] The theory is based on the locus-of-control model developed by Julian Rotter (1966),[92] which posits that human agency is a central influence on performance. According to self-efficacy theory, an individual's self-beliefs and capabilities are directed by internal agency and self-regulation, rather than by environmental factors.[93]

Teacher efficacy is a manifestation of self-efficacy in the specific context of teaching. It describes the agency teachers attribute to themselves. Teachers with strong efficacy see themselves as responsible for, and causal in, the learning process. This motivates them to examine, adapt and improve their practice. Conversely, teachers who believe they have no influence over the circumstances governing their students' learning do not, by definition, see themselves as causal in that learning.

Through the lens of self-efficacy, individuals are perceived as agentic beings who can act to improve their performance. Rotter called this an 'internal locus of control.' It is a motivating perspective.[94] It contrasts with social learning

theories,[95] which attribute people's circumstances to causes beyond their control – an 'external locus' in Rotter's terms. This perspective is corrosive to motivation and can lead to apathy and a proclivity towards external blame.[96]

The importance of teachers having an internal locus of control is consonant with Hattie's finding that collective teacher efficacy – teachers believing they are for and causal of students' learning, backed by skill and evidence – is the strongest driver of educational attainment (see Chapter 1). Founded on Albert Bandura's theory of self-efficacy, collective teacher efficacy relates to the conditions governing the likelihood of teachers undertaking authentic and agentic action in the classroom. It has the additional characteristic that self-conceptions of effectiveness are evinced and guided by evidence.

It is crucial that an emergent sense of teacher efficacy be established in ITE programmes. Managing a classroom and causing learning are complex and difficult tasks. A teacher's sense of efficacy influences the effort, perseverance, resilience and engagement he or she displays in a classroom. Additionally, a strong sense of efficacy is predictive of teachers continuing in the profession.[97] To retain capable, motivated and engaged teachers in the profession, it is essential to support teachers-in-training develop strong teacher efficacy.

Of all the factors influencing self-efficacy, Bandura suggested that the most important is mastery experience.[98] His conjecture has been demonstrated in research by Franziska Pfitzner-Eden, who found that teachers-in-training develop self-efficacy through mastery experience.[99] For teachers-in-training, opportunities for mastery experience are provided through practica – time spent practising teaching – and reflecting upon that experience.

All ITE programmes entail practicum experience for teachers-in-training. It is an open question, however, whether this experience is sufficient, both in terms of quality and quantity, to establish and maintain a sense of collective teacher efficacy in New Zealand's teacher force.

Pedagogical content knowledge

In *Knowledge and Teaching: Foundations of the New Reform* (1987), Lee Schulman identified foundational knowledge types that are important for teachers to possess.[100] These include (but are not limited to) knowledge of content (a personal understanding of what is to be taught), pedagogy (the practice and processes of teaching), and *pedagogical content knowledge*, which:

> Represents the blending of content and pedagogy into an understanding of how particular topics, problems, or issues are organised, represented, and adapted to the diverse interests and abilities of learners, and presented for instruction.[101]

Shulman articulates what is surely intuitive: In order to teach something, one first has to know it. Additionally, effective teachers contextualise knowledge appropriately for a student's level of development; put it into a coherent sequence; and devise meaningful methods of communicating it. Combined, content knowledge and the ability to successfully convey it to students, comprise pedagogical content knowledge.

Students enter secondary teaching programmes with at least undergraduate degrees in the subjects they aspire to teach. Those degree programmes equip them with specialist content knowledge, which can be supplemented with pedagogical knowledge during their ITE studies. This is not so for primary ITE. Primary teachers need knowledge across the curriculum, and most such knowledge is not certified prior to students entering those programmes. For example, while primary ITE programmes require prospective students to pass basic numeracy assessments and

to have attained the numeracy requirements for University Entrance, these assessments evince only a limited scope and level of numeracy content knowledge.

ITE programmes must therefore actively equip primary teachers-in-training with the pedagogical content knowledge they will need. Reading, writing, mathematics, science, social studies, the arts, and physical education must all be covered.

Mathematics and science are two areas of particular concern. We discuss these in particular, not because we consider them more worthy than other subjects, but because they are more conceptually hierarchical.[102] This makes their pedagogy more challenging than that of other subjects. Moreover, there is specific evidence that primary teachers are particularly ill-prepared to teach mathematics and science.

Mathematics

At the request of the Ministry of Education, the Royal Society Te Apārangi convened an Expert Advisory Panel on Mathematics and Statistics in early 2021, chaired by Distinguished Professor of Mathematics Gaven Martin. The brief was to advice on the future of mathematics and statistics education in New Zealand. The Panel made 14 recommendations grouped around four key themes. Two of those were *Teacher disciplinary and pedagogical knowledge* and *Leadership*. The panel called for a more centralised approach to mathematics and statistics education, and "fixing the problem of significant numbers of under-prepared teachers in mathematics and statistics."[103]

There was certainly enough evidence to evince a problem. Research by Jenny Young-Loveridge, et al. showed that a majority of primary teachers-in-training were unable to reliably solve mathematical questions relating to Curriculum level 4 (typically, Year 8).[104] Seventeen percent of the research sample answered fewer than half the questions correctly.

The 2018 NMSSA study showed that only small proportions of Year 4 and 8 teachers in New Zealand possess specialist knowledge in mathematics. Only 4% of Year 4 teachers and 15% of Year 8 teachers had a specialist focus on mathematics in their ITE programmes.[105] Only 4%, and 8%, respectively, held university-level qualifications in mathematics.

It is unsurprising, then, that the Panel identified mathematics content knowledge as a significant gap in teacher education:

> In light of this compelling need to improve teachers' mathematics and statistics knowledge for teaching, the Panel is deeply concerned that universities and other teacher education providers have cut back the mathematical provision in their Education degrees for teachers since 2005, by as much as 50% … The Panel suggests the Ministry of Education investigate why this has happened and the Teaching Council's role in facilitating it, and take steps to remediate the issue.[106]

Primary teachers' lack of mathematics knowledge and pedagogical competence affect their attitudes towards the subject. Jenny Young-Loveridge, et al. showed that fewer than half the ITE students they interviewed liked mathematics, and more than one-third actively disliked it. A concerning proportion of teachers, then, are entering the profession with negative dispositions towards mathematics. Somewhat ironically, many in Young-Loveridge and colleagues' research sample "held their [own] teachers responsible" for their attitudes towards mathematics.[107]

In *Un(ac)countable: Why Millions on Maths Returned Little,* Rose Patterson suggested that teachers should be provided with more professional development in mathematics.[108] We go further – all primary teachers must *start* in the profession able to confidently and fluently teach the numeracy and mathematics specified in the curriculum. ITE programmes should address

teachers' lack of competence and confidence in numeracy and mathematics. As Patterson notes, only the University of Otago requires any level of mathematical proficiency to graduate. No university requires graduates of its ITE programmes to demonstrate the ability to cause learning in numeracy or mathematics.

Science

The situation in primary-level science is little better. A 2010 survey by Education Review Office (ERO) found that few primary school teachers had backgrounds in science, and their insufficient knowledge of science was contributing to variable quality in science teaching. Generally, teachers had received little focus on science in their ITE programmes. Just two schools out of the 13 surveyed had a high proportion of staff with science backgrounds. Few teachers, science leaders, or principals at the remaining 11 schools held science degrees. In fact, the schools surveyed by ERO were better than typical. The schools were chosen for the study on the basis that "they were likely to contribute evidence of good practice."[109] As such, the ERO data present a 'best-case scenario' of science teaching in New Zealand primary schools.

The ERO report was corroborated by the 2017 NMSSA study relating to science teaching and learning in New Zealand. Only 5% of Year 4 teachers and 13% of Year 8 teachers had a specialist focus on science education in their ITE programmes. Further, only 4% of Year 4 teachers and 19% of Year 8 teachers had an undergraduate or postgraduate qualification in science.[110]

Assessment literacy

Assessment literacy is more than knowing how to carry out and mark an assessment. It comprises the ability of a teacher to use assessment to inform teaching and learning. It requires a range of skills and knowledge.

Teachers must be able to select or design valid assessments. Valid assessment tools are sensitive to variation in students' mastery of target knowledge and not include irrelevant barriers to demonstrating that knowledge (e.g. a numeracy test should not include unduly onerous literacy requirements). Assessments must also be reliable – they must measure the target knowledge with sufficient precision to make the intended educational inferences.

Assessment literacy further entails the ability to analyse assessment data to measure progress between related assessments and to determine gaps in learning that need to be addressed. Teachers must then be able to design targeted, formative feedback to students based on assessment results. Teachers themselves should use these results to help plan what to teach next. Assessments must be appropriately moderated to take account of the inevitable limitations of the validity and reliability of the assessment process. Teachers must also have the willingness and ability to use assessment results to identify areas in their practice that need improvement.

All of this knowledge and skill should be taught in ITE programmes, so that it is embedded in teachers' practice from the start.

Summary

In this chapter, we have considered some of the core epistemic elements of ITE programmes and traversed some of the debates on their unpinning philosophies. In respect of the latter, we contrasted social constructivist and cognitive pedagogies.

Social constructivist pedagogy posits that students must construct their own knowledge through exploration and social interaction. The teacher's role is to facilitate such interaction, rather than to directly transmit knowledge. Cognitive pedagogy is based on scientific theories of human information processing.

Although it does not eschew collaborative and exploratory learning entirely, pedagogy based in the science of learning positions teachers as expert holders of knowledge who must often transmit that knowledge directly for it to be reliably learned by students. This affords teachers a much more central role than social constructivist pedagogy does. Despite cognitive pedagogy being supported by a stronger evidence base, social constructivist pedagogy currently dominates New Zealand's university-based ITE programmes.

Following our discussion of social constructivist and cognitive pedagogies, we discussed four key domains of knowledge that should be included in all ITE programmes. These were the ability to apply the science of learning in the classroom, an understanding of the positive influence of teacher efficacy, pedagogical content knowledge, and assessment literacy.

Collective teacher efficacy is essential to effective classroom practice (see Chapter 1). Based in Bandura's theory of self-efficacy, it develops through mastery experience. This underscores the need for sufficient, high-quality practicum experience in ITE programmes. Teachers-in-training develop mastery experience by recognising their own increasing ability to be causal in students' learning.

Pedagogical content knowledge is a *sine qua non* of effective teaching. To teach effectively, teachers must themselves understand the knowledge they are to teach, as well as the processes through which it will be best learned. Yet, pedagogical content knowledge is lacking in the key areas of mathematics and science in the primary teacher force. New Zealand's university-based ITE programmes do not pay sufficient attention to pedagogical content knowledge, especially in mathematics and science.

Assessment literacy is the ability to collect, use and analyse assessment data to improve teaching practice. Despite its power to strengthen teaching, with positive consequences for teacher efficacy, it too receives little focus in the university-based ITE programmes currently offered by New Zealand's universities.

CHAPTER 5

A survey of ITE programme content

Social constructivist and social justice pedagogies are pervasive in university ITE programmes and Ministry documents – including the New Zealand Curriculum (NZC)[111] and the draft Common Practice Model.[112] However, there is little evidence of their effectiveness in teaching. Indeed, a range of data showing declining educational attainment in our schools suggest the opposite.

Some of the intended outcomes of social constructivist and social justice pedagogies are worthy and well-motivated. School education should ensure educational success for historically marginalised groups, and the dissolution of their persistent disadvantage. High-quality education, after all, has potential to end inter-generational cycles of poverty and social disadvantage. All too often, however, education entrenches these cycles, especially when ineffective teaching methods are used. The cultural capital of socioeconomically advantaged students – for example, parents' ability to intervene or to pay for private tuition – can compensate for poor teaching at school. Achieving educational equality, then, is best served by using effective teaching methods to equip all students with the knowledge and skills necessary to fully realise their talents and abilities in adult life and establish them as lifelong learners.

Contrary to the claims of social constructivist and social justice theorists, a universal cognitive architecture underpins human learning. Differences in how people learn exist at the margins, but all human beings have the same perceptual, memory and attentional systems, albeit with differences in sensitivity and capacity. The most effective way to serve educational equality is to use pedagogy based on scientific understanding of this cognitive architecture. This means turning away from social constructivist and social justice pedagogies and picking up the threads of the scientific approach to teaching, first championed by theorists like Nathanial Gage.

The science of learning has moved apace in the decades since Gage's seminal work, providing fertile ground on which to cultivate educational gains. Pedagogy based on the science of learning is fundamentally similar for young people of both sexes, and of all races and cultures. The challenge is to embed this pedagogy in the ITE programmes offered by Schools and Faculties of Education.

In this chapter, we present evidence that current university-based ITE programmes focus far too greatly on sociocultural considerations and far too little on cognitive considerations. We approach this by surveying the content of ITE courses offered by university providers.

Content of ITE programmes and courses

We used the programme information published in the calendars of the seven New Zealand universities that offer ITE programmes to identify a total of 265 courses. The seven universities are the University of Auckland, Auckland University of Technology, the University of Waikato, Massey University, Victoria University of Wellington, the University of Canterbury and the University of Otago.

Our aim was to classify courses according to their content in each of seven categories: social constructivism; social justice; science of learning; psychology; curriculum; pedagogy; and assessment. These categories were not treated as mutually exclusive. Classification was on the basis of keywords found in online course descriptions.

The authors agreed upon these keywords following initial perusal of the descriptions. The categories are not definitive or exhaustive. They are simply a pragmatic approach to classification developed for the present context.

Of the 265 courses surveyed, 44 were largely 'shells' for practica – the practical classroom experience components of the programmes. The remaining 221 were academic, campus-based or online courses, covering theoretical aspects of teaching.

Table 1 lists the programmes and the numbers of practicum and academic courses offered by each provider. Some providers offer many more courses than others. This is because providers vary in the numbers of programmes they offer, because the courses themselves vary in size, and because some programmes offer a menu of elective courses in addition to their core ones, whereas others do not.

Table 1: ITE programmes and numbers of associated courses at New Zealand Universities

University and Programmes	Practicum Courses	Academic Courses	Total
University of Auckland Bachelor of Education (Teaching – Primary) Master of Teaching (Primary)[113] Master of Teaching (Secondary)[113] Graduate Diploma of Teaching (Primary) Graduate Diploma of Teaching (Secondary)	6	46	**52**
Auckland University of Technology Bachelor of Education (Teaching) Graduate Diploma of Teaching and Learning Graduate Diploma of Secondary Teaching Postgraduate Diploma in Teaching and Learning Master of Teaching and Learning	10	48	**58**
Waikato University Bachelor of Teaching (Primary) Graduate Diploma of Teaching (Primary) Graduate Diploma of Teaching (Secondary) Postgraduate Diploma of Teaching (Primary) Postgraduate Diploma of Teaching (Secondary) Master of Teaching and Learning (Secondary)	11	40	**51**
Massey University Graduate Diploma of Learning and Teaching (Primary) Graduate Diploma of Learning and Teaching (Secondary)	4	6	**10**
Victoria University of Wellington Graduate Diploma of Teaching (Primary) Graduate Diploma of Teaching (Secondary) Master of Teaching and Learning (Primary) Master of Teaching and Learning (Secondary)	4	16	**20**
Canterbury University Ako: Bachelor of Teaching and Learning (Primary) Graduate Diploma of Teaching (Primary) Graduate Diploma of Teaching (Secondary) Postgraduate Diploma of Teaching (Primary) Postgraduate Diploma of Teaching (Secondary) Master of Teaching and Learning	6	40	**46**
Otago University Bachelor of Teaching Master of Teaching and Learning (Primary) Master of Teaching and Learning (Secondary)	3	25	**28**
Total	44	221	**265**

Practicum courses were omitted from the classification analysis – our aim was to analyse theoretical rather than the practical aspects of the programmes. Practicum papers focus on the professional role of the teacher in the classroom. Nonetheless, a brief commentary on practica follows.

We classified the 221 academic courses by analysing the title and description of each course, using a combination of keywords and thematic analysis. Each course was classified into as many of the seven categories as applicable. All but one – an education policy course run by the University of Auckland – were classified into at least one category.

A large range of keywords and themes were identified. Table 2 shows the 11 keywords associated with at least 10 courses. Of these, four – curriculum, pedagogy, pedagogical content knowledge and assessment – concern core professional knowledge. The number of courses associated with the keyword *pedagogy* is lower than might be expected, in part because practica courses were excluded from this analysis. Three keywords – *te Tiriti o Waitangi, te reo Māori* and *tikanga* – evince a strong focus on Māori issues and culture, usually with a social justice overlay, although te reo Māori sometimes appeared in its curriculum subject context. The remaining four of the most common themes – diversity and diverse learners, inclusion, cultural responsiveness, and responsive pedagogies – are all central terms in social justice pedagogy.

Table 2: Numbers of academic ITE courses offered by New Zealand university providers associated with each identified theme

Theme	Number of Associated Courses
Curriculum	36
Diversity and Diverse learners	33
Assessment	23
Inclusion	22
Te Tiriti o Waitangi	21
Cultural responsiveness	19
Te reo Māori	16
Pedagogy	14
Pedagogical content knowledge	13
Tikanga	13
Responsive pedagogies	11

The number of categories associated with each course varied from one to five, with a mode of two. Sixty-four courses were associated with just one category; 78 with two categories; 37 with three; 40 with four; and two with five categories. This yielded 501 classifications across the 221 courses we analysed.

Table 3 shows the numbers and percentages of the 501 course classifications under each of the seven themes. Note that the numbers of courses corresponding to themes such as curriculum and pedagogy do not match the numbers associated with those terms as keywords in Table 2. That is because keyword classifications were made based on exact matches, whereas courses were associated with themes on the more general basis of course titles and descriptions.

Table 3: Numbers and percentages of classifications associated with each of the seven themes

Theme	Number of classifications	Percentage of classifications
Social Constructivism	24	4.8
Social Justice	130	25.9
Psychology	19	3.8
Science of Learning	2	0.4
Curriculum	136	27.1
Pedagogy	135	26.9
Assessment	55	11.0

The most common themes were the core areas of teacher knowledge: curriculum and pedagogy. The social justice theme, however, had nearly as many courses associated with it as either of these. Arguably, most of the courses associated with social justice could have been associated with social constructivism as well. Social justice pedagogy rests on a social constructivist foundation, inasmuch as it depends on an assumption that knowledge is socially constructed and is therefore relative to culture (see Chapter 4). However, we decided to associate only courses that had themes explicitly relating to social constructivist conceptualisations of teaching and learning with that theme.

Strikingly, only 3.8% of course classifications evinced a psychological theme, the most common of which was human development. There was little reference to student motivation, self-efficacy, or teacher efficacy. Of the 221 course descriptions, only two – less than half of 1% – mentioned self-efficacy and two mentioned motivation. Even more strikingly, just two further classifications explicitly referred to concepts associated with the science of learning.

Our classification inevitably involved a degree of subjectivity in inferring a concept and the philosophy underpinning it from quite short descriptors. It is possible that some courses contain elements of cognitive learning theory, self-efficacy or structured pedagogy without explicit mention in the course descriptions. Nonetheless, New Zealand's university-based ITE courses are heavily skewed towards sociocultural content and away from psychological content – especially, cognitive psychology. Notwithstanding the caveats, then, a conclusion that these ITE programmes are heavily weighted towards social constructivist and social justice content is inescapable. Furthermore, in absolute terms, there is almost no focus in these programmes on pedagogy based on scientific evidence.

The lack of emphasis on science-informed theories of learning in university-based ITE programmes leaves new teachers ill-equipped to enact effective pedagogy in the classroom. It also calls into question one of the ostensible reasons for universities to provide ITE – that ITE programmes ought to be run by active researchers. Our analysis clearly indicates that the academics involved in ITE are not, for the most part, active researchers in the science of learning.

Sociocultural content has a place in ITE. In particular, it helps teachers be aware that students come from a variety of cultural backgrounds, and that culture should be considered in interacting with them. There is no evidence, however, that students' cultural backgrounds have any material effect on how they learn. The strong emphasis on social justice pedagogy in university-based ITE programmes is not based on any reliable research evidence. On the other hand, there is almost a complete lack of courses that are evidence based – in the science of learning and cognitive psychology in particular.

Practicum courses

Although our detailed survey of courses focused on the academic parts of ITE programmes, a general commentary on the themes evident in practicum courses is provided here.

Practicum courses are, by definition, oriented to classroom practice. They include teaching practice such as developing and maintaining professional relationships, time management, collaborating with other teachers, and classroom and behaviour management. These themes have clear links to the day-to-day practice of teaching. Like academic courses, however, social justice is a pervasive motif in practicum course descriptions. This is more apparent at some universities than at others.

Victoria University of Wellington has four Professional Practice courses, all of which are underpinned by the conceptual umbrella of *Te Waharoa*, the "programme's vision for Te Tiriti-led transformative education."[114] One course focuses on developing of knowledge in te reo Māori and another on the application of "models and frameworks for critical situational analysis."[115] The other two encourage teachers-in-training to consider their obligations towards education for Pacific peoples, and towards advocacy, in light of *Te Waharoa*.

At Auckland University of Technology, themes vary more widely, and include concepts like high expectations, inclusiveness, the Treaty of Waitangi, and teachers developing skills to inquire into their own practice. The University of Auckland and Canterbury University likewise prioritise the Treaty of Waitangi in their practicum papers, with the former also emphasising cultural responsiveness. Massey University encourages "critical self-reflection"[116] and 400-level and higher practicum papers at the University of Waikato encourage teachers-in-training to "develop critical knowledge"[117] about the professional role of the teacher. Otago University also acknowledges a wide range of practice, including decision-making skills, reflexive practice, critical thinking, motivation, ethics, and cultural understanding. Their secondary programme contains perhaps the most explicit allusion to social constructivism of all the practicum papers:

> Given that they will become teachers of young people, not simply teachers of subjects, they will explore the social construction of adolescence and the factors that can influence young peoples' learning.[118]

Summary

We have elucidated three main flaws in university-based ITE programmes in Chapters 3–6.

Coursework in these programmes focuses on the wrong elements. It is overly sociocultural and mostly neglects teaching practice supported by scientific evidence. Indeed, some sociocultural theorists hold scientific evidence in contempt.

Teachers-in-training have too little practicum experience, and the quality of support and feedback they receive from Associate Teachers is too variable. There is also insufficient connection between coursework and practica in both timing and substance.

The assessment of classroom readiness is also too variable, in part because there are too many Associate Teachers to make the process reliable, and in part because the assessment criteria are insufficiently based on effective teaching practice to ensure their validity (see Chapter 3).

CHAPTER 6

Case studies of non-university ITE

While universities dominate ITE provision in New Zealand, there are some alternative approaches. We discuss three such approaches in this chapter.

One is the New Zealand Graduate School of Education (NZGSE), which offers Graduate Diplomas in both Primary and Secondary ITE and uses quite a different approach to that of the universities. At the time of writing, they are in the process of transition to Postgraduate Diploma qualifications. A second innovative approach is a partnership of schools, mainly based in Auckland, with the University of Waikato. In this programme, teachers-in-training are situated full-time in a host school while undertaking online studies towards a Graduate Diploma with the university. We refer to this as the Auckland-Waikato model. A third alternative approach is Teach First NZ, which offers a pathway from industry to teaching for skilled professionals.

Case study 1: New Zealand Graduate School of Education

NZGSE in Christchurch is one of very few non-university ITE providers in New Zealand. Until recently, NZGSE offered Graduate Diplomas in Primary and Secondary Teaching, both registered at level 7 of the New Zealand Qualifications Framework (NZQF). After a protracted process, the school recently received NZQA approval to award Postgraduate Diplomas in Primary and Secondary Teaching at NZQF level 8. The first cohort of teachers-in-training commenced the Level 8 qualification in July 2023. Once the 2023 cohort of Graduate Diploma teachers-in-training graduate, the Postgraduate Diploma will render the current Graduate Diploma obsolete. The switch from level 7 to level 8 qualifications was made for three reasons.

1. NZGSE staff have observed for many decades the deteriorating quality of teaching. They do not believe the standard of teaching practice their interns are exposed to in schools is high enough to justify emulation. They plan to embed a deeper level of critical thinking into their programmes and encourage their interns to critique the practice they witness.
2. The new qualifications define the nature of teacher practice more clearly.
3. The level 8 qualification helps NZGSE achieve other aspects of their long-term vision more easily.

The NZGSE approach differs markedly from the dominant university model of ITE. The relationship between the theoretical and practical aspects of the programmes is much tighter. This cohesion is supported by a new role of Teacher Educator created by NZGSE. Teacher Educators both teach the theoretical content of NZGSE programmes and monitor teachers-in-training during their full-time teaching practice in schools. Many are NZGSE graduates themselves. Teacher Educators also directly assess the classroom practice of teachers-in-training. In university-based ITE programmes, this assessment is conducted by Associate Teachers at host schools, who have no connection to the coursework of these programmes (see Chapter 3). Even the minimal time that university ITE staff are scheduled to spend in classrooms observing teachers-in-training on practica is often curtailed by other demands on their time as academics. The NZGSE model achieves much greater cohesion of the theoretical and practical components of their programmes than the university model.

Programme configuration

Unlike university programmes, which conform to the trimester model of universities, NZGSE programmes are almost entirely synchronised with the four annual school terms. Each term commences with three weeks of theoretical content delivered on the NZGSE premises. This is followed by either six or seven weeks of full-time teaching practice in schools, with the final week of each term being an assessment week at NZGSE. As Founding Director, Dr Kevin Knight put it, "We live the schools' rhythm."

The primary programme nominally runs for five school terms, and the secondary programme, for four, although there is flexibility for teachers-in-training to take shorter or longer times. A typical primary programme graduate will have completed 33 weeks of full-time teaching practice, and a secondary graduate, 26 weeks. This is substantially longer than the typical practicum in university-based Graduate Diplomas of Teaching, which comprise just 16 weeks in some cases.

Assessment of classroom readiness: Teacher Education standards

Preparing teachers for the classroom is the overarching goal of NZGSE programmes. Classroom readiness in the Graduate Diploma is measured using a set of standards called the *Teacher Education Standards*. In the Postgraduate programme, the standards are called *Measurable Essential Competencies for Teachers*.[119] These standards have been developed through years of research and collaboration between NZGSE staff and their school partners in New Zealand and Australia. They define an essential and universal set of skills underpinning high-quality teaching. Managing the learning environment, building relationships with school students, and assessment and planning, are key focuses of the *Measurable Essential Competencies for Teachers*.

Teachers-in-training graduate when they have fulfilled all elements of all these standards. They can, in theory, continue in their programme of study until they do so (although teachers-in-training who fail to complete the foundation phase of the new Postgraduate programme within nine months will be deemed to have failed the programme). Some teachers-in-training require one term less than the nominal programme duration to complete the standards, while others take one or two more. This contrasts with the fixed timeframe in university programmes, usually one year. Teachers-in-training who do not meet the success criteria within that timeframe simply fail.

There are 18 standards for the Graduate Diploma in Teaching (Primary) and 17 for the Graduate Diploma in Teaching (Secondary), both organised into eight sectors. The standards for the secondary qualification are shown in Table 4. One secondary standard not included in the primary standards relates to knowledge of NCEA. The primary standards include two that are omitted in the secondary standards: Cause Learning in Literacy and Cause Learning in Numeracy. The only other difference between the two sets of standards is that the primary standards require knowledge of curriculum for Years 1–8, and secondary standards for Years 9–13.

Each standard is disaggregated into 2–9 elements (except the first-aid standard, which requires interns to hold an approved first-aid qualification). Each element is further disaggregated into two to eight performance criteria, each describing highly specific aspects of competent teacher performance. For example, one criterion requires interns to develop learning plans "informed by students' current literacy or numeracy skills relevant to learning tasks."[120] Another requires them to "[modify their] teaching when data show that a change in a teaching strategy is needed."[121]

Teachers-in-training provide evidence towards the *Teacher Education Standards*, either to Teacher Educators directly observing their practice, or through reflective portfolios,

depending on the nature of the standard. They are credited with an element when they fulfil its criterion, whenever that may occur during the programme. NZGSE Teacher Educators use both formal and informal moderation procedures to ensure standards are consistently applied.

Table 4: Graduate Diploma in Teaching (Secondary): Teacher Education Standards (2023)

Sector	Teacher Education Standard Title
Learning Environment	Create and maintain learning environments
Behaviour	Manage behaviour
Assessment	Assess to support student learning Critique issues in assessment Demonstrate knowledge of the operation of the National Certificate of Educational Achievement (NCEA)
Planning	Plan and prepare for student learning
Causing Learning	Cause learning when teaching students together Teach a student requiring learning support
Curriculum and Teacher Knowledge	Demonstrate knowledge of curriculum for Years 9 to 13 Relate knowledge of human development and learning to teaching Relate knowledge of human diversity to teaching Demonstrate knowledge of the New Zealand education context Demonstrate elementary knowledge of tikanga Māori and te reo Māori Analyse a social and political issue in New Zealand education Demonstrate knowledge of first aid
Teacher as a Person	Act appropriately as a person working in schools
Teacher as a Colleague	Act appropriately as a colleague of teachers

Source: New Zealand Graduate School of Education (NZGSE), *The Red Book: Teacher Education Standards for the Graduate Diploma of Teaching* (Christchurch: NZGSE, 2023a).

The new Postgraduate Diploma focuses on *8People*, a model of effective teaching developed by NZGSE. *8People* describes the eight "overlapping and conflicting personas played out by teachers in their daily work: roles that work together to cause learning."[122] These are *relationship builder, captain, analyst, scholar, coach, empowerer, colleague* and *self*. The 16 measurable essential competencies for teachers (MECTs) were derived from *relationship builder, captain* and *analyst*. The MECTs associated with each persona are listed in Table 5.

Table 5: Postgraduate Diploma in Teaching: The Essentials

Persona	Measurable essential competency for teachers
Relationship builder	Authentic praise Affirming learners in learning conversations Learning positive or neutral Higher affirmation Climate of purpose Avoiding harm
Captain	Getting full attention Maintaining full attention Managing work state Managing group state Break-outs in full attention state Break-outs in working state
Analyst	Knowing student learning needs Choosing next steps Deliberate planning Knowing learning caused

Table 5 Source: New Zealand Graduate School of Education (NZGSE). *The Red Book: Teacher Education Standards for the Postgraduate Diploma of Teaching (Primary) and the Postgraduate Diploma in Teaching (Secondary)*, Christchurch: New Zealand Graduate School of Education (2023b).

Each MECT is itself disaggregated into competencies, with performance criteria that specifically indicate the kinds of things a teacher-in-training can do to demonstrate a particular skill or desirable teaching behaviour. For example, one learning outcome states that teachers-in-training will "demonstrate knowledge of the theoretical basis for numeracy development, relevant to teaching students in Years 1 to 8."[123] One of the competencies that contributes to that learning outcome is: *The intern carries out assessment in numeracy.*[124] This is further broken down into a specific, measurable performance criteria: Students' knowledge and mental strategies are identified from individual diagnostic assessment.[125] As in the Graduate Diploma, teachers-in-training are credited with elements once they fulfil the relevant performance criteria with a sufficient degree of fluency.

Each time a teacher-in-training submits work for a performance criterion or has an opportunity to demonstrate relevant competence during their teaching practice, they are given a code that allows them to track their progress towards fulfilling that criterion. These codes are *no credit* (or *bid*, in Postgraduate Diploma terminology; submission does not match the criterion); *minor credit* (slight match to the criterion); *partial credit* (consistent with the criterion but not close to the required standard); *major credit* (close to the required standard); *on track* (fully consistent with the criterion and at the required standard, but not yet fully stable or fluent); and *full credit* (or *achieved* in the Postgraduate Diploma; performance criterion met to the required standard: being at the standard of a competent teacher, stable across settings, fluent, without great variation, and, for a practical standard, demonstrating reflection upon his or her performance).

The *Teacher Education Standards* comprise an exemplary process of criterion-referenced assessment. The standards themselves are well designed. The performance criteria for each element are precise and specific. The *Standards* are highly reflective of the behaviours of fully competent teachers.

As an illustrative example, we consider here an element of the *Cause Learning in Literacy* standard, which requires teachers-in-training to *engage students with texts*. This element explicitly positions teachers as *causal* in student learning – resonating with Bandura's model of self-efficacy (see Chapter 4) and Hattie's description of collective teacher efficacy (see Chapter 1). Hattie's meta-analysis showed collective teacher efficacy to be the most influential factor on students' educational success.

Notwithstanding Hattie's analysis, the notion that teachers are the most influential causes of students' learning is strongly at odds with the overly sociocultural and constructivist approaches to teaching promulgated by the Ministry and in university-based ITE programmes. These approaches are ineffective precisely because they do *not* position teachers in this way. Instead, they position students as primarily causal in their own learning, and teachers in supportive or facilitatory roles.

The view that teachers are primarily responsible for students' learning is supported by the performance criteria for the *cause learning in literacy* element cited above. Two of the three criteria are: *Students develop the use of processing strategies and comprehension strategies*; and *Students create texts to develop their writing strategies, and to improve their technical skills for writing*. Meeting these criteria requires evidence that teacher behaviour has been successful – students *must actually have learned*. It is not enough for interns merely to demonstrate behaviour that appears to reflect good practice in an abstract sense. There must be evidence that the behaviour has been successful.

The distinction between an intern demonstrating performance that is consistent with a criterion and at the required standard, and performance that is, additionally, stable and fluent, is an

especially important aspect of the NZGSE coding system. It reflects the same understanding of human learning processes that the NZGSE programme inculcates in its teachers-in-training. That is, the role of a teacher is not only to cause learning on a single occasion. In order to support further learning, this ability must be stable and fluent. In the terms of learning science, it must be cognitively automatic.[126]

Full-time teaching practice

NZGSE interns gain far more experience with classroom teaching practice than teachers-in-training typically get in university-based ITE programmes. Practica take place every term – and for most of the term. The role of schools hosting teachers-in-training is to provide them with teaching opportunities. Teacher Educators from NZGSE frequently observe the practice of teachers-in-training in the classroom and are solely responsible for giving feedback. This approach avoids the inconsistent quality inherent in the Associate Teacher model used by universities. Teacher Educators are all NZGSE staff, well-versed in its philosophy and approach. In contrast, any fully certificated teacher can be an Associate Teacher (see Chapter 2). Some are highly attentive to their teachers-in-training, whereas others are less so. Some are knowledgeable in the craft of teaching, and their interns benefit from that knowledge. Others, as Dr Knight put it, "perpetuate and amplify" ineffective pedagogy.

NZGSE has recently developed a real-time monitoring app for its new Postgraduate programme. Teacher Educators can use it during classroom observation to record acts of teaching relevant to the MECTs as they occur. The app is used in conjunction with real-time coaching, whereby Teacher Educators may suggest that teachers-in-training undertake particular acts in real time, or, on occasion, instruct them to do so. While this approach needs to be conducted without upsetting the flow of a class, it creates a very tight loop between feedback and action.

The transition from Graduate to Postgraduate qualifications provides a noteworthy example of the advantages that come with ITE institutions having a greater degree of operational independence than the universities currently possess. If a university wished to make such a change, it would take years to be agreed upon, and years longer to enact. Larger, more complex organisations simply take longer to coordinate and shift direction. With their greater autonomy, privately run ITE providers like NZGSE can enact change more easily, at less cost, and within a shorter timeframe.

Case study 2: The Waikato-Auckland model

In 2019, a small group of Auckland schools, including Auckland Grammar School, St Cuthbert's College, Macleans College, and Westlake Boys High School, entered an agreement with the University of Waikato to establish an innovative and collaborative model of ITE designed exclusively for secondary schools. The Ministry of Education contributed $2 million to the programme in its third year of operation. This enabled the expansion of the programme beyond the founding schools. The rogramme now involves some 20 schools. In 2023, approximately 60 teachers-in-training had enrolled; the intake will be 100 in 2024. We discussed the model with Tim O'Connor, Headmaster of Auckland Grammar School; Dr John Etty, Associate Headmaster at Auckland Grammar; and Justine Mahon, Principal of St Cuthbert's College.

Prior to implementing the programme, these schools had noticed a deterioration in the standard of the teachers they were able to recruit. Schools were recruiting most new staff members from overseas because most teachers newly qualified in New Zealand had deficits in classroom preparedness. The schools wanted more influence over the way in which new teachers were being prepared for the profession – and a more reliable supply of new teachers.

Justine Mahon commented that the Teaching Council's *Standards for the Teaching Profession* are not rigorous enough to ensure competency in all certified teachers.

Many of Justine Mahon's reflections resonate with our survey and analysis of the universities' ITE courses. She criticised their heavy focus on sociocultural factors at the expense of any on cognitive factors, the lack of evidence that the pedagogical philosophy of the programmes is effective, and their insufficient attention to assessment and data literacy.

Graduates of the programme often go on to by employed by the schools in which they are trained. Prospective teachers enrol for a Graduate Diploma of Teaching (Secondary) at the University of Waikato. Their university fees are paid and they receive a modest stipend. In partial lieu of the practicum requirements of the diploma programme, teachers-in-training are situated full-time in one of the participating schools.[127] Each participating school has its own professional development activities. All this results in a very heavy workload.

A degree in a subject specialisation is a prerequisite. Associate Teachers familiarise the teachers-in-training with whom they are paired to specific curriculum content and provide pedagogical guidance. The target market is mid-to-late career professionals who want to change careers and become teachers. The level of maturity and professionality typical of participants in the programme may be a crucial factor in its viability, especially in light of the workload involved.

The programme faces a number of challenges. One, as we have noted, is its heavy workload. This arises partly due to participants having to complete all the coursework for the Waikato Graduate Diploma while working full-time in their schools. Until recently, the University of Waikato had largely proven inflexible with deadlines and other course arrangements, which created stress for teachers-in-training at certain times of the year. As the programme has expanded, however, the university has become more flexible.

Participants complete 12 one-day professional learning sessions during the year in addition to any professional development they may receive through the schools in which they are trained and employed. Importantly, these sessions include a component on the science of learning. This knowledge is not necessary to satisfy the *Standards* (see Chapter 2), but it contributes greatly to making graduates more effective teachers. Nonetheless, the programme has not been evaluated to date. Specific evidence in respect of its effectiveness would be valuable and should form part of an evaluation.

The programme faces a challenge in the strongly social constructivist epistemic stance of university ITE programmes, including the Graduate Diploma of Teaching at the University of Waikato (see Chapters 4 and 5). This is at odds with many of the in-school professional development programmes, particularly those, like the ones at Auckland Grammar School and St Cuthbert's College, that include focus on the science of learning. This can result in some confusion for teachers-in-training, although the stance of the schools is much more defensible on the basis of research evidence, and much more popular with teachers-in-training.

Perhaps the greatest challenge for the programme has resulted from its initial success: Many more schools are now involved than at the outset, which is attributable to the funding provided by the Ministry. The original schools were philosophical allies who emphasised a fairly traditional approach to curriculum. The philosophical positions are now more diverse, reflecting the greater number and diversity of participating schools. Maintaining consistency in the quality of Associate Teachers is also a challenge as the programme has scaled up,

and the in-school professional development undertaken by teachers-in-training is likely to have become more variable in quality.

The motivation for the Waikato-Auckland model is well founded and has served the aim of participating schools – to gain well-prepared teachers. It also contributes to the national secondary teacher force by increasing the supply of teachers knowledgeable in areas of shortage, especially mathematics and science. As some of the programme graduates move on from the schools at which they were trained, other schools will also benefit.

Case study 3: Teach First NZ

The Teach First NZ model of ITE is akin to the Auckland-Waikato model in that it constitutes an employment-based ITE programme for secondary teaching. In the Teach First NZ model, teacher training is provided under a full scholarship, funded by Teach First NZ.

To gain entry into the programme, applicants must pass a series of interviews and exercises. Once accepted, applicants apply for vacancies in schools serving vulnerable communities. Teachers-in-training are remunerated by the partner school at an untrained teacher's base salary. While they are teaching in the classroom, teachers-in-training also work towards a Postgraduate Diploma of Secondary Teaching, provided by Teach First NZ. This level 8 qualification has been specifically designed to accompany the school-based model, integrating school-based and academic elements. This avoids a problem inherent in the Waikato-Auckland model – a mismatch between the requirements of the qualification provider and those of the schools in which teachers-in-training are placed.

In other ways, Teach First NZ is deficient relative to the Waikato-Auckland model. It has been heavily influenced by social justice ideology. This is evident in the core educational outcomes of the Diploma:

1. Develop as a deeply effective and transformational educator.
2. Increase understanding of and commitment to addressing inequity and inequality, and work towards social justice in Aotearoa.
3. Grow your leadership capability to affect change within and beyond the classroom and school.
4. Practice in culturally sustaining ways for all people.[128]

Rather than focus on the knowledge and skills needed to be an effective teacher of curriculum, these learning outcomes indicate an aim to instil in teachers-in-training a particular progressive ideology of change, transformation and social justice. Ironically, though, the best way to help vulnerable communities would be to base the programme not on social justice pedagogy but on the science of learning.

CHAPTER 7

Summary and recommendations

In this report, we have elucidated substantive flaws in the ITE programmes run by New Zealand universities. The theoretical content of the programmes lacks important aspects of effective teaching practice – and emphasises some counterproductive practices. More specifically, there is a heavy influence of sociology at the expense of the science of learning. The content and structure of the Teaching Council's *Standards for the Teaching Profession* also show a similar sociocultural skew. The *Standards* are highly influential on the content of ITE programmes because graduates must later be assessed as meeting the *Standards* to be certificated. Teachers-in-training in most university-based ITE programmes receive too little practicum experience, which, itself, is of variable quality. Furthermore, the assessment of classroom readiness in these programmes lacks validity and reliability.

In this final chapter we summarise the arguments we have laid out in this report, relating to the issues noted above. We then turn to recommendations to improve the quality of ITE in New Zealand.

Content of university ITE programmes

Our survey of university-based ITE courses showed that university programmes are dominated by social constructivist and social justice pedagogy (see Chapter 5). They include very little focus on important psychological factors such as self-efficacy, and almost none at all on the science of learning.

Pedagogy based on the science of learning is universally applicable because human cognition does not substantially vary across cultures. That is not to understate the importance of students' cultural differences. Teachers *should* be aware of students' different cultural understandings and values. Teachers with such awareness make schools more welcoming, especially for students from non-majority cultures. They enable the sharing of cultural knowledge between students with different backgrounds, to the enrichment of all. Cultural factors should not, however, predominate over understanding of how to impart knowledge effectively, or a pedagogical philosophy that positions teachers as causal in learning.

The lack of focus on insights from the science of learning in university ITE programmes has had two deleterious effects on the preparation of teachers for the classroom.

First, new teachers graduate without knowledge of the most effective pedagogical approaches. A case in point is primary school literacy. For decades, teachers have been following a failed model of literacy pedagogy based on social constructivist pedagogy.[129] The result has been a precipitous decline in the literacy of young New Zealanders.[130]

Second, the sociocultural pedagogies dominating university-based ITE do not encourage teachers-in-training to see themselves as causal in their students' learning. Rather, they characterise the learning relationship as a reciprocal partnership between students and their teachers. There is little recognition of teachers' greater expertise. Direct instruction is largely rejected. Instead, students are expected to construct knowledge in collaboration with their teachers and with one another.

For primary teachers, a lack of focus on content knowledge is a barrier to establishing strong collective teacher efficacy – teachers believing that they are causal in their students' learning. Without sufficient content knowledge, teachers are unlikely to see themselves as being able to cause students to learn, which is a key element of teaching efficacy. Their content knowledge is often especially lacking in mathematics and science. Primary teachers' pedagogical content knowledge in literacy and numeracy is also frequently weak. ITE programmes have let down teachers badly in this regard. They must position teachers as expert leaders of learning and equip them with the pedagogical content knowledge they need to fulfil that role. This might also help enhance the status of the profession – a legislated function of the Teaching Council.

Assessment literacy is another crucial component of high-quality ITE. It is represented in some, but not all, university programmes. Assessment literacy is more than knowing how to run assessments. It is also knowing how to use appropriate assessment data to shape formative feedback, to communicate it to students, and to adapt teaching practice accordingly. It requires a working knowledge of assessment reliability and validity, basic skills in data analysis, knowledge of effective formative feedback, and willingness to continually improve practice informed by the analysis of assessment data.

Knowledge of effective pedagogy and of assessment literacy contribute to the development of collective teacher efficacy. Conversely, social constructivism and social justice pedagogies relegate teachers to facilitatory roles by marginalising their expertise. Social justice pedagogy goes further, emphasising cultural factors over universally applicable pedagogy.

Given the sociocultural orientation of most academics in our universities' Schools and Faculties of Education, there is little prospect of them adopting any emphasis on the science of learning unless the eventual registration of their graduates depends on it.

Practicum experience

Classroom experience is essential for teachers-in-training to develop the practical skills and craft of teaching. It contributes to mastery experience,[131] which is the basis of self-efficacy in any domain. Every accredited ITE programme has a practicum component, but practice in university-based programmes is markedly different from those in alternative programmes (see Chapter 6).

In university-based programmes, practicum experience occurs in blocks of several weeks spent full-time in schools – the exact number varies between programmes – with the remaining weeks spent attending lectures and completing coursework. This model has three principal flaws. First, insufficient time is spent in practica to develop the mastery experience required for a strong sense of teacher efficacy. Second, the 'block' arrangement often results in a substantial delay between learning theoretical material in coursework and having an opportunity to apply it in the classroom. Third, the process of assigning Associate Teachers to teachers-in-training is essentially *ad hoc*, resulting in variable practicum quality.

In all three alternative models – NZGSE, the Waikato-Auckland partnership, and Teach First NZ – teachers-in-training are in the classroom full-time for most of the school year. This gives them far more classroom experience than their counterparts in university programmes. NZGSE and Teach First NZ maintain a closer link between coursework and practicum components than university programmes. The Waikato-Auckland partnership is less sound in this regard, due to a mismatch between the Waikato coursework and the pedagogical philosophies in many partnering schools.

NZGSE and the Waikato-Auckland partnership have greater control over the quality of Associate Teachers than university-based programmes.

In the case of NZGSE, Teacher Educators from the provider conduct all classroom observations, provide feedback and training to interns, and assess them against the *Teacher Education Standards*. Under the Waikato-Auckland model, host schools assign Mentor Teachers to teachers-in-training. This is the case in university ITE as well (although the mentors are called Associate Teachers). Graduates are expected to be employed in their host schools. This provides a strong incentive to select capable and experienced mentors.

Assessment of classroom readiness

In university-based ITE courses, practica are assessed by Associate Teachers. This inevitably results in more variability in assessment judgements than is desirable. Some Associate Teachers have as little as two years of classroom experience themselves. The assessment of coursework is carried out by academic staff from ITE providers, often resulting in a lack of integration with the assessment of practica. To be fully certified, provisionally certificated teachers must be assessed as meeting the *Standards for the Teaching Profession*. Again, these judgements are made at school level.

NZGSE has developed an exemplary process to assess classroom readiness. A series of explicit judgements are made against well-specified criteria, each reflecting an essential element of knowledge or teaching. Judgements are made by a small cadre of Teacher Educators employed by the provider. A practice criterion is not considered met until the element of skill it describes is fluent and consistent. This process ensures that assessment judgements are reliable and valid. Furthermore, because Teacher Educators also deliver the course content of the NZGSE programme, there is a tight link between its theoretical and practical elements.

Background to recommendations

The problems with university programmes are rooted in ideological, organisational and commercial factors. Ideologically, university-based ITE is deeply steeped in sociocultural theory. Pedagogy based on the science of learning is all but absent. This will not change while sociocultural ideologies underpin the universities' Schools and Faculties of Education.

Organisationally and commercially, universities are not well set up to run ITE programmes primarily based in schools, as all the alternative models we considered in Chapter 6 do. Having ITE staff from providers conduct all practicum observations and assessment, and provide all feedback, would be prohibitively expensive for the universities' Schools and Faculties of Education. The Schools are subject to the budgetary constraints and disciplines of their wider universities, for which ITE is just one consideration among many.

The legislated principle of academic freedom precludes government directly influencing either the content or assessment of university programmes. Section 267 of the *Education and Training Act 2020* confers upon universities the freedom "to regulate the subject matter of courses …" and "… to teach and assess students in the manner that they consider best promotes learning."[132]

Establishing political control of course content would be undesirable in any case. It would open the door to successive governments and Ministers attempting to impose their own ideological stamps on ITE. Furthermore, there is little point in legislating certain content if ITE providers do not have the expertise to deliver it. The most appropriate role of policymakers, then, is to provide incentives for ITE providers to focus on content and methods evinced by reliable, valid and generalisable research, and to facilitate conditions whereby new providers can more easily establish themselves in the ITE market.

The strongest influence on the structure and content of ITE programmes is the *Standards for the Teaching Profession*. That is because, following a two-year period of provisional certification, ITE graduates must be assessed as meeting the *Standards* to become fully certified teachers. The *Standards* are flawed and exert counterproductive influence on ITE (see Chapter 2). They reflect the same underpinning ideology as university ITE programmes. They include no reference to the science of learning or how to apply it in the classroom. They are vague and poorly specified, and the assessment of teachers against the *Standards* prior to full certification is insufficiently rigorous. Ideally, the *Standards* should resemble the *Teacher Education Standards* developed by NZGSE, which denote specific acts of teaching and measurable knowledge.

Reforming the *Standards for the Teaching Profession* and the assessment process to ensure graduating teachers meet them presents a policy dilemma similar to the one presented by the need to reform the content of university ITE programmes.

On one hand, teachers should own the professional body that registers them and carries responsibility to ensure that teaching is effective and esteemed. Politicising the Teaching Council – by increasing the proportion of members appointed by the Minister, for example – would diminish ownership of the Council by the profession. Furthermore, there is no guarantee that such a move would produce sustainable change. Different Ministers would make different kinds of appointments and there is a risk that the *Standards* would become a political tool. On the other hand, a Council dominated by members who themselves do not recognise a need for reform are unlikely to instigate it. A majority of the Teaching Council members are certificated teachers, mostly themselves trained under the predominant sociocultural approach. With this approach now deeply entrenched, individuals with alternative perspectives may be reluctant to share them. Doing so might risk being labelled 'racist' or held in contempt of the Teaching Standards, either of which might lead to expulsion from the Council. It seems unlikely, then, that the Council will reform its Standards in a way that does not reflect this perspective. Yet, such reform is needed.

Recommendations

Our proposed solution is to repeal the section of the *Education and Training Act* that lays out the roles and responsibilities of the Teaching Council. It should be replaced with legislation that enables new professional bodies for the teaching profession to be established and stipulates criteria for doing so. The existing Teaching Council would fall within the ambit of this new legislation.

This would allow multiple professional organisations for teachers to be established. Funding should be made available to communities of schools wanting to create such organisations, contingent on meeting the requirements of the legislation. As well as establishing competition in teacher registration and certification, our proposed approach would enable special character education – Catholic, Kura, Montessori, etc. – to establish professional bodies reflecting their values, epistemology and pedagogy.

Government should not get involved in legislating particular content for ITE courses or professional standards for teachers. Nonetheless, legislation can appropriately set parameters for content and for processes to assess teachers against standards.

Recommendation 1: Registering and certifying teachers

Subpart 4 of the *Education and Training Act 2020*, which establishes the Teaching Council of Aotearoa New Zealand, should be repealed and replaced with legislation setting out:

- Rules for establishing a professional registration and certification body for teachers.
- Requirements for the composition of governing boards for professional teaching bodies.
- Mandatory roles of professional teaching bodies.
- Mandatory characteristics of professional standards for teachers.
- Parameters for ways in which teachers must be assessed against professional standards to gain and renew certification.

Amendments should be framed to enable schools, or groups of schools, to establish professional bodies for teachers. ITE providers, or groups of providers, might also establish professional bodies. The legislation should stipulate that a majority of the governing boards of each professional body must be registered and certificated teachers– and elected by members – like the current Teaching Council. This should be stipulated in the enabling legislation.

The legislation should set out the roles and responsibilities of professional teaching bodies, many of which should be those of the existing Teaching Council. These include setting and maintaining professional standards for teachers, defining processes for teacher registration and certification, mandating professional development for teachers, and defining processes for regular review and renewal of teacher certification.

The legislation should require professional development programmes to be based on reliable, valid and generalisable research on effective teaching, lesson design, assessment, and other elements of teaching practice. Professional bodies should be empowered to approve professional development providers for their members subject to these stipulations. The Ministry of Education should provide per-capita annual funding for teachers to undertake professional development in programmes accredited by their professional bodies. This is a departure from the status quo, under which the Ministry accredits professional development providers directly.

Another role of the legislation should be to define a process for each professional body to accredit assessors to make judgements against its professional standards. This is also a departure from the status quo, under which Mentor Teachers assess provisionally certificated teachers against the Teaching Council's *Standards for the Teaching Profession*, albeit requiring their principals' endorsement. The process for accrediting assessors should stipulate explicit parameters for the reliability of their judgements, to establish consistency of judgement between assessors. Assessors' accreditation should be appraised regularly. It should be a legislated responsibility of the professional bodies to regularly appraise assessor's accreditation, and to collect and publish data demonstrating the reliability of their assessors' judgements.

Professional bodies established under the legislation described in Recommendation 1 should not have a formal role in accrediting ITE programmes. They should, however, be funded to assess new ITE programmes for the extent to which they would prepare teachers-in-training to meet their standards. They should provide detailed feedback to prospective providers in that regard. The responsibility for accrediting ITE qualifications should rest solely with NZQA.

Ideally, reform of professional accreditation for teachers should be enacted simultaneously with reform of teachers' career structure, along the lines recommended in the New Zealand Initiative's recent report, *Save Our Schools*.[133] That report recommended a four-tier career structure. One of the criteria for promotion to the highest tier should be to qualify as an approved assessor for a professional teaching body.

The legislation should set parameters for professional standards. Each standard should relate either to a specific and observable teaching behaviour that reliable, valid and generalisable research has shown to be effective in causing students' learning, or to specific knowledge

that supports such a behaviour. Primary school standards should include a requirement for teachers to specialise in literacy, mathematics or science.

The assessment process for these standards should be direct – teachers should be required to demonstrate fluency and consistency in behavioural standards, and an in-depth understanding of knowledge standards, to the satisfaction of an accredited assessor, before gaining certification.

NZGSE's professional standards and the processes for assessing against them could also guide this part of the legislation. Its *Teacher Education Standards* and *Measurable Essential Competencies for Teachers* stipulate dozens of teaching behaviours that teachers-in-training must demonstrate under the observation of Teacher Educators in a fluent and consistent manner.

Registration bodies should be required to assess a random sample of students of their certificated members at the beginning and end of each year, to measure their progress against curriculum expectations during that year. Primary students should be assessed in reading, writing and numeracy. Secondary students should be assessed in the subject specialty of the teacher in question. Data should be aggregated and published as a public record of the performance of each registration body's standards and a reflection of high-quality ITE.

The duration of ITE courses need not be stipulated. Provided that professional standards and the processes used to assess teachers against them are sufficiently rigorous, programmes would be as long as needed to prepare teachers to meet them. Some might be open-ended, as NZGSE programmes are.

One complication that would arise from adopting this recommendation would be maintaining the ability of New Zealand's registered and certificated teachers to practice in Australia. It would be cumbersome to negotiate each set of standards separately with Australian authorities. An office – possibly within an existing agency – could be set up to negotiate conditions for standards with Australian authorities – and gain professional recognition in Australia. This office might also be responsible for working with each certificating body to ensure that their standards meet these conditions.

Rigorous standards and assessment processes could greatly simplify the certification process for oversees qualified teachers to practice in New Zealand. Provided they meet the standards of a New Zealand professional body, they could be lawfully allowed to teach.

Recommendation 2: Encouraging alternative approaches to ITE

ITE staff in universities should be removed from their universities' denominators for the Performance Based Research Fund, allowing them to concentrate on their core roles as teacher educators. This would disestablish the expectation that teacher educators should be research active. In addition to removing a potential barrier to non-university providers registering ITE qualifications on the NZQF, it would free staff in the universities' Schools and Faculties of Education to have a greater focus on delivering ITE programmes. Teacher educators should, nonetheless, be informed by valid, reliable and generalisable research on teaching practice.

Groups of schools should be able to apply for funding and support to establish ITE providers and qualifications. Funding should be contingent on practica that entail full-time (or close to full-time) training in the classroom under the supervision of Associate Teachers or Teacher Educators from the ITE provider. Funding should cover the study fees of teachers-in-training in these programmes and a modest stipend, similar to the Waikato-Auckland model

(see Chapter 6). Alternatively, paying a salary for the duration of their ITE programmes would give teachers-in-training a liveable income and help attract professionals from other vocations into teaching. The latter option might entail a bond requiring them to work as certificated teachers in New Zealand for a specified time after they graduate.

Establishing an ITE provider should entail credentialing Teacher Educators. The NZGSE model of the Teacher Educator role could inform this process (see Chapter 6). The close involvement of schools in this model might obviate the need for Secondary Teacher Educators to have specialist subject knowledge. This would especially be the case if the four-tier career structure were adopted, under which Tier 3 and 4 teachers from associated schools would provide this knowledge (see Recommendation 3). For primary programmes, Teacher Educators should have specialist knowledge in at least one curriculum area.

This model would be especially effective if the same groups of schools established ITE providers and qualifications, as well as professional registration bodies, under the provisions of the legislation described in Recommendation 1.

Recommendation 3: Professional support for teachers-in-training and early-career teachers

Even if the four-tier career structure is not adopted, Associate Teachers overseeing the practica of teachers-in-training, and Mentor Teachers for provisionally certified teachers, should have minimum experience to be accredited. Accreditation of Associate and Mentor Teachers should depend on demonstration of highly effective pedagogy and curriculum knowledge. Like accrediting assessors of professional standards, this accreditation would ideally be implemented in tandem with a four-tier career structure for teachers. Promotion to the third tier should qualify a teacher to be an Associate, and promotion to the top tier should qualify a teacher to be a Mentor. These roles should not be optional, but accepted responsibilities of teachers at those career stages. The current rhetoric of educational activism encourages provisionally certificated teachers to serve schools in disadvantaged communities. New teachers working in these environments are likely to need more support than those in schools serving more affluent communities. Yet, because pressures on staffing, including high turnover, tend to be greater in the former than the latter, these new teachers are actually likely to receive less support.

Teachers-in-training and provisionally certified teachers working in challenging school environments must be well supported, and receive their allotted entitlements to release time and professional development. Increasing equity funding would help to ensure this. Targeted funding for professional development and sabbatical study could be offered to experienced teachers working in challenging school environments. This would benefit teaching in those schools and increase the supply of Associate and Mentors Teachers available to them.

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Teacher education in New Zealand is dominated by sociocultural theory and lacks essential focus on the science of learning. Too many primary school teachers enter the profession with insufficient knowledge in mathematics and science. Teachers-in-training receive too little practical classroom experience. New teachers are not rigorously assessed to ensure that they are 'classroom ready'. The quality of early career mentoring is variable.

At the heart of New Zealand's weak model of teacher education are the *Standards for the Teaching Profession*. While all teachers must be assessed as meeting these standards to be able to practice, the standards themselves are vague and poorly specified. The process for assessing teachers against them is weak and unreliable.

In *Who Teaches the Teachers* we analyse the problems in the university model of teacher education. We recommend reform to teacher professional certification. We discuss ways to encourage the development of alternative approaches to teacher education. Finally, we suggest measures to ensure high quality mentoring for early career teachers.

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