

EVIDENCING THE IMPACT OF PRE-SERVICE TEACHERS: SHIFTING THE CONVERSATION

Peter Brett¹
Sue Kilpatrick²
Noleine Fitzallen³
Casey Mainsbridge²
Bronwyn Reynolds²
John Kertesz³
Sharon Thomas²

University of Tasmania, (¹Burnie, ²Launceston and ³Hobart)

There are challenges in obtaining robust, valid evidence that identifies the impact of pre-service teachers upon learners. The University of Tasmania is taking a research-based approach to determine the evidence needed to showcase the impact of its pre-service and graduate teachers on student learning. This paper offers a reflection upon thinking and planning in the “impact” space. We discuss our initial attempts to model analysis of evidence collected during our programs and we provide examples of responses prompted by AITSL templates of evidence that drive teacher education providers to capture impact in its multi-layered forms. We discuss the efficacy of collecting various types of impact evidence that can provide an authentic assessment of the impact of pre-service teachers across a range of initial teacher education programs. In coming back into dialogue with the research literature, we conclude with a plea to shift the conversation. Rounded assessment of the impact of pre-service teachers on learners depends on knowledge, capabilities and dispositions developed during university-based training, as well as field-based experience. Verification of ability to have reliable, sustained impact on students’ learning must be based on evidence from both. Evidence from a narrow range of learning episodes is insufficient.

Background

The construction and representation of teacher education as a policy “problem” characterised by “producer capture” and a fear that providers of initial teacher education have lost sight of the needs of real world classrooms, has contributed to a global teaching standards movement that has become increasingly political and triggered policy attention on the effects of teacher education programs (Husbands, 2016). This movement is gathering momentum in the Australian policy context. Mandated, tougher and more evidence-demanding expectations of teacher education programs—raising the bar on state-based accreditation requirements—can be seen as a way of appeasing conservative and popular press critics (e.g., Donnelly, 2012, 2015). These new accreditation requirements do, however, offer an opportunity to assure the broader community of the quality of teacher preparation and to highlight the “thread of learning” that supports pre-service teachers’ capacities and abilities to bring about student learning (Hamel & Merz, 2005). It may be that more thorough program evaluations can lead to greater accountability, a more profound definition of university-school partnerships, and better-prepared pre-service and graduate teachers.

It is difficult to isolate the relationship between an initial teacher education (ITE) program and school student learning outcomes. Research into the relationship between the two is both limited and problematic (Burn & Mutton, 2013; Cochran-Smith & Zeichner, 2005). Kirby, McCombs, Barney, and Naftel (2006) describe the notion that teacher quality can and should be measured through students’ learning gains as a “contentious” issue that requires further discussion. The establishment of causal relationships in regard to the impact of pre-service teachers on student learning are hindered by

the inevitable variety between schools, the quality of mentoring by colleague teachers in schools, the short-term nature of most professional experience placements, and sometimes home or school environments that engage only intermittently in fostering effective learning. The broad range of teacher education programs operating within and across particular contexts makes judgment on the efficacy of system-wide claims even more complex still (Burn & Mutton, 2013). While Hattie (2005) suggested more than a decade ago that teachers needed to move away from considering achievement data as saying something about the student to saying something about their teaching, there are suggestions that the policy pendulum has swung too far toward equating student outcomes with teacher quality. Although there is limited research in this area, a dominant paradigm of privileging numerical data in making policy decisions (Simola, Ozga, Segerholm, Vargo, & Anderson, 2011, p. 96) has arguably overly narrowed the focus of teacher evaluation to alignment of learner outcome with teacher quality (Kirby et al.).

It is evident that future accreditation of ITE programs in Australia will incorporate an assessment of how effectively the providers assess the impact of pre-service teachers during their professional experience placements in schools. In response to political and community concerns about the quality of teacher education and the effectiveness of graduate teachers, the Australian Institute for Teaching and School Leadership (AITSL, 2015) announced that providers of initial teacher education must collect evidence of the impact of their pre-service and graduate teachers on student learning. This undertaking has arisen from recommendations for improving initial teacher education programs made by the Teacher Education Ministerial Advisory Group (TEMAG, 2014) in the *Action Now: Classroom Ready Teachers* report. The process is driven by the federal government's view that "better quality assurance of teacher education programs is essential to ensure every program is preparing classroom ready teachers with the skills they need to make a positive impact on school student learning" (AITSL, 2015, p. 2). The TEMAG recommendations include more rigorous national accreditation processes, demonstration of research-based program design and delivery, more demanding and transparent selection of entrants at the point of admission, collection of evidence to demonstrate classroom readiness of pre-service teachers upon graduation, development of deeper partnerships among education stakeholders, and pre-registration of entrants as teachers. This discussion paper provides a professional dialogue concerning the requirements to evidence the classroom readiness upon graduation of pre-service teachers and graduates on student learning. The remaining TEMAG recommendations are beyond the scope of this paper.

Starting the Conversation

As teacher education researchers have argued for some time, the school-based component of initial teacher education [ITE] is often plagued with "the preoccupation on the part of both mentors and student teachers with immediate issues of practical performance, rather than inquiry into or expansion of a rationale for that performance" (Timperley, 2001, p. 11). Acknowledgement of the power and importance of this insight would be a major step towards shifting the conversation about the impact of professional experience placements and the achievements across the duration of an ITE program.

A conversation that assumes that pre- and post-testing of micro-teaching interventions on students' work in defined disciplinary domains yields unarguable and authoritative evidence of the impact starts from a false premise. The effects of teaching on student learning can be diverse (indeed the effects of normal class teacher teaching behaviours on student outcomes over longer periods of time have typically been small according to a meta-analysis of teacher effectiveness research (Seidel & Shavelson, 2007). Invoking the metaphor of conversation may be useful in terms of the range of educational stakeholders—policy-makers, state educational jurisdictions, teachers, teacher educators, and parents—with whom it might be helpful to engage in formal and informal means of communication. Conversation is context-sensitive and situated and can offer a dialogical form of meaning-making. It may be the best means to attain, what Dewey calls, a "working harmony among diverse desires" (cited in Rorty, 1982, p. 207); that is, the liberal hope of realising community and solidarity among stakeholders in educating, supporting and developing beginning teachers.

In the midst of developing a plan of action for collecting evidence of pre-service teacher impact on student learning, the University of Tasmania's Faculty of Education decided to take a research-based approach. To guide the project three research questions identified were posed:

- a) How can pre-service teachers understanding of impact be developed and assessed over the duration of their course of study?
- b) What are valid sources of evidence of pre-service teacher impact on student learning that are efficient to collect and analyse?
- c) At an overview, strategic level, how should evidence of impact be collected and analysed in the longer term for the ITE programs?

The development of these questions brought into focus the role of pre-service teachers in evidencing impact and how that may become part of the learning process afforded by ITE programs. They also highlighted the advantages of robust partnerships among schools and other learning settings, and among schools and TAFE education systems. The questions also acknowledge that development can be evidenced over time and has broader implications than can be garnered from gathering evidence at one point in time.

This paper does not answer the research questions but seeks to evoke reflection on practice among academics working on the professional challenges of evidencing impact of ITE programs. First, we share some principles for gathering evidence of the impact of pre-service teachers on student learners. Secondly, we introduce a working model of evidence collection and impact developed from practice. Thirdly, we identify Statements of Evidence and illustrations of evidencing impact from two ITE programs. Fourthly, we discuss the implications of our impact promises made to accreditation agencies and identify possible opportunities for continuous improvement in the impact space. Finally, we argue for a shift in the conversation about evidencing impact. We argue that a holistic evaluation of the impact of the pre-service teachers on learners is an ongoing endeavour throughout all ITE programs, which depends on knowledge, capabilities and dispositions developed during university-based training as well as field-based professional experience.

Principles for Gathering Evidence of Impact

To support a research-based approach to evidencing impact on student learning, the project identified five key principles for gathering evidence. A premise that underpins the process is that assembling the knowledge, skills and planning should be part of a continuous professional practice loop that includes critical reflection and modification of practice (Figure 1).

Principle 1: Evidence of impact from multiple points in the ITE programs is essential to demonstrate the longitudinal nature of assembling the knowledge, skills, and dispositions that underpins pre-service teachers' impact on student learning, including evidence from professional experience placements.

Principle 2: The Australian Professional Standards for Teachers (AITSL, 2014) underpin assessment of teacher competence at levels from Graduate to Lead. Where possible, evidence of impact on student learning should be related to the Graduate level standards.

Principle 3: Collection of evidence of impact results in the inculcation of rigorous and dynamic research enterprises that focus on teaching, learning and assessment, and the monitoring of pedagogical practices trialled and deployed by pre-service teachers.

Principle 4: Effective ITE institution-school partnerships assist in focusing colleague teachers and school leaders on the impact of pre-service teachers in their professional learning and assessment activities.

Principle 5: Data collection and analysis procedures are efficient and cost effective. Augmenting existing data collection and/or expectations and assessment of pre-service teachers is expected to be

most efficient. Multiple sources of evidence should be collected over time and in diverse contexts.

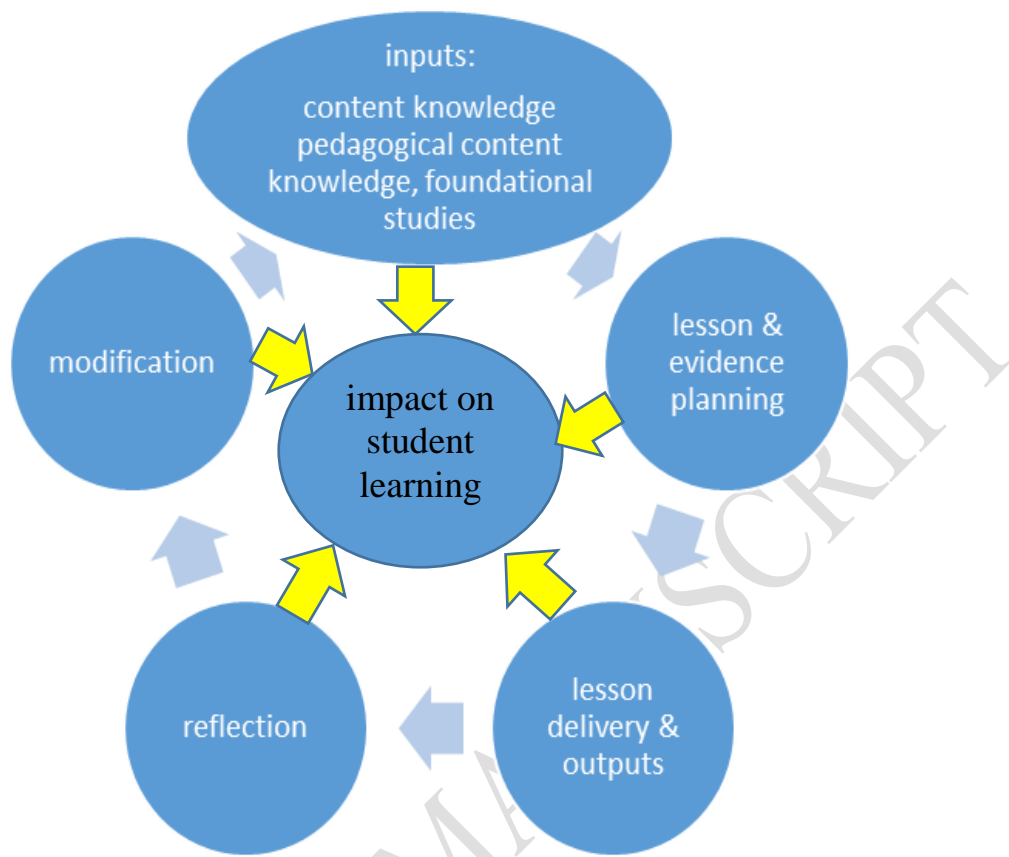


Figure 1. Impact on student learning

Working Model of Evidence Collection and Impact

Developed from practice, the model in Figure 2 (Personal Communication, J. Kertesz, August 1, 2016) provides a useful tool to start understanding impact relationships across ITE programs and practices. Overall, it encapsulates that development of professional practice is ongoing, cyclical, and responsive to feedback and reflection, as depicted in Figure 1. It acknowledges the input of multiple education stakeholders and processes and the role pre-service teachers have in contributing to student learning and evidencing impact. It also shows the multiple outcomes of evidencing impact: student teacher graduation, accreditation, and program development. The purpose of the model is to a) situate the place of pre-service teacher reflection for the purpose of improvement in their practice, b) position assessment undertaken in programs as evidence of impact and achievement of teacher professional standards, and c) demonstrate that evidencing impact can be used to improve program delivery, thereby, potentially increasing the impact on student learning. It is not expected that all interventions undertaken by pre-service teachers will lead to successful outcomes; rather, it is anticipated that at early stages of their teacher preparation, they will show a capacity to use evidence, theory and research to make clinical judgements, and a propensity to critically reflect on the ways in which they work with students, so as to inform future practice. For pre-service teachers to evidence learning impact, they need to integrate and mobilise a combination of strategies relevant to the classroom environment backed by professional teaching behaviours.

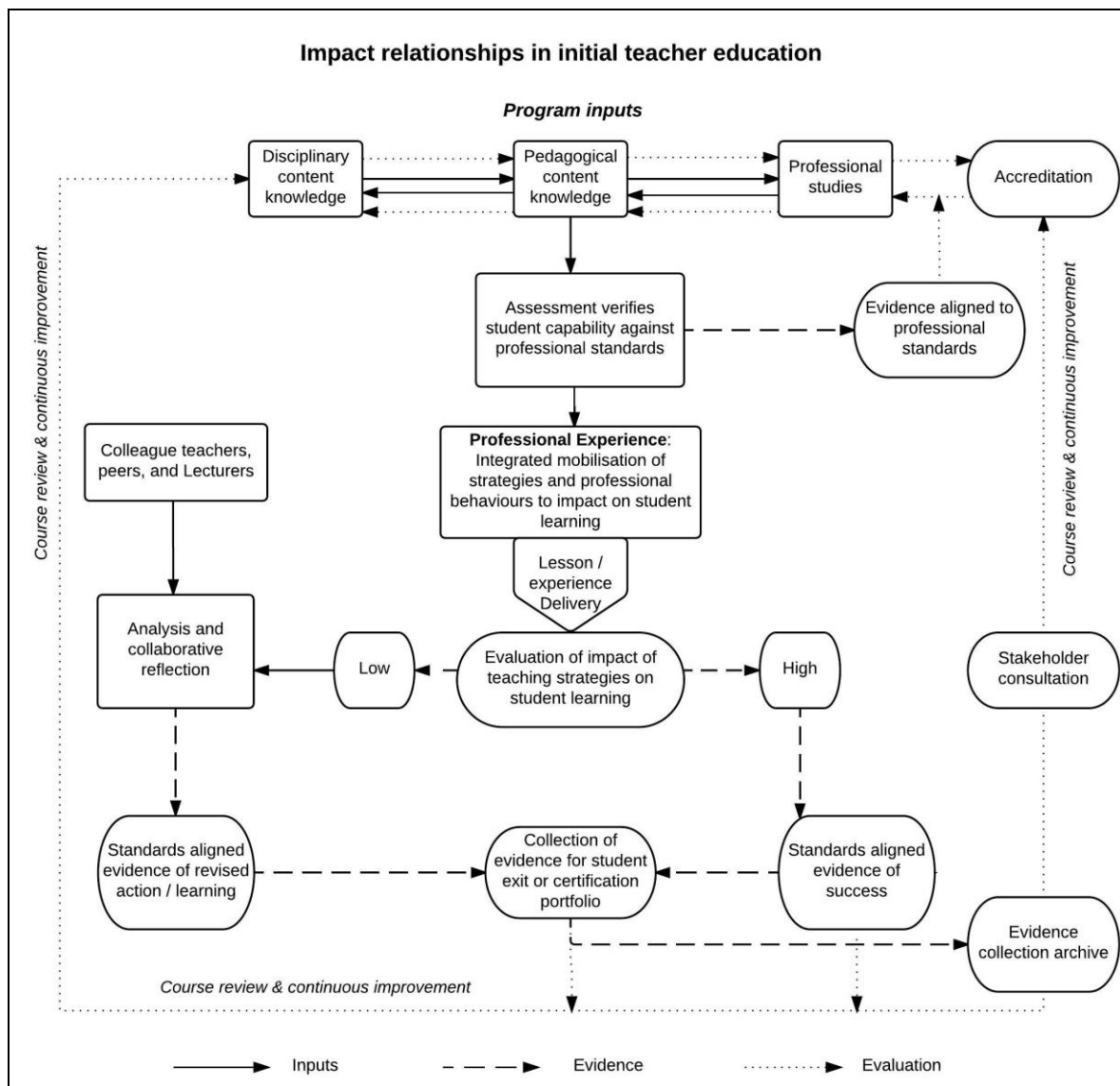


Figure 2. Impact relationships in initial teacher education

Evidencing Impact

Clearly articulated evaluative frameworks are important for capturing the complexity of pre-service and graduate teacher impact on student learning. We utilised the AITSL provided template: *Plan for Demonstrating Impact* (AITSL, 2016) as an organiser to describe the evidence of impact statements. It requires providers of ITE to articulate impact statements in three categories: performance of pre-service teachers, performance of the program – graduate outcomes, and performance of the program – other program improvements, for each program they deliver. The statements are then mapped to the sources of evidence to demonstrate how and the extent to which the programs have achieved in against each impact statement. The set of statements must be sufficiently flexible to apply to a range of education specialisations and sectors, including early childhood teachers, generalist primary teachers, specialist secondary teachers, Health and Physical Education teachers, and teachers of adult learners in vocational training settings.

Consistent with the arguments set out in the earlier section of this paper, the impact statements developed and set out in Table 1, attempt to unpack the process of developing pre-service teacher capacity to impact on student learning.

Table 1.
Impact statements

| Performance of Pre-service Teacher Impact Statements |
|--|
| <ol style="list-style-type: none"> 1. Demonstrates the Graduate Teacher Standards through increasing alignment among theory, policy and practice, and university and learning setting contexts. This leads to the successful completion of unit assessments, professional experience, and a portfolio of supporting evidence. 2. Successfully completes the Australian Teaching Performance Assessment by progressively building teacher readiness during professional experience placements throughout the program. 3. Demonstrates impact on student learning by engaging students through effective relationships, underpinned by appropriate attitudes, values and dispositions. Impact is demonstrated through unit and PE assessment tasks including Critical Tasks (Authentic Learning Tasks) and Teaching Performance Assessment (as evidenced by assessment by colleague teachers and university academics; pre-service teacher peers, pre-service teacher reflection; and student-learner feedback). Impact is confirmed by a portfolio of evidence and the Australian Teaching Performance Assessment. 4. Professional experiences maximize pre-service teachers' opportunities to prepare to teach effectively in relevant contexts [dependent on program focus and outcomes]. |
| Performance of the Program – Graduate Outcomes Impact Statements |
| <ol style="list-style-type: none"> 5. Demonstrates graduate level proficiency in teaching settings – including in fostering literacy and numeracy skills, and relevant age and/or disciplinary specialisms when applicable. 6. Demonstrates positive impact on student learning in varied contexts including rural and regional and in working with students from diverse socio-economic backgrounds. 7. Graduates gain employment in education settings and obtain full teacher registration within four years of full time equivalent teaching. 8. Educational stakeholders are satisfied with the work readiness of graduates, their capacity to impact positively on student learning and their demonstrated ability to reflect upon and take responsibility for their continued professional development. |
| Performance of the program – Other program improvements Impact Statements |
| <ol style="list-style-type: none"> 9. Professional experience partnerships foster a deeper connection between schools and the university, and enhance the experiences and outcomes from placements. 10. Pre-service teachers from all backgrounds have consistently positive learning experiences regardless of mode of delivery and location. 11. Student, professional partnership, school and employer feedback is used in the ongoing and continuous development of units, programs, and processes. |

Illustrations of Evidence

In this section, the evidence sources that support the Impact Statements in Table 1 are illustrated with reference to examples from two initial teacher education programs, the Bachelor of Education Health and Physical Education (HPE) and the Bachelor of Education (Early Childhood) (BEDEC). Both are four year undergraduate programs. The evidence collected aligns to the five principles for collection of evidence impact outlined above.

The HPE program provides pre-service teachers with the theoretical and practical skills to teach that specialisation from kindergarten to year 12. A major component is the incorporation of Work-Integrated Learning (WIL) into a number of units; primarily employed to foster learning through practice, and to establish a learning nexus between theoretical principles and practical application. The University of Tasmania Work-In Learning Policy (2011) recognises WIL as a purposeful, organised, supervised, and assessed educational activity that integrates theoretical learning with its application in the workplace. WIL is identified as a process for demonstrating impact on student learning; through a variety of tasks pre-service teachers generate evidence of the impact through formal and informal assessment, colleague teacher feedback, peer feedback, student feedback, and critical reflection (Principle 1).

Related to Impact Statement 2, HPE pre-service teachers progressively build teacher preparation skills throughout the program, highlighted by WIL opportunities that align with Professional Experience

(PE) placements. For example, prior to the first PE in the second year of the program (a primary school-based PE), pre-service teachers engage in two separate WIL episodes that involve delivery of HPE lessons to primary school students over four consecutive weeks. For one of those experiences, the pre-service teachers are assessed on the design of a four-week unit plan, curriculum alignment, personal reflection on planning and practice, and through colleague teacher feedback. For the second experience, the pre-service teachers are assessed through peer feedback, unit coordinator feedback, and a video presentation of learning outcomes targeted, content covered, and pedagogical strategies employed. Through the assessment tasks embedded in the units, the pre-service teachers collect numerous forms of evidence to demonstrate how student learning is impacted, and collate this evidence in an e-portfolio. This evidence provides representation of several of the methods used to demonstrate teacher readiness that build towards the capstone assessment conducted as part of the final PE placement (Principles 2, 4, 5).

PE placements in the HPE program are structured to allow pre-service teachers to demonstrate impact on student learning in diverse contexts (Impact Statement 6). Rural and regional settings, and diverse socioeconomic backgrounds are characteristic of the Tasmanian population. All HPE pre-service teachers undertake PE in both primary and high school settings in a variety of public and independent schools. They are encouraged strongly to undertake each one of the three PE placements in a different region of the state, and at least one in a rural location (Principle 5).

During the third year of the HPE program, pre-service teachers undertake a unit that requires them to plan, deliver, and evaluate a health-related program or initiative. Pre-service teachers identify a target audience and design a health-related program that have the potential to produce positive outcomes for the participants. Often, the programs are designed for out-of-school hours delivery. Importantly, the pre-service teachers are expected to organise the program themselves, and in doing so they must engage and develop effective relationships with school staff and students; typically, this is achieved beyond the classroom and school gymnasium. In addition, the pre-service teachers are given the opportunity to exhibit appropriate attitudes, values, and dispositions that are integral to effective teaching. The theoretical and practical components of this unit align with Impact Statement 3. The design, delivery, and evaluation of the program to a target audience is assessed formally and external stakeholders such as a colleague teachers or school representatives provide additional assessment. The pre-service teachers are challenged to develop a method whereby they gather feedback from the participants regarding the effectiveness of the program. Again, the pre-service teachers collect this evidence in their e-portfolios (Principles 3, 4).

The BEDEC is a specialist program that enables graduate teachers to educate and nurture children from birth to eight years. The units of study are constructed on a philosophy underpinned by contemporary best practice, and are based on constructive and co-constructive pedagogies that promote positive outcomes for future teachers, young learners, families and communities. To produce effective teachers, programs need to equip graduates to be agents of change in their settings (Mac Naughton, 2003). In addressing this aspect of the program the principles of connections and harmony need to be fostered and this means creating strong links between theory, policy and practice.

Documenting young children's learning is a critical aspect of PE placements in the BEDEC program, along with being embedded in various units within the program. Relevant to Impact Statement 2, the aim is for pre-service teachers to become progressively skilled at observing students to gain insights into their interests and capabilities, to plan effective learning experiences, and to reflect on the impact on student learning. Pre-service teachers are required to successfully complete a unit, Documenting Learning and Young Children's Portfolios, in their fourth year of study. In this fully online unit, pre-service teachers construct an e-portfolio with documentation evidencing student learning through the cycle of observing, planning, implementing, and reflecting. This means gaining access to an early childhood educational context and seeking approval to focus on one student to meet the assessable requirements for the unit of study. Pre-service teachers are required to demonstrate their impact on student learning by providing evidence through documentation, including artefacts, critical reflections and plans for moving the learning forward, in an e-portfolio (Principles 2, 4).

The BEdEC program is available face to face and fully online and attracts pre-service teachers from different backgrounds and locations around Australia, many of whom are working already in the early childhood. The program aims to produce graduates who create authentic and engaging learning experiences for learners, and to plan accordingly. This means taking time to observe and build strong relationships with young learners. Researching alongside young learners is considered imperative in gaining insights into their interests and to better target pre-service teacher planning. The inclusion of authentic experiences, especially within online learning environments is considered important in supporting understandings and engagement. The fully online units in the BEdEC program illustrates this. They also align with Impact Statement 10 as pre-service teachers have a wide variety of ways to convey their progress and comment on the units in the program, especially through embedded unit surveys, teaching and unit evaluations, and the presentation of unit reports at pre-assessor meetings. The provision for constructive feedback during PE is especially welcomed from pre-service teachers, teacher colleagues and other stakeholders (Principles 1, 3).

A new initiative, a professional conversation day, mid-way through their fourth year PE placement, is an opportunity for pre-service teachers to reflect, share their experiences with the university mentors and peers, and showcase evidence of student learning from their e-portfolios. This aligns to Impact Statements 1, 2 and 3. Information and constructive feedback is shared through school and employer partnerships for ongoing and continuous development of units, programs and processes (Impact Statement 11). Rich conversations with stakeholder representatives from the Department of Education, Catholic Education, Independent Schools, Principals Association, and the Teachers Registration Board are formalised through the Course Advisory Committee and the Professional Experience Task Group, and feed into improvement of units, the program, and professional experience placements (Principles 3, 4, 5).

In 2015, the University of Tasmania and the Tasmanian Department of Education worked in partnership to develop the Teacher Intern Placement Program (TIPP). The TIPP provides final year pre-service teachers in the HPE, BEdEC and other University of Tasmania ITE programs with the opportunity to work in a school for a year prior to graduating. The program provides an ideal opportunity for pre-service teachers to align theory, policy and practice, as they study university units while immersed in a learning setting (Impact Statement 1). A key element of the TIPP is the close relationship and collaboration between the Faculty of Education, the Department of Education, and staff within schools. This collaboration has involved the constructive alignment of the Department's performance and development planning process, which applies to all teachers in government schools, with university assessment. This alignment incorporates pre-service teacher, colleague teacher, and school level assessment of evidence of impact on student learning through observation of the pre-service teacher's planning, teaching and reflection (Impact Statement 3). The TIPP is an excellent example of a productive, quality partnership (Impact Statement 9). The program incorporates a feedback loop, whereby school and employer feedback is used in the ongoing and continuous development of units, programs, and evaluation processes (Impact Statement 11) (Principles 2, 3, 4, 5).

Implications – Shifting the Conversation

Although pre-service teachers' PE and WIL experiences undoubtedly provide them with essential and valued learning opportunities to extend their pedagogical knowledge, skills, and dispositions (Garza & Ovando, 2012), they also need to learn and practice skills of reflection to critique the nexus between theory, practice and their teaching experiences (Kirby et al., 2006). The output evidence of reviewed learning episodes draws upon a wide range of inputs in terms of pre-service teachers' preparation for teaching and the guidance and craft wisdom of colleague teachers. Crucially, the learning episodes do not exist solely to be filed and archived as indicators of impact but are a platform for further review, reflection, and future adaptation, both in the learning context, back in the university context, and with education stakeholders.

The illustrations in this paper demonstrate that a robust, credible suite of evidence of impact on student learning can be sourced from pre-service teachers' reflection and their collection of evidence from learners; colleague teachers; university academics; peers (e.g., in the professional conversation day described above), and from school and school system level processes (e.g., TIPP use of the Department's teacher professional development and planning evidence).

It is important to acknowledge that there is compelling evidence that field-based/clinical preparation is an important factor in determining teacher effectiveness. Teacher educators, pre-service teachers, and policy-makers across jurisdictions consistently identify professional experience placements as a critical component of teacher education (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2008; Conroy, Hulme & Menter, 2013). The recent "practicum turn" in initial teacher education (Mathewson Mitchell & Reid, 2011; Reid, 2011, Zeichner, 2012) places a much greater emphasis on the role of "practical" or "field" experiences in the processes of learning to teach. The processes of induction into the creative and professional and thinking required to interpret student learning needs, in partnership with an expert colleague teacher, planning a teaching intervention, and evaluating its effectiveness in supporting students to move forward in their learning, are clearly at the heart of effective ITE partnership practices.

Being immersed and supported in a learning context while studying university units would seem to be good practice in surfacing the link between theory, content knowledge, pedagogical content knowledge and other foundational skills. This opportunity is provided through TIPP to only a small group of pre-service teachers in the University of Tasmania ITE programs but is difficult to replicate widely in a cost effective way. Initiatives like TIPP have the potential to include stakeholder consultation in the continuous improvement of ITE programs (see Figure 2).

Why might it be helpful and constructive to shift the conversation about evidencing impact? Teacher educators should challenge the notion that clear and straightforward measures of the effectiveness of pre-service teachers can be extrapolated from their work with learners over a five to six-week period. We need to make it explicitly evident to the world beyond ITE professionals that teaching is complex. Although stated relatively simply in Figure 3, the nature of teachers' work is multifaceted (Bransford, Darling-Hammond, & LePage, 2005; House of Representatives Standing Committee on Education and Vocational Training, 2007; Shulman, 1986). The figure shows that "A Vision of Professional Practice" is an agglomeration of many aspects of teaching. This nuanced conception of teaching involves an interweaving of specialised expertise, knowledge, skills and dispositions. It also demands the capacity to unpack these skills, so that others may learn from processes that enable individual teachers to work more effectively with diverse learners and to create engaging and productive learning environments (Ball & Forzani, 2011). No one single factor can be identified as the prime or sole contributor to the impact a teacher may have upon student learning. It is, therefore, critical that evaluation against multiple measures and forms of evidence—across a range of settings and contexts—is secured when considering pre-service teachers' impact on student learning.

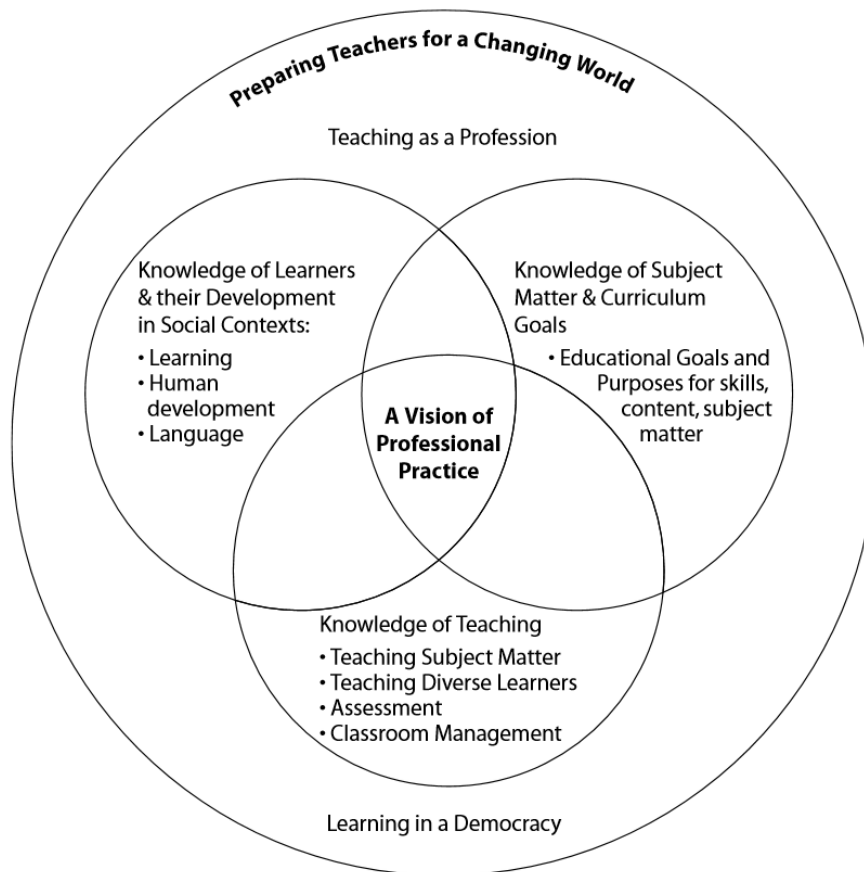


Figure 3. A framework for understanding teaching and learning (Bransford et al., 2005, p. 11).

Some models of university-school partnership “seek to integrate practical engagement in schools with research-based knowledge in carefully planned and sequenced ways” (Cordingley, 2015; Dixon, Mayer, Gallant, & Allard, 2011; Ure, Gough, & Newton, 2009). Our project was influenced by this thinking, the TIPP experience, as well as the notion of “research informed clinical practice.” Clinical practice in education conveys the need to bring together knowledge and evidence from different sources, through a carefully sequenced program, which is designed deliberately to integrate teachers’ experiential learning at the “chalk face” with research-based knowledge and insights from academic study and scholarship. This aligns with the reform agenda for teacher pre-service education that focuses on the use evidence about learners to make informed decisions about teaching practice (University of Queensland, 2012).

Conclusion

The link between pre-service teacher preparation and student achievement is undoubtedly challenging to measure, indeed entirely valid and reliable measures may well be impossible to pin down. As the American Educational Research Association’s Panel on Research and Teacher Education stated:

This kind of research depends on a chain of causal events with several critical links: empirical evidence demonstrating the link between teacher preparation programs or structures and teacher candidates’ learning ...; empirical evidence demonstrating the link between teacher candidates’ learning and their practice in actual classrooms; and empirical evidence demonstrating the link between the practices of graduates of teacher preparation programs and what their pupils learn ... (Cochran-Smith & Zeichner, 2005, p. 3).

We share the scepticism of US colleagues about seeking out a seductively simple relationship between pre-service teachers teaching performance and the quality of students’ learning. The list of external factors and variables that could have an impact on student learning beyond the efforts of an

individual teacher on a typical placement is overwhelming. We recognise, however, that the “impact” imperative, setting aside its complexity and imprecision, may assist to make the threads of student learning and expectations of the linkages between university-based learning and practical applications more explicit for ourselves and our beginning teachers. We argue that if the conversation is shifted to viewing university-school/learning setting partnerships through the prism of pre-service teachers’ contribution to student learning, worthwhile outcomes are realisable.

There are quality assurance processes and new ways of thinking that can be applied to creating deeper, more authentic, and more balanced university-school partnership arrangements. These should be supported by high level partnerships with school systems and other major employers of graduates, such as TAFEs. Practical strategies and good practice ideas that enable colleague teachers to work more purposefully with pre-service teachers to promote student learning include assisting colleague teachers to focus upon a variety of sources of evidence of the impact of teaching on student learning. University-school partnerships should seek to sharpen the evidencing strategies of pre-service teachers to demonstrate they have met graduate teacher standards; for example, portfolio evidence that focuses more forensically on specific evidence of student learning. In addition, we can also work to ensure practices colleague teachers and university moderators draw upon to assess pre-service teachers’ readiness for teaching against the Australian Graduate Professional Standards (AITSL, 2014) are more rigorous. This will accommodate the assessment of the impact of pre-service teacher that is based on evidence of knowledge, capabilities and dispositions developed during university-based training, as well as field-based experience. Verification of pre-service and graduate teachers’ ability to have reliable, sustained impact on students’ learning must be based on evidence from both. Evidence from a narrow range of learning episodes is insufficient.

References

- Australian Institute for Teaching and School Leadership. (2014). *Australian professional standards for teachers*. Retrieved from <http://www.aitsl.edu.au/australian-professional-standards-for-teachers/standards/list>.
- Australian Institute for Teaching and School Leadership. (2015). *Classroom ready: Demonstrating the impact on student learning of initial teacher education programs*. Melbourne, Australia: Author.
- Australian Institute for Teaching and School Leadership. (2016). *Template 4. Plan for demonstrating impact*. Melbourne, Australia: Author. Retrieved from <http://www.aitsl.edu.au/docs/default-source/initial-teacher-education-resources/1-template-4-plan-for-demonstrating-impact.docx?sfvrsn=6>
- Ball, D. L., & Forzani, F. (2011). Teaching skilful teaching. *The Effective Educator*, 68(4), 40–45.
- Bobis, J., Clarke, B., Clarke, D., Thomas, G., Wright, B., Young-Loveridge, J., & Gould, P. (2005). Supporting teachers in the development of young children's mathematical thinking: Three large scale cases. *Mathematics Education Research Journal*, 16(3), 27–57.
- Boyd, D., Grossman, P., Lankford, H., Loeb, S., & Wyckoff, J. (2008). *Teacher preparation and student achievement. Working Paper 20*. Retrieved from https://www.researchcentral.org/resource-download/?id=1293&post_id=1292
- Bransford, J., Darling-Hammond, L., & LePage, P. (2005). Introduction. In L. Darling-Hammond, & J. Bransford (Eds.), *Preparing teachers for a changing world: What teachers should learn and be able to do* (pp. 1-39). San Francisco, CA: Jossey-Bass.
- Burn, K., & Mutton, T. (2013). *Review of 'research-informed clinical practice' in initial teacher education*. Retrieved from <https://www.bera.ac.uk/wp-content/uploads/2014/02/BERA-Paper-4-Research-informed-clinical-practice.pdf?noredirect=1>
- Cochran-Smith, M., & Zeichner, K. M. (2005). *Studying teacher education: The report of the AERA Panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaum.
- Conroy, J., Hulme, M., & Menter, I. (2013). Developing a 'clinical' model for teacher education. *Journal of Education for Teaching*. 39 (5) 557-573.
- Cordingley, P. (2015). The contribution of research to teachers' professional learning and development. *Oxford Review of Education*, 41(2), 234-252.
- Dixon, M., Mayer, D., Gallant, A., & Allard, A. (2011). *Deakin authentic teacher assessment: "Authentically assessing beginning teaching: Professional standards and teacher performance assessment"*. Melbourne, Australia: Deakin University. Retrieved from <http://dro.deakin.edu.au/eserv/DU:30048315/dixon-authenticallyassesing-2011.pdf>
- Donnelly, K. (2015). Stronger and more focused teacher training key to improved classroom outcomes, *The Australian*, February 14, 2015.
- Donnelly, K. (2012). Training for our school teachers is substandard. *The Australian*, August 4, 2012.
- Garza, R., & Ovando, M. N. (2012). Preservice teachers' connections of pedagogical knowledge to mentoring at-risk adolescents: Benefits and challenges. *Mentoring and Tutoring: Partnerships in Learning*, 20(3), 343-360.
- Greany, T., & Brown, C. (2015). *Partnerships between teaching schools and universities: Research report*. London: Institute of Education. Retrieved from http://academia-kita.macam.ac.il/Documents/teaching_schools_and_universities_research_report.pdf
- Hamel F. L., & Merz, C. (2005). Reframing accountability a pre-service program wrestles with mandated reform. *Journal of Teacher Education*, 56(2), 157-167.
- Hattie, J. (2005). What is the nature of evidence that makes a difference to learning? In *Using Data to Support Learning*. ACER Research Conference 2005, 7–9 August, Melbourne. Retrieved from http://research.acer.edu.au/research_conference_2005/7
- House of Representatives Standing Committee on Education and Vocational Training. (2007). *Top of the class: Report on the inquiry into teacher education*. Canberra, Australia: Author.

- Husbands, C. (2016). Teacher education under pressure: Professional learning in an age of global transformation. *International Journal of Continuing Education and Lifelong Learning*, 8(2) 20-33.
- Kirby, S., McCombs, J., Barney, H., & Naftel, S. (2006). *Reforming teacher education: Something old, something new*. Santa Monica, CA: RAND Corporation. Retrieved from http://www.rand.org/pubs/monographs/2006/RAND_MG506.pdf.
- Mac Naughton, G. (2003). *Shaping early childhood: Learners, curriculum and contexts*. Maidenhead, England: Open University Press.
- Mathewson Mitchell, D. & Reid, J. (2016). (Re)turning to practice in teacher education: Embodied knowledge in learning to teach. *Teachers and Teaching: Theory and Practice*. [Online publication] Retrieved from <http://dx.doi.org/10.1080/13540602.2016.1203775>
- Reid, J. (2011). A practice turn for teacher education? *Asia-Pacific Journal of Teacher Education*, 39(4), 293–310.
- Rorty, R. (1982). *Consequences of pragmatism* (Essays: 1972-1980). Minneapolis, MN: University of Minnesota Press.
- Seidel, T., & Shavelson, R. J. (2007). Teaching effectiveness research in the past decade: The role of theory and research design in disentangling meta-analysis results. *Review of Educational Research*, 77(4), 454-499.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4–14.
- Simola, H., Ozga, J., Segerholm, C., Vargo, J., & Anderson, V. N. (2011). Governing by numbers. In J. Ozga, P. Dahler-Larsen, C. Segerholm, & H. Simola, H. (Eds.) *Fabricating quality in education: Data and governance in Europe* (pp. 96-106). London: Routledge.
- Teacher Education Ministerial Advisory Group. (2014). *Action now: Classroom ready teachers*. Retrieved from https://docs.education.gov.au/system/files/doc/other/action_now_classroom_ready_teachers_accessible.pdf.
- Timperley, H. (2001). Mentoring conversations designed to promote student teacher learning. *Asia-Pacific Journal of Teacher Education*, 29(2), 111-123.
- University of Queensland (2012). An investigation of best practice in evidence-based assessment within preservice teacher education programs and other professions. Brisbane, Australia: Queensland College of Teachers.
- University of Tasmania. (2011). *Work-In Learning Policy*. Hobart, Australia: Author.
- Ure, C., Gough, A., & Newton, R. (2009). *Practicum partnerships: Exploring models of practicum organisation in teacher education for a standards-based profession*. Strawberry Hills, Australia: Australian Learning and Teaching Council.
- Zeichner, K. (2012). The turn once again towards practice-based teacher education. *Journal of Teacher Education*, 63(5), 376–382.