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Reforming Initial Teacher Education: A Call for Innovation

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Abstract: A variety of public critiques, reports and government reviews into Initial Teacher Education (ITE) in Australia and globally have called for a rethink on teacher education. Similarly, key researchers such as Hattie (2011), Smith and Lynch (2010) and Ingvarson et al. (2014) have argued for new, innovative approaches to ITE that are able to provide alternative pathways to the training of teachers. From this perspective the current article examines several models and features of ITE in terms of innovation. This examination provides clarification concerning the nature and role of ITE reform, as well as a series of arguments highlighting the need for ITE innovation, in order to illustrate and suggest how initial teacher education might move forward in a way that best supports the aims and goals of the Australian Professional Standards for Teachers.

Introduction

We begin this article by asking the question, what might an “innovative” approach to *initial teacher education* (ITE) look like? This question is necessary in light of historical and ongoing comments by Berry (2011), Darling-Hammond (2013), Furlong and Maynard (1995), Fullan (2007), Hagger and McIntyre (2000), Hartsuyker (2007), Hattie (2011), Ingvarson et al. (2014), Kennedy (2016), Lyndaker (1990), Ramsey (2000), Tom (1997), and Walls, Nardi, Minden, and Hoffman (2002), all of whom have called for ITE reform and argued that ITE needs to develop more innovative and outcomes-based approaches to the preparation of teaching graduates. In this article we respond to this question by reviewing the broad history of ITE, and by investigating its characteristics and the specific issues which have been identified as necessary to the creation of a more modern and responsive ITE approach. We also explore examples of ITE which are considered innovative, or that contain innovative elements, in order to highlight particular aspects of applied innovation. We then synthesise the elements of these various analyses, to identify what the core characteristics of an “innovative” approach might entail more broadly, and suggest some future directions. Before proceeding with these analyses, however, it is necessary to define the nature and role of ITE as a model for teacher training, including its background and development over time.

Defining ITE and Innovation

Initial teacher education (ITE), or undergraduate teacher education as it is also known in universities, is defined as the entry level qualification that is completed prior to entering service as a teacher. In most countries this qualification is a requirement for teacher registration or the gaining of a license to teach in schools (Solbrekke and Sugrue, 2014; Mussett, 2010; Adey, 1998). In countries such as Australia, New Zealand, the USA and

England, the undergraduate qualification is a Bachelor's degree which, while there are variations, generally comprises three to four years of study in education and teaching, together with a specialist teaching content area and a fieldwork component in an assigned school. These training programs require State accreditation to operate, which in most cases is granted by demonstration of adherence to stipulated standards (Darling-Hammond, 2012; Zeichner, 2014; Lynch, 2012; Ellis et al, 2012). In the United Kingdom a common pathway is the Post Graduate Certificate in Education (PGCE) which is available to university graduates and generally occurs in an intensive/apprenticeship type arrangement in a school over 12 to 18 months (Ellis, et al 2012; Lynch, 2012). The Cambridge Partnership, which features in this article, is an exemplar of this pathway.

In describing what is meant by innovation in teacher education we are assisted by Berry (2011), Hargreaves (2003) and Smith and Lynch (2010). Each cites the catalyst for innovation as the emergence of the Knowledge Economy (Rooney, et al. 2005; OECD, 1996), where a capacity to use knowledge in new and inter-connected ways is now paramount. In effect they argue that because society has now changed, and that teachers prepare young people for work and life in such a society, the work of the teacher and how they are prepared must also change accordingly. This requires a rethink on the knowledge base that informs teacher education, how technology will be used in the process of teaching and learning and how the generation and transmission of new knowledge will be embedded within the inter-play between ITE, schooling and education more generally.

Criticisms of ITE

The need for new and innovative approaches to ITE has a long history of point and counterpoint in terms of the ideas coming from various academics, politicians, researchers and school leaders who have investigated the perceived need to reform and re-invigorate teacher training. In this respect Tom (1997) cites four criticisms of ITE programs common throughout the western world in terms of their being "...vapid, impractical, segmented and directionless" (p. 48). He also contends that these programs are often superficial and fail to embody the more practical knowledge and skills needed by beginning teachers, tending instead to cover pedagogical material that would be better learned in an apprentice situation. Furthermore, many programs have little relationship to each other because they have been developed and delivered in separate areas within an ITE faculty, and are often delivered by specialists in comparative isolation.

From a similar perspective, Fullan (2007) outlines numerous reviews into ITE in the United States that seem to support Tom's more global concerns. Fullan argues that "society does not treat teacher training as a serious endeavour" (p.267) precisely because "there does not seem to be a real belief or confidence that the training will yield results" (p.268). We note these criticisms because their positioning of ITE as poorly organised, irrelevant and insular seems to find support in more current reviews (Christensen, Horn, & Johnson, 2011; Darling-Hammond, 2013; Education Queensland, 2000; Ingvarson et al., 2014), and because they beg the question as to how teacher training might have come to be regarded in this way.

Background and Development of ITE

We can gain some insight into how ITE came to be viewed as less relevant and insular by looking at its origins and history. The idea of initial, pre-service training for teachers developed from teacher training programs that began during the early 19th century as *on-the-*

job training regimes, where pre-service training focused on teaching skills that were mastered primarily through practical experience and did not include pedagogical concepts. The “new teacher” learned their trade after a study of subject matter and while acting as an apprentice teacher (Darling-Hammond, 2000; Korthagen, 2001). Pedagogical knowledge began to develop during the late 19th and early 20th century, leading to a “professionalising” of teaching and the consequent formalising of teacher training programs through early teacher training colleges. Importantly, a lot of the ideas about teaching at this time were derived from the field of psychology, which influenced our early understanding of learning and behaviour (Smith, 2000). During the second half of the 20th century a growing professional knowledge base, spurred on by the political desire to educate students of all abilities, created “knowledge domains” which became central components of more formal programs of teacher preparation; firstly within specialised teacher training colleges, and later as education faculties in universities (Furlong, Barton, Miles, Whiting, & Whitty, 2000).

By the 1990’s the majority of initial teacher education programs comprised two key organisational components: a program of formal university study over four years (course work) and in-school practicums known as “fieldwork” (involving teacher-supervised development of practical skills, cf., Feiman-Nemser, 2001; Furlong et al., 2000). Others experimented with alternative programing approaches, and we discuss examples of these, as well as examine why some of them have not become more mainstream, in our section on the goals and purpose of innovation, later in this article. Overall, however, it is to be noted that course work has been the main component of most ITE programs and is typically prepared by faculty-based specialists and then presented to students, on-campus or via distance education, through a combination of lectures, tutorials and online activities (Hagger & McIntyre, 2000; Ingvarson et al., 2014). Of import to this discussion, current ITE programs are often organised around the same professional knowledge domains attributed to the 20th century programs.

Calls for Reform and Innovation

More recent reviews of ITE argue there is a strong case for a fresh approach to the preparation of teachers, citing teachers as key participants in the renewal of education and training systems (AITSL, 2015; Darling-Hammond, 2013; Ingvarson et al., 2014). In addition, several reports (e.g., Hartsuyker [Top of the Class], 2007; Committee for the Review of Teaching and Teacher Education; 2003; Skilbeck & Connell, 2003; Darling-Hammond, 2000; Education Queensland, 2000; Ramsey, 2000) chronicle the need for a substantial overhaul of ITE to keep pace with the new interplay between social cohesion, individual identities, citizenship, work and training. This echoes earlier findings by Zeichner and Gore (1990), who cite research suggesting that extended experiences in schools contribute not only to the professional and skill-related aspects of teaching, but also to the overall socialization processes involved in the reproduction of these skills. Thus the idea that teacher training needs to be modernised continues to be a theme in most ITE reviews, and the multi-dimensional nature of this process - incorporating social, professional and individual elements - underscores calls for reform and innovation which seek to address multiple layers of professional and practical knowledge. To this end, there appear to be particular issues requiring reform and/or innovation that also necessitate discussion.

ITE Issues

School-University Partnerships

One area of reform that appears consistent across most reviews involves the nature of university and school partnerships. A recent report by the Australian Council for Educational Research (Ingvarson et al., 2014; cf. also TEMAG¹, 2014) advocates urgent changes to the design, delivery and assessment of effective teacher education programs, emphasising in particular the need for extensive and connected in-school experiences that support strong school-university partnerships. Likewise, the Australian Professional Teaching Standards (AITSL, 2011) stipulate the need for sharing responsibilities and obligations among teacher education providers, schools, teachers, employers, and teacher regulatory authorities as a core principle for quality ITE, and in a 2013 report to the Asia Society, Darling-Hammond (2013) stresses the need to adopt partnership approaches to ITE as a global necessity, linking local and more global concerns relating to the delivery of ITE.

These reviews suggest that a crucial forward direction involves renewed focus on schools and universities working together, to connect in-school or practicum learning more equally to the input from one another. This is similar to the findings of earlier reviewers such as the Holmes Group (1995), who advocated for fieldwork activities that encourage clear connections between the content and processes of ITE programs and actual research on curriculum, teaching, and learning. An assumption of these reviews seems to be that developing quality ITE requires schools and universities working together in a way that privileges neither, with both valuing and being receptive to input from the other. We will examine a couple of approaches that specifically focus on the nature of in-school experiences later in this article, but for now we simply note that there seems to be a fairly broad call for this type of reform in terms of modernising ITE programs, and this appears to reflect a global awareness.

The Knowing/Doing Gap

The variety of partnerships available, and only briefly covered within the scope of this article, indicates flexibility and context to be characteristic elements of any partnership agreement. However one issue stemming from partnership models that include both schools and universities is that universities tend to promote a clear understanding of theory as the basis for what teachers do, whereas schools tend to emphasise the demonstration of practical skills in their own right, creating what has been identified as a *knowing/doing* gap in relation to ITE (Allen, 2008; McTighe, 1997; Kennedy, 2010). This “gap” can be seen most clearly when universities manage the practicum placement of ITE students, and require students to complete practical assessment tasks that do not incorporate theory in a manner considered authentic to the school placement context.

Within Australia, addressing this gap has become a priority for many ITE programs, as evidenced by the University of Melbourne’s *Clinical Practice Exam* and Deakin University’s *Authentic Teacher Assessment*. This issue is also noted by TEMAG (2014), which states, “Professional experience placements must provide real opportunities for pre-service teachers to integrate theory and practice” (p. x). The use of performance tasks is one step in the direction of addressing this gap, but it would seem that the systematic application of professional standards is required to close it at a national level. As suggested elsewhere in

¹TEMAG is an advisory group established by the Australia Government to monitor the performance of teacher education in Australia and to provide guidance and advice to the minister on changes required to teacher education policy.

this article, although the Australian Professional Standards are able to provide the general descriptions for performance needed to identify the types of skills that represent quality teaching – in essence providing a foundation for closing this gap – further development of operationally defined behavioural indicators are required to collect specific data for each of the Standards. Benchmarking this information against student learning outcomes, similar to the approach taken by Hattie (2009; 2011), may then be able to shed more light on the precise relationship between what teachers do and how this affects student achievement outcomes in a nationally consistent manner.

In order to accomplish this level of analysis and evaluation, there needs to be greater consensus concerning the nature and role of partnerships, especially how any given partnership should address issues such as the knowing/doing gap and what form of evidence the partnership will produce. Ancillary issues such as the use of performance tasks, authentic assessment and how to best support the theory/practice nexus all seem to derive from, and be moderated by, the nature and role of the underlying partnership. For this reason the nature of partnerships appears to be a fundamental aspect of ITE requiring innovative reform moving forward. A proposed school/university partnership model that seems capable of addressing these issues is the residency model (State Government Victoria, 2011), which specifically aims to heighten knowledge of the practical dimensions of teaching among pre-service teachers, improve the integration of practical experience into ITE programs and model effective teaching during ITE. Aspects of this model can be seen in both the BLM and Cambridge Partnership models of ITE, which we examine later in this article, and there also appear to be overlaps with other Australian and international programs. Of importance is that the nature of this partnership is crucial to the success, or otherwise, of most ITE outcomes, and thus must be an important consideration when it comes to conceptualising ITE from a reform perspective.

Schooling as a Progressive Learning Effect

Expanding the influence of in-school learning somewhat, Berry (2011) asserts the teaching profession has created “a false sense of teaching expertise about the work that teachers do” (p.22), precisely because “teachers are way too familiar and too visible and what they know seems to be all too common”, coupled with students having “observed twelve years of classroom teaching” (p.22; cf. Walls, Nardi, Minden, & Hoffman, 2002). In this respect Berry has extended the work of Fuller (1969) and Fuller and Bown (1975), to suggest that everyone serves an *ipso facto* teaching apprenticeship by observing teaching practice during the program of their own schooling, thus encouraging ITE students to think they already know how to teach.

Earlier work by Pajares (1992) also reinforces this view, by noting that students “have experienced thousands of hours of their teachers’ classroom behaviour before entering a teacher preparation program” (p.95), and research conducted by Furlong and Maynard (1995) similarly highlights “...the diversity of understandings and ideals which student teachers (brought) to their professional education, the power and persistence of these preconceptions, and the ways in which they influence learning from teacher education programmes” (p. 79).

Taken together, these observations suggest what might be termed a *vicarious apprenticeship* issue that can impact ITE, wherein students who train to become teachers may seek to block a vision for teaching that is substantially different from their preconceptions and beliefs concerning classroom practice. In light of such influences, Pendry (1997) notes that a major task for teacher educators is to find ways in which student engagement to course work can be established and maintained throughout their training program, because “the

distinctiveness and idiosyncrasies of beginning teachers persisted throughout their program of study” (p.95). The notion of vicarious apprenticeship is important to the current discussion because it focuses our attention on the pre-conceived ideas about teaching that can affect the attitudes of ITE students, highlighting the need for a re-think about the way prior student knowledge is addressed and re-directed.

The Role of Evidence

According to Smith (2000), an important characteristic of ITE is that much of the content of ITE course work is aligned to the research interests of university academics who design and deliver the relevant educational degrees. He suggests this occurs because academic promotion is tied to a “publish or perish” imperative in universities, requiring academics to frame much of what takes place within ITE programs according to the research areas in which they need to publish. In turn, this creates a degree of disconnect between the program-school connections required to link fieldwork to specific teacher training strategies during ITE, and the ability of ITE programs to maintain a sufficient focus on these connections. Smith and Lynch (2010) suggest that, given this segmentation, many ITE programs have failed to present a common set of educational purposes, themes or assumptions, and are instead based upon a collection of poorly connected theoretical/practical components, making it difficult to revise ITE programs along evidential lines. Thus the role of evidence, as the basis for deciding ITE programming, appears to be another issue that requires innovative reconceptualisation.

In this respect the consensus of many recent investigations into ITE has been that schools, universities and other education providers need to develop clear measures of teaching ability, and use the data from these measures to then guide the training, as well as the ongoing performance of teachers (e.g., AITSL, 2015; Ingvarson et al., 2014; TEMAG, 2014). This imperative - to measure teaching ability – stems in part from the fact that there has been a steady reduction in student achievement at both the secondary and tertiary levels of education in most advanced economies, including Australia (Ainley, Kos, & Nicholas, 2008; American Psychological Association, 2012; Lyons & Quinn, 2015; The Royal Society, 2014). For this and other reasons the current imperative for ITE in Australia (AITSL, 2012; 2015) highlights teacher quality in the form of specific teaching standards (AITSL, 2011), which seek to articulate quality teaching practices as the basis for improved student learning outcomes (cf. Education Queensland, 2000; Ramsey, 2000).

These Standards provide broad direction for specific teacher quality, and we might well expect them to yield the sorts of evidence required to revise ITE programs along evidential lines. A problem yet exists for these standards however, in that they are couched in quite broad, generalised terms that do not afford a certain means of measuring each standard in terms of specific teacher behaviours. Innovation in this respect might thus involve developing behavioural descriptors by which to operationalise each standard, but this would require a very large and collaborative approach, as well as the funding to support it, and the authors are not aware of any such initiative taking place to date – perhaps a PhD or grant application for the appropriate-minded individual?

Hattie (2009; 2011; 2012) has provided significant insight into the role of evidence in terms of effective teaching, and his work might be translatable into ITE programming at some level by designing clear program foci that target clearly effective teaching strategies. However, Hattie’s “main effect” approach (2009) is based on a synthesis of over 800 meta-analyses of student achievement outcomes, and as such is not designed to capture the broader nuances of quality teaching. Nor does it examine the various attributes of the different

research analysed, in order to distinguish variations in the quality of analysed data. His use of evidence therefore appears somewhat problematic in terms of being translatable into specific ITE program elements, able to provide clear certainty concerning the cause and effect relationships that might exist between program elements and the AITSL standards. The role of standards-based evidence as a feedback mechanism for ITE remains critical however, and we suggest represents “unfinished business” in terms of ongoing ITE development.

The Relationship between Theory and Fieldwork

Taking a closer look at “fieldwork”, we note that this component of ITE programming is generally timetabled according to state mandated minimum contact periods, ranging from day visits to extended periods of three to eight weeks, and is normally staged in schools (Ingvarson et al., 2014; Korthagen, 2001). In contradistinction to this, Fenstermacher (1992) suggested that “extended” field experience makes for teacher candidates who are more confident, reflective, and demanding of their instructors than their counterparts who have not had extended field experience. In her review of teacher education, Kennedy (2016) argues that ITE programs need to pay more attention to the purposes that are served by fieldwork practices, focussing more on substance and less on form (cf. Kennedy, 1998). She claims that the primary purpose of these practices is to provide coherent connections between theory and practice for the developing ITE student. This seems largely in accordance with other recent ITE reviews, which consistently identify the importance of fieldwork experience as a factor that needs to better connect content and process, as well as to promote confidence and skill-related socialisation (Darling-Hammond, 2010; 2013; Ingvarson et al., 2014).

A concern often associated with fieldwork is that it relies upon the assumption that student teachers will be able to automatically translate their theoretical course work underpinnings into practical classroom activities (Feiman-Nemser, 2001; Ingvarson et al., 2014; Kennedy, 2016; Korthagen, 2001). To this end, Lave (1988; 1991) notes the need for students and university faculties to work more closely with school teachers, in order for learning to occur through an apprenticeship model of learning and enculturation that specifically supports the translation of theory into practice. Similarly, both Kennedy (2016) and Ingvarson et al. (2014) argue that the nature and focus of fieldwork activities need to be at the heart of partnership models of ITE in a way that brings together the theoretical and practical elements of ITE.

Performance Tasks

Addressing the issue of a theory/practice nexus, Darling-Hammond, Ancess, and Falk (1995), as well as Smith and Lynch (2010), argue the need for using *performance tasks* to demonstrate theoretical understanding during fieldwork. These are tasks designed to demonstrate the application and production of theoretical knowledge, rather than the mere reproduction of factual information, during classroom teaching activities. Performance tasks require ITE students to perform a range of learning tasks from their course work as part of their fieldwork, making the tasks more authentic in terms of their applied outcomes (Darling-Hammond, 2010). According to Unwin (2000), when students perceive activities as authentic - having personal and real-world relevance - they are more likely to feel positive about those activities and put greater effort into them. The use of performance tasks in this manner, perhaps linked clearly to individual Professional Standards for Teachers and measured in

terms of something like Hattie's effect-size approach, would offer one way of generating the type of data needed to inform ITE programming from a more objective POV.

Summarising these issues, it seems that more traditional ITE approaches comprised a combination of course work and fieldwork, organised around 20th century knowledge domains designed to meet the needs of the academic institutions providing certified teacher training. Such approaches were often depicted as superficial and failing to embody the theory/practice nexus needed by beginning teachers, which requires more of an apprentice situation that takes place within an equipoised partnership model. Because of this, traditional ITE approaches tend to produce fieldwork that is disconnected from course work, and the school/university partnership remains under-developed. Likewise, in spite of the development of professional standards for teachers, efforts to measure the behaviours that might be associated with these standards at an operational level, and analysis of this information with respect to student achievement data, requires substantial ongoing development.

We will now explore different approaches to ITE that have sought to address some of these elements in innovative ways, looking more closely at the Bachelor of Learning Management (BLM) program (developed in 2000 by the Central Queensland University) and the Cambridge Partnership (a work-based route into initial teacher education that was originally developed in partnership with Cambridge University in the United Kingdom).

The Bachelor of Learning Management Program

The *Bachelor of Learning Management* (BLM) is an Australian ITE program that was initiated by Central Queensland University (CQU) in 2000, for the specific purpose of providing an alternative preparation curriculum to that of more traditional ITE programs (Smith, Lynch, & Mienczakowski, 2003; Lynch, 2012).

The main intent of the BLM is to explicitly connect the theory and practice of "Learning Management" as a key training element designed to encourage students to achieve highly intentional outcomes, in order to prepare for teaching in specific pedagogical environments (Lynch, 2012). This concept makes explicit the pedagogical focus for the program by mandating that all study units be closely tied to a clearly defined set of professional performance standards (Smith & Lynch, 2010), as also called for in relation to ITE by the AITSL (2015).

The BLM departs from standard ITE fare as associated with most BEd programs, such as psychology, sociology and the like, by anchoring its focus in four concepts drawn from the *New Economy* namely: Futures; Networks and Partnerships; Pedagogy; and Essential Professional Knowledge (Smith & Lynch, 2010). These concepts are used to structure the BLM's delivery, in which students attend an allocated school or learning site for embedded practice from day 1 of the degree. This arrangement is designed to develop a strong partnership between the university and the teaching community, and as such includes assessment tasks that are centred on what the student does during their placement (as also suggested by Hargreaves, 2003; Marzano, Gaddy, & Dean, 2000). In this way the BLM model of ITE promotes the type of partnership model suggested by much of the current ITE literature with respect to developing coherent connections between theory and practice.

In terms of evidence, a key feature of the BLM is the linking of theory and practice through meaningful and authentic professional learning tasks. To achieve this goal, "Portal Tasks" (structured learning experiences with well-defined requirements), are used to link classroom practice and on-campus learning (Ingvarson, Beavis, Danielson, Ellis, & Elliott, 2005). These tasks thus serve the purpose of performance tasks, in that they require

ITE students to apply a range of authentic learning tasks from their program course work as part of their fieldwork.

To date there have been four published studies into the BLM program. The first two by Ingvarson et al (2005) [n= 892], and Lynch (2004) [n= 459], compared the work readiness of BLM students with those of the BEd in Queensland, while Allen (2008) and Doe (2011) examined the partnership arrangement that embodied the BLM program. An examination of all four studies reveals two key themes.

1. Cohorts of BLM graduates were considered better prepared than cohorts of BEd by mentor teachers, school principals and respective students (Ingvarson et al, 2005, pp. 21-22; Lynch, 2004, p.114).
2. Findings by Lynch (2004), Allen (2008) and Doe (2011) all suggest that the biggest impediment when developing 'new' programs, such as the BLM, is the establishment and maintenance of the school-university partnership. Each study reported an "us and them" mentality existing between the conventional school and the university faculty, but also reported that these partnerships tend to be exceedingly resilient, despite efforts by some university and school staff to initiate a different relationship and program-related practices.

The Cambridge Partnership Model

ITE in the United Kingdom places a strong emphasis on experience-based learning as integral to initial teacher training. In the UK, this emphasis is clearly articulated in the *Cambridge Partnership* (CP) model, a graduate entry teacher training program similar to a Diploma of Education in the Australian system (N. Olley, personal communication, May, 2014). In both cases the design is to provide alternative routes to qualified teacher status based primarily on in-school experience and mentoring, coupled to professional supervision and training by qualified experts. The original partnership was established in 2001 as a collaborative venture between the Faculty of Education at Cambridge University and local education authorities in Cambridgeshire, Peterborough and Norfolk. This has since changed in both structure and process however, with the current partnership having moved away from university-based training, to a model in which school-based mentoring drives teacher training in conjunction with specialised knowledge workshops delivered at the Partnership Centre, a community college that houses educational experts and oversees the program (The Cambridge Partnership, 2014). This relationship appears stable, is regularly evaluated and has received continuing support from the Office for Standards in Education, Children's Services and Skills (Ofsted), the UK authority responsible for inspecting and regulating services that provide education and skills for learners of all ages (Ofsted, 2012).

The Cambridge Partnership (CP) program offers a teacher training approach that is innovative in that it takes an immersive approach to the training process and is controlled by schools, rather than utilising a school-university partnership model. For most training teachers, this takes the form of being given a full training and salary grant (usually given to trainees already instructing, but without qualified teacher status), while for some it involves being employed by a partnership school during their training (N. Olley, personal communication, May, 2014). In both cases the training teacher spends the majority of her or his time in a partnership school, being mentored into the appropriate Ofsted teaching and learning processes and outcomes, as these apply to the local school situation. For teachers employed in a partnership school during training, the immersion model is referred to as the 80:20 model, meaning that the teacher is in-school four days per week, while the fifth day is

reserved for professional instruction at the Partnership Centre (The Cambridge Partnership, 2014).

It is this unique blend of school and centre-based training that distinguishes the partnership model from other approaches to teacher training, and in this respect the partnership route to becoming a qualified teacher includes several aspects that may be identified as innovative. One of these is that the more immersive partnership approach allows individual schools control over the practical training of teachers, meeting the needs of the school and also increasing the credibility of the training teacher in terms of practical skills (Jack Hunt School, 2014). At the same time, the centralised instruction aspect of the partnership specifically addresses national priority areas for education such as behaviour management, basic literacy and special needs, as well as content knowledge delivered by qualified experts in each area of curriculum specialisation (Olley, 2014). Another characteristic of the partnership approach is that the teacher can expect a high level of individual support from the school as she or he journeys through the training program, due to the mentoring system involved. These processes utilise target-setting, self-and-mentor monitoring, and systematic review to promote positive mentoring at the school level of training (The Cambridge Partnership, 2014).

Another important element in the training of teachers under the CP program is the use of electronic “Standards logs” to encourage critical self-reflection on the part of the teachers (Ofsted, 2012). These logs involve the teacher reflecting on the relevant learning and assessment provisions of their training, and tracking these against online standards and outcomes, forming a type of evidential support for the program. These logs ensure that the teacher, their school-based mentor and trainers, and the Partnership tutors and program managers all share a common understanding of the progress being made by each individual. Evaluation of the program has shown consistent effectiveness in relation to teacher preparation (Ofsted 2009; 2012).

While there are no published studies into the Cambridge Partnership, interviews were conducted with people involved, inclusive of mentor teachers, lecturers and school principals. Findings mirrored those as of the BLM. Essentially people involved in the CP, as with those in the BLM, consider their graduates to be better prepared than other ‘traditional’ programs. Importantly, each person cited the challenging and problematic nature of establishing and maintaining a mutually reciprocal school-university partnership. Overall findings for the CP and the BLM programs suggest that where the partnership arrangement is not robust, the BLM and CP models would collapse.

It is to be noted that the Cambridge Partnership is similar in many respects to the Teach for Australia Pathway (TFA; cf. Weldon, McKenzie, Kleinhenz, & Reid, 2013). Both are graduate entry programs, both involve employment-based training supported by in-school mentoring (for TFA this was originally guided by the Melbourne Graduate School of Education, and is now being directed by Deakin University) and both include the use of specialist trainers who meet with program participants on a regular basis. However there are also differences between these two programs, including that the TFA targets high-achieving university graduates whereas the CP model has open entry, that the TFA places its students in disadvantaged schools and prepares them for secondary placements only, and that the TFA includes specialist training in the area of School Leadership as an intrinsic part of the program. We include this brief comparison in order to emphasise that innovative ITE reform neither requires nor encourages a “one-size-fits-all” approach to teacher preparation, but rather allows for a variety of approaches and elements that accord with a particular context or situational set of needs. Table 1 provides an overview and comparison of how the BLM and CP relate to the ITE issues we have discussed.

ITE Issues →	School University Partnership	Knowing-Doing Gap	Vicarious Apprenticeship (Progressive Learning)	Role of Evidence	Relationship between Theory & Fieldwork	Use of Performance Tasks
BLM	Embedded practice from day 1 of ITE training	Focus on “new economy” concepts to structure knowing-doing aspects of the partnership	N/A	Focus on Portal tasks to promote authentic learning	Learning Management used to connect theory & practice	Assessment linked to professional standards & centred on school placement
CP	N/A	Controlled by in-school mentoring, in conjunction with centre-based training to meet professional standards	N/A	Focus on accreditation tasks: <ul style="list-style-type: none"> • Log books • Systematic review • Ofsted evaluation 	Partnership college used to connect fieldwork to expert knowledge	80:20 model links in-school immersion tasks to professional instruction

Table 1: Overview and comparison of BLM & CP in relation to ITE issues

Goals and Purposes of Innovation

Probably the most important challenge facing innovative ITE reform involves how to construct the partnership between schools, universities and other education providers. This is a complex relationship, and one that can be approached from a variety of pathways. It is also the “space” at which many ITE issues meet, including research, the development of practical skills and knowledge, connecting theory and practice and the provision of program evidence. In Australia we note that the BLM maintains a strong school-university partnership model, while the TFA pathway does not. American models also seem to emphasise strong school-university partnerships, but with a greater focus on the socialising effects of these partnerships (Kennedy, 2010; 2016), while in the UK, the Cambridge Partnership has developed a model in which the partnership does not include a university at all. Such variety begs the question as to why some of the more alternative ITE programs, or their elements, have not been scaled-up as much as more traditional programs. Looking back to the historical development of ITE as an educational enterprise, we suggest this may be due to the reproductive nature of more traditional ITE approaches, which are likely designed to gate-keep the model of teaching held by a particular institution or teacher trainer. As noted in the BLM evaluations summarised earlier, successful implementation of an alternative preparation program depends on the nature of the school/university partnership, and thus focussing on the reciprocating features of a partnership appears crucial for all partnership stakeholders.

The Need to focus on Evidence

Irrespective of such influences, the relationship between how a partnership is formed and the role of evidence appears particularly important as a driver for change within ITE

programs, and in this respect many reviews and research reports have identified the use of professional standards as key to the informed analysis of teaching. We have suggested that standards alone do not specify the specific behaviours that teachers do, however, instead indicating areas of teaching ability more broadly. For this reason we propose that further discussions concerning how to operationalise the Australian Professional Standards for Teachers are in order, in an effort to develop more precise measures of teaching behaviour that will allow the profession to drill down into these standards at a more fine-grain level. This will no doubt provoke contention from some elements of the education community, but we feel this sort of approach is essential if we are to move beyond - or at least extend - the current emphasis on constructivism that seems to hold sway over much educational curriculum. This approach is also supported by the TEMAG report (2014), which calls upon ITE developers to provide evidence concerning the ability of their programs to produce teachers who make a positive difference to the outcomes of their students. We therefore propose that devolving the professional standards into operational terms is imperative if we expect to connect teacher training to student achievement at a concrete and measurable level.

What to do with Progressive Learning?

Another issue that requires particular consideration is that of vicarious apprenticeship. This involves how to elicit and make use of student prior knowledge concerning what might constitute *good* teaching. The authors are not aware of any ITE program that currently collects data on this element of student understanding in relation to teacher training, but this also seems worth considering as part of ITE innovation, especially in terms of helping to contextualise the theoretical concepts and principles that need to be emphasised. The use of focus groups, including perhaps some brainstorming activities, would be one way of collecting information about the underlying areas of knowledge and teacher qualities as perceived by ITE students. This could be followed by the use of a survey method to document more specific prior knowledge for these areas. Even employing something like Wordle (<http://www.wordle.net/>), once sufficient data had been collected, could also help identify the important concepts and principles relating to student prior knowledge, as this emerged from the word frequencies involved. Whatever the method, we support the identification of student prior knowledge as a means of investigating the notion of vicarious apprenticeship more closely. Attempts in this direction would certainly provide innovative information in the sense that it could be applied to ITE reform in ways not yet imagined in existing programs.

Conclusion

There have been numerous reviews conducted into ITE in Australia and globally calling for a renewal of the teacher-training process. The variety of approaches identified in these reviews, involving multiple partnership models, testify to the inherently diverse nature of ITE as an enterprise, and suggest that diversity seems to be the *norm* when it comes to ITE. Thus the presence of innovation at some level is more likely than not in relation to ITE generally. However, for this very reason we have also sought to identify elements of innovation that might allow greater unity within the ITE approaches, and suggested how to use these elements to develop a more coherent way forward for ITE as a priority for improvement. We propose an evidence-driven partnership model designed to better reflect

the practical skills needed by teachers, one in which the respective inputs from schools and teacher training institutions (such as universities) are more balanced and immersive.

Important questions for the ongoing innovation of ITE include how to provide evidence concerning the impact of any given ITE program, and how to ensure that the program authentically reflects the practical skills needed by teachers in relation to this evidence. In this respect we have suggested that the nature of the school/university partnership lies at the heart of ITE innovation, and either increases or decreases its ability to provide meaningful evidence concerning impact. Important evidential elements of this partnership are that it focuses on the practical dimensions of teaching as the purpose of theoretical/conceptual understanding, consistently integrates practical experience into the ITE program and models effective teaching as an inherent part of ITE. As per Kennedy (2016), these elements are important because they provide opportunity to garner evidence at several different levels of meaning, including the program's ability to address the "knowledge/doing" gap via the use of performance tasks and authentic assessments, and the assessment of theory in relation to fieldwork. Of interest is that we can initially measure these elements individually and in relation to the Australian Professional Standards for Teachers, and then evaluate these measures with respect to student achievement over time.

Most important, applying further innovation to the use of the Professional Standards is suggested as a means for developing more precise evaluation of the relationship between teaching and learning. This would provide more isomorphic feedback overall, capable of informing the design of ongoing ITE programs in a flexible and sustainable manner. This might mean that the "shape" of future teacher training would be more contested by some, but it would also mean that the applied outcomes of the training could be consistently fed-back into ITE programing in a beneficial - and measurable - manner.

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