

Incorporating evidence-based teaching practices into ITE

Project 2

February 2023

This report identifies the principles and characteristics necessary for Initial Teacher Education (ITE) programs to embed evidence-based teaching practices. AERO conducted an umbrella desktop review of published sources and identified five 'best practice' principles from the evidence: Vision, Content, Pedagogy, Assessment and Partnerships. This report presents the evidence base and value for each principle, followed by alignment with the National Program Standards for accreditation and potential considerations for the panel.

Background

The Teacher Education Expert Panel has been established to provide advice on key issues raised at the Teacher Workforce Shortage Roundtable and in the Report of the Quality Initial Teacher Education (QITE) Review.

This report has been produced for Project 2 of the Teacher Education Expert Panel, which focuses on strengthening ITE programs to deliver confident, effective, classroom-ready graduates [Recommendation 7 from the Report of the QITE Review].

Scope for this report

Project 2: Incorporating evidence-based teaching practices into ITE

Key questions that should be considered when conducting the research:

- What does the research tell us about the best way to embed evidence-based teaching practices into ITE delivery?

The final report should:

- Provide a summary of available research on how to best embed evidence-based teaching practices in ITE, including common characteristics of

Australian and international ITE institutions focused on embedding evidence-based teaching practices.

- Provide a summary of learnings for Australian ITE, including case studies (as appropriate).

Purpose

This report reviews the evidence around embedding evidence-based teaching practices into ITE programs. Research conducted for Project 2 identifies the key principles and characteristics that support ITE providers to embed evidence-based teaching practices into program design and delivery. This is considered in relation to the current National Program Standards for accreditation (Program Standards) and the Australian Professional Standards for Teachers (Teacher Standards) to determine if the existing Program Standards for accreditation are fit for purpose.

Methodology

An umbrella desktop review of published sources (academic papers and grey literature) was undertaken to identify the key principles and characteristics that support ITE programs to embed evidence-based teaching practices, including common features of high quality Australian and international ITE programs. Three desktop case studies have been developed to provide examples of how these principles have been embedded in practice.

Limitations

There is a paucity of rigorously designed impact evaluations in ITE research (Mancenido 2022). Existing research into the effectiveness of ITE programs largely draws on seminal texts and program evaluations, which often rely on graduates' perceptions about their preparedness for teaching and employers' perceptions of graduate effectiveness (Wilson et al. 2002; Ronfeldt 2021). There is also a lack of publicly available research conducted in the Australian context (Ingvarson et al. 2014).

Summary of the evidence

While there are gaps in the available evidence on effective teaching practices in ITE (Hill et al. 2021; Mancenido 2022), AERO's research draws on the professional consensus built up over time and rigorous research into adult skill development, which is informing new approaches to professional practice in ITE.

Evidence shows that the design of ITE programs has a major influence on graduate teacher preparedness and effectiveness, with research suggesting three key components of ITE programs: the content of teacher education, the learning process

and the learning context (Darling-Hammond and Bransford 2007). Project 1 outlines the content in relation to evidence-based teaching practices, while Project 2 explores the evidence for creating effective learning environments that embed evidence-based teaching practices.

Over the past 20 years, a number of national and international reviews have considered the effectiveness of ITE programs and identified opportunities to strengthen ITE (Cochran-Smith and Zeichner 2009; National Research Council 2010; National Academy of Education n.d.; Department of Education, Skills and Employment 2022; Department of Education 2015).

AERO has synthesised the evidence from seminal reviews of ITE programs, professional consensus and scientific research to inform a set of 'best practice' principles. The principles draw on formative analysis of the key features of effective ITE programs (Darling-Hammond and Bransford 2007; Ingvarson et al. 2014), together with research into embedding evidence-based teaching practices and developing pre-service teachers' practical skills and knowledge.

Best practice principles

The evidence supports a set of best practice principles to guide program design and delivery:

1. Vision: A shared, consistent vision of effective teaching practice.
2. Content: Core program content grounded in the evidence-base.
3. Pedagogy: Drawing on adult skill development and taught in the context of practice.
4. Assessment: Assessments mapped against the vision of effective teaching practice.
5. Partnerships: Strong partnerships between ITE providers and schools.

Together, the principles outline interconnected and necessary components of a high quality ITE system, which is grounded in evidence-based teaching practices to develop classroom-ready graduate teachers.

The next section provides the evidence base and elaborates on the value and application of individual principles, as well as considering alignment with the Program Standards and potential considerations for the panel, which are addressed in more detail in the final section of the report.

Principle 1. Vision

A shared, consistent vision of effective teaching practice

What does it look like?

A shared, consistent vision of effective evidence-based teaching practice is important to underpin program design and delivery. The common vision should drive program coherence and integration, so that units of study and professional experience complement one another and are sequenced to achieve a consistent learning experience for pre-service teachers.

This vision should be evident and all teacher educators, including unit coordinators, supervisors and tutors, should demonstrate a shared commitment to the agreed vision of effective teaching practice in their work. Units, assessments and professional experience should integrate evidence-based teaching practices and build towards the required skills and knowledge for graduate teacher registration and classroom-ready graduates.

What is it not?

Programs lacking a central vision of effective teaching practice promote an inconsistent approach to teaching and learning, with disjointed and siloed units, lack of sequencing and poor coherence across the program. This approach is not centred around the pre-service teacher experience and may reflect individual academic interests and biases, rather than a consistent, coherent approach to evidence-based teaching practice. Individual teacher educators should not be promoting different teaching practices between units, such as explicit instruction in one unit and inquiry-based learning in another.

Other challenges in implementing a shared vision across programs, units, assessments and professional experience include limited resourcing, fragile relationships with schools and the dual delivery of education programs with other departments in double degrees.

What is the evidence base?

A shared vision of good teaching across coursework and professional experience is recognised as a key feature of coherent high-quality ITE programs that embed evidence and produce effective graduates (Darling-Hammond and Bransford 2007; Ingvarson et al. 2014; Darling-Hammond et al. 2019).

Studies of ITE programs that produce well-prepared graduate teachers consistently highlight vision, integration and coherence as important elements to build a deeper understanding of teaching and learning (Darling-Hammond et al. 2019). Central to these programs was a strong, shared vision of how students learn, which was embedded in coursework with opportunities for practice via professional experience.

A ground-breaking study by the New York City (NYC) Teacher Pathways Project in 2009 reported that graduate teacher effectiveness was predicted by the level of alignment and integration across ITE program coursework and professional experiences (Boyd et al 2009). Other studies have reported that pre-service teachers' perceptions of program coherence reflect a central vision of teaching and learning that is shared by teacher educators, embedded in programs and reinforced across coursework and professional experiences (Grossman 2008).

Research from the International Association for the Evaluation of Educational Achievement (IEA) suggests a strong association between program coherence and graduate teacher preparedness for teaching (Tatto 2012). Key features of program coherence were identified as: organising the program to integrate evidence-based teaching practices, sequencing the program to meet pre-service teachers' learning needs and build on prior learning, explicitly linking units across the program, and clearly aligning units with the Teacher Standards.

A research report from the Australian Council for Education Research (ACER) identified that clearly defined Teacher Standards synthesise education research into a vision of effective teaching to guide program design, delivery and assessment (Ingvarson et al. 2014). The report highlighted four core components of standards-based education systems:

1. Standards clearly describe the knowledge and skills required for classroom-ready graduate teachers and are used to guide ITE program planning.
2. Coherent professional learning is achieved by mapping all units against the Teacher Standards and ensuring the program collectively meets the developmental requirements for graduate teacher registration.
3. Effective assessments are sequenced throughout the program to provide reliable evidence that pre-service teachers have developed the required skills and knowledge for classroom teaching.
4. Accreditation of ITE programs is conducted by an independent body and is based on evidence that the Teacher Standards are being met by graduates.

A recent review of five high-achieving countries reported that most of their education systems incorporated standards, which were developed from research on effective teaching practice and articulated the skills and knowledge expected of graduate teachers in order to define and support teaching quality (Darling-Hammond 2021).

How does this align with the National Program Standards?

Program Standard 2 outlines 'a documented and coherent rationale' and 'a coherent and sequenced delivery of program content,' while Program Standard 1 outlines alignment with Teacher Standards. However neither of these standards refer to a vision of effective teaching.

The relevant Program Standards are included in Appendix A for reference.

Principle 2. Content

Core program content grounded in the evidence base

What does it look like?

Core program content grounded in effective teaching practice is important to build quality and ensure evidence-based practices are consistently embedded in ITE programs. The foundational core content should be taught explicitly early in the program and woven across the entire program.

This includes the foundational core content relating to pedagogical practice (the brain and learning, effective pedagogical practice, classroom management) and key enabling factors for learning (cultural responsiveness, family engagement, diverse learners and students with additional needs).

Integrating the foundational core content is important to ensure the essential skills and knowledge are taught in all ITE programs and to support the development of high-quality graduates, who have a firm grasp of effective teaching practices. A tight-loose approach could be used to guide ITE program design, with a tight approach guiding core program content and a looser approach to the rest of the program.

What is it not?

While there are some additional jurisdictional requirements, such as the [NSW Education Standards Authority \(NESA\) Priority Area elaborations](#), there is no national core program or ITE curriculum that specifies the evidence-based teaching practices to systematically embed in ITE programs, irrespective of program length or design. The lack of a common core program can lead to an inconsistent approach across providers, resulting in significant variation in the quality and preparedness of graduate teachers and variation in the depth of skills and knowledge of evidence-based teaching practices.

There is a risk that changing models of study (such employment-based pathways and compressed programs) will not effectively embed the foundational core content prior to professional experience placements. If participants do not receive enough pedagogical instruction before they start to teach, it may impact their ability to effectively learn on-the-job and place an additional burden on school supervisors.

What is the evidence base?

A review of ITE programs identified that a shared feature of high-quality programs was core content, which explicitly covered development, learning and subject matter pedagogy with opportunities for practice (Darling-Hammond and Bransford 2007).

Research suggests that graduate teachers' sense of preparedness is influenced by the ITE programs they attend (Imbimbo and Silvernail 1999; Darling-Hammond et al. 2002) and the quantity of education coursework they complete (Ronfeldt 2021). Emerging

evidence points to the quality of coursework in promoting teaching effectiveness, particularly practice-based courses with opportunities for pre-service teachers to practice and receive feedback and coaching (Ronfeldt 2021).

There is a close relationship between subject-matter knowledge and pedagogy, with extensive research showing that teachers' depth of subject matter understanding contributes to their ability to use their skills effectively (Ingvarson et al. 2014). National and international studies highlight the importance of enabling pre-service teachers to gain a deep understanding of subject-specific pedagogical knowledge to support quality teaching (Ingvarson et al. 2014; Darling-Hammond et al. 2019).

An ACER study reported that graduate teachers who felt well prepared for their first teaching role were more likely to have completed 'content'-focused ITE programs, which enabled them to gain a deeper understanding of the content and pedagogical knowledge alongside skills in measuring student understanding, developing appropriate activities, and assessing learning (Ingvarson et al. 2007).

Project 1 provides a detailed explanation of the evidence base for foundational core content.

How does this align with the National Program Standards?

Schedule 1 for Program Standard 4.2 provides a broad overview of the mandatory content requirements for ITE programs. This information is included in the PDF version of the Accreditation Standards and Procedures but not outlined in the [online Program Standards](#).

Beyond broad program guidance in Standard 4 and Schedule 1, there is no detailed information reflecting the foundational core content necessary for ITE programs.

The relevant Program Standards are included in Appendix A for reference.

Principle 3. Pedagogy

Drawing on adult skill development and taught in the context of practice

What does it look like?

Integrating theory and practice into ITE is important to contextualise learning and enable pre-service teachers to practise and refine skills. ITE programs should draw on the principles of adult skill development and be taught in the context of practice to make learning relevant. Adult learning principles draw on: self-concept and self-direction, prior life experiences and knowledge, readiness to learn, learning orientation and motivation to learn (Knowles et al. 2005).

Units should be carefully sequenced within ITE programs to become progressively more complex and enable pre-service teachers to build competence through regular practice and feedback.

What is it not?

In contrast, ITE programs that do not link theory and practice limit opportunities for pre-service teachers to apply their knowledge and risk developing graduate teachers with analytic and writing skills but lacking effective classroom teaching skills. Programs with units that are poorly sequenced limit progressive learning and lack coherence.

There are obvious challenges regarding how online programs support the integration of practice for pre-service teachers, including opportunities to engage in practice activities during coursework and access to professional experience.

What is the evidence base?

In the report *Preparing teachers: Building evidence for sound policy* (2010), the US National Research Council identified that opportunities for pre-service teachers to apply learning and refine their skills were essential for successful learning.

Research into high quality ITE programs identifies the integration of theory and practice across the program as a key feature enabling graduate teachers to effectively tap into their knowledge when teaching (Darling-Hammond et al. 2019). A number of studies suggest that pre-service teacher learning and effectiveness are improved by integrating practice into ITE (Darling-Hammond and Bransford 2007).

In the report *Practice with purpose: The emerging science of expertise* (2016), the Deans for Impact identified the most relevant principles and evidence to develop teacher skill through 'deliberate practice':

1. Push beyond one's comfort zone
2. Work towards well-defined specific goals
3. Focus intently on practice activities
4. Receive and respond to high quality feedback
5. Develop a mental model of expertise.

Building on this, the Ambition Institute provided evidence-based guidance for deliberate practice in ITE to develop 'adaptive expertise', which is the ability to respond to new contexts, refine skills and learn from experience (Fletcher-Wood and Farndon 2021). This skill enables graduate teachers to respond to the challenging and changing demands of classroom teaching, while continuing to learn and improve skills (including via continued professional learning).

Looking beyond ITE, the link between theory and practice is embedded in the structure of medical education, which draws on the principles of adult learning theory by pairing knowledge with practice to facilitate meaningful learning (Wijnen-Meijer et al. 2020). Medical students receive early experience in clinical problem solving, while

clinical practice is interspersed with continued science learning throughout the program to contextualise theory and practice. Over time, medical programs progressively increase clinical practice and decrease classroom learning to build medical students' skills and maximise opportunities for improvement.

How does this align with the National Program Standards?

Practice-based learning is not clearly reflected in the Program Standards beyond assessment and professional experience. Standard 2.3 outlines the resourcing, teaching and assessment strategies required for ITE programs.

Principle 4. Assessment

Assessments mapped against the vision of effective teaching practice

What does this look like?

Assessments that reflect the vision of effective teaching practice are important to support coherence across ITE programs. Assessments should be mapped across the program to enhance transparency, reduce duplication and ensure the core aspects of teaching are measurable through diverse assessments at appropriate levels for pre-service teachers.

Assessments should contextualise learning by relating theory to practice, for example through simulation, role play, case studies, teacher research, performance assessments and portfolios. Effective assessments are also important to build pre-service teachers' capacity for lifelong learning and help them to develop the skills to conduct and evaluate research and integrate evidence into practice.

What it is not?

In contrast, some ITE providers rely on assessments that do not relate to real-world learning or entail critical reflection on assessment practice and outcomes. For example, consistent assessment through theoretical essays alone does not effectively assess pre-service teachers' skills and competence.

Assessments that are not mapped against the vision of effective teaching practice and the broader program are likely to be siloed, duplicate work, and poorly complement teaching and learning.

What is the evidence base?

Effective use of assessments that relate to real-world learning has been highlighted as a feature of high quality ITE programs (Darling-Hammond and Bransford 2007;

Ingvarson et al. 2014). Research suggests that effective assessments should be used to integrate theory into practice and enable pre-service teachers to participate in activities that better prepare them for classroom teaching (Darling-Hammond and Snyder 2000). Evidence also suggests that assessments are more effective when the aims and requirements are explicitly outlined for pre-service teachers (Thomas et al. 2019).

Research points to three core objectives for assessment in ITE programs. Firstly, quality assessments are required to certify achievement and recognise the expertise of pre-service teachers (Thomas et al. 2019). Assessments that provide valid methods and reliable evidence that pre-service teachers meet accreditation standards are identified as a core component of a standards-based education system (Ingvarson et al. 2014).

Secondly, assessments facilitate and direct pre-service teacher learning, enabling them to research, plan and design examples of teaching, evaluate the effectiveness of their approach, and refine teaching with feedback (Thomas et al. 2019; Queensland College of Teachers 2012).

Thirdly, assessments may be designed to build the capacity for lifelong learning (Thomas et al. 2019). Researchers suggest that this type of 'sustainable assessment' meets the needs of pre-service teachers during their ITE programs, while building skills to support complex decision making and lifelong learning as graduate teachers (Boud 2000; McLean 2018).

A Queensland College of Teachers report (2012) into best practice in evidence-based assessment in ITE highlighted key features of high-quality assessments, including:

- Aligning with teaching standards, sampling pre-service teachers' skills and knowledge, and providing opportunities for practice and feedback.
- Part of a system with monitoring, evaluation, and moderation to enhance reliability and validity across assessors.
- Enhancing capacity for self-assessment and reflection to integrate learning into practice.
- Capturing the complexity of teaching and helping to develop adaptive expertise.
- Reflecting the educational goals in the [Alice Springs \(Mparntwe\) Education Declaration](#).

In Australia, all pre-service teachers are required to complete an accredited [Teaching Performance Assessment \(TPA\)](#), which was introduced in 2019 following the *Action Now: Classroom Ready Report* to assess pre-service teachers' reflective practice (planning, teaching, assessing) using evidence collected in their final year of professional experience.

How does this align with the National Program Standards?

Program Standards 1, 2, 4 and 5 outline various accreditation requirements relating to assessment.

The relevant Program Standards are included in Appendix A for reference.

Principle 5. Partnerships

Strong partnerships between ITE providers and schools

What does this look like?

Strong partnerships between ITE providers and schools are important to enable coordinated professional experiences with quality mentoring and supervision for pre-service teachers. Genuine collaboration enables ITE providers and schools to identify their needs and ensure alignment in their vision of effective teaching practice.

Adequate resourcing is important for schools to facilitate high quality professional experiences and ensure training for supervisors, which could be built into teacher professional development and continued certification. Effective communication between schools and ITE providers enables both groups to identify their needs, plan effective professional experience placements, and establish pathways for graduate teachers to address school staffing shortages.

Strong partnerships provide clarity on the roles and responsibilities for ITE providers and schools and support smooth transitions for graduate teachers. ITE providers are primarily responsible for preparing pre-service teachers for registration in line with the Teacher Standards and schools are primarily responsible for on-the-job learning via professional experiences, mentoring and supervision, quality induction, and ongoing professional learning.

Employment-based pathways rely on effective partnerships between ITE providers and schools to combine theoretical learning with professional experience and learning on-the-job. Beyond effective partnerships, other key elements for employment-based programs include expert mentors and supervisors, clinical methods, agreed assessment schemes, time and resources, and professional development support. These elements are necessary to effectively support pre-service teachers to integrate evidence-based practices into classroom teaching and ensure that students in schools are supported to learn effectively. Employment-based pathways and changing models of study are likely to be addressed further in Projects 5 and 6.

What it is not?

Poor partnerships between ITE providers and schools can limit effective collaboration and result in poor or disjointed professional experiences. Poor partnerships contribute to limited access to professional experience, inadequate resourcing, poor supervision and minimal training for supervisors, lack of alignment in vision and teaching practices, and burden shifting between ITE providers and school systems about who should be responsible for preparing teachers in what area.

What is the evidence base?

Research shows that high quality ITE programs have strong connections between ITE providers and schools, which support the provision of quality professional experiences (Darling-Hammond and Bransford 2007). Key features of effective partnerships include a shared understanding and common beliefs about teaching and learning, as well as a common commitment to enhancing teacher education through training pre-service teachers (Darling-Hammond and Bransford 2007).

A study into the perceptions of effective graduate teachers identified access to a high-quality professional experience as the most important component of ITE programs (Behrstock-Sherratt et al. 2014). Key to this was an effective supervising teacher and skilled mentor, who had training and relevant subject-specific experience.

Evaluation of the Victorian School Centres for Teaching Excellence (SCTE) Initiative in 2012-13 reported that a key feature of the program was close collaboration between ITE providers and school staff, along with extended school placements (Ingvarson et al. 2014). Graduate teachers from SCTE programs rated their programs as more effective in preparing them for registration compared to graduates from other ITE programs.

A school perspective on professional experience identified that school staff felt they had much to contribute to pre-service teacher learning and could support meaningful school-ITE provider relationships (Galvin et al. 2021). While School Executives identified supervision and mentoring as a professional development opportunity for staff, not all teachers were enthusiastic about participating as mentors or supervisors for pre-service teachers.

Other challenges for effective partnerships were outlined in recent international research into professional experience placements (White 2022). These included:

1. Providing quality guidance for pre-service teachers
2. Addressing poor performance in schools by pre-service teachers
3. Lack of collaboration between schools and ITE providers in meeting such challenges
4. Clash in teaching methods between schools and ITE providers
5. Clash in other requirements, such as the timing or nature of assessments
6. Dual role of coaching and assessing pre-service teachers
7. Lack of school leadership commitment to placements and their demands
8. Poor communication between schools and ITE providers
9. Ensuring access to appropriate learning opportunities in the school.

These challenges may be especially relevant for changing models of study (such as employment-based programs and compressed programs) with regard to learning and teaching evidence-based practices during professional experience placements.

Some jurisdictions have policies of developing strong partnerships between schools and ITE providers. The [Memorandum of Understanding \(MOU\)](#) between the Victorian Department of Education and Training and ITE providers is a recent example of a regulatory device to enhance partnerships and align school and ITE provider needs.

The MOU is designed to clarify roles and responsibilities, increase schools' capacity, support ongoing collaboration, and reduce administrative burden by aligning with the Victorian Institute of Teaching (VIT) regulatory requirements for accreditation. While this is a new policy and there is no public evaluation, the model is designed to strengthen relationships between ITE providers and schools by sharing responsibility for hosting placements across schools and facilitating broader access to graduate recruits.

How does this align with the National Program Standards?

The Accreditation Standards and Procedures include Partnerships as an overarching principle for national accreditation:

Partnerships

National accreditation is built around partnerships involving shared responsibilities and obligations among initial teacher education providers, education settings, teachers, employers, and Authorities and a shared commitment to improve initial teacher education and work in partnership to positively affect student learning and graduate outcomes.

Program Standard 5 outlines the requirements for professional experience, including formal partnerships.

The relevant Program Standards are included in Appendix A for reference.

Case study

[National Institute of Education \(NIE\) | Nanyang Technological University, Singapore](#)

The National Institute of Education (NIE) is the sole provider of ITE in Singapore and is consistently recognised as one of the highest-performing ITE providers in the world (*QS World University Rankings for Education & Training 2022* n.d.).

NIE's ITE programs are underpinned by a **clear philosophy of teacher education**, represented by the [V3SK framework](#), which outlines a three-pronged set of values (learner-centredness, teacher identity, and service to the profession and community) together with skills and knowledge. The framework guides the design, delivery and enhancement of NIE's ITE programs in order to develop graduate teachers who are classroom ready and continually strive to extend their teaching skills.

The **tripartite relationship** between [NIE, the Ministry of Education and schools](#) is a key feature of the ITE programs. This relationship guides a collaborative approach to professional experiences by involving schools in teacher preparation and ensuring high-quality supervision for pre-service teachers. The professional experiences enable pre-service teachers to actively participate in schools, including through opportunities to teach their subjects of specialisation. This collaboration supports the translation of theory into practice and builds opportunities to implement research-based pedagogical practices at NIE and in schools.

The NIE programs **link theory and practice** through school-based professional experience placements, case methods, blended learning and effective **assessments that relate to real-world learning**, such as portfolio evaluation. A compulsory one-year service-learning project is designed to foster values such as respect for diversity, collaboration, professional commitment and care.

NIE also offers a professional learning program, which provides pedagogical leadership and mentoring for Senior, Lead and Master Teachers to build professional excellence, collaboration, and transformational leadership skills.

Case study

The Stanford Teacher Education Program (STEP), United States of America

STEP is a consistently high achieving ITE program (*QS World University Rankings for Education & Training 2022* n.d.), which combines academic coursework with a full year of professional experience in school placements. The program is offered to a small cohort of full-time pre-service teachers, who participate in classroom placements alongside coursework to **embed learning into practice**. The professional experience placements are supported by a sequentially structured program, designed to equip pre-service teachers with deep content knowledge and understanding of pedagogical practices.

In the early 2000s, STEP was substantially redesigned to build a **shared vision** of good teaching practice into the program. Drawing on professional teaching standards, the shared vision was integrated into unit design, assessments and professional experiences to create a coherent ITE program. The redesign prioritised the link between theory and practice, structuring units for progressive learning and incorporating **practical assessments** into coursework to embed knowledge (Darling-Hammond et al. 2010).

To enhance professional experience placements, STEP built **strong relationships** with schools to facilitate a consistent vision of effective teaching practice, outline clear expectations and calibrated responsibility for pre-service teachers in schools, and ensure access to quality, trained supervisors. The collaboration between STEP and schools has informed curriculum restructure and provides an opportunity to address both groups' needs (Darling-Hammond et al. 2010).

As Stanford is a research university, pre-service teachers have the opportunity to experience research partnerships that connect theory and practice. [Research partnerships](#) with schools and school districts enable STEP to learn from real world practice in schools, while schools gain access to innovative education research.

[Close relationships support pre-service teacher placements](#), which are enhanced by quality mentoring from both STEP supervisory staff and expert school supervisors. Importantly, the relationships between STEP and schools extend to broader faculty and school-based staff, who provide administrative support for pre-service teachers and promote program coherence and consistency.

Case study

[La Trobe University, Australia](#)

La Trobe University is a leading ITE provider across Victoria, with ITE programs and specialties available in Melbourne and all regional campuses in Bendigo, Shepparton, Albury-Wodonga and Mildura. The high program completion rate of [over 70 percent](#) for La Trobe's ITE programs is well above the national average and the majority of pre-service teachers from regional campuses continue to work in regional schools after graduation (La Trobe University 2021).

Over the past few years, La Trobe University has reviewed and redesigned its ITE programs to develop a [high-quality curriculum that integrates evidence-based approaches](#) into coursework to develop teachers' skills. The redesign prioritises the science of learning and **links theory to practice** to develop classroom-ready graduate teachers. The redesigned Bachelor of Education provides a **core curriculum** for all pre-service teachers (Early Childhood, Primary and Secondary) to complete as a cohort in their first year in order to build understanding and collaboration across all specialties.

Research from the [La Trobe Science of Language and Reading \(SOLAR\) Lab](#) is embedded into ITE programs to provide pre-service teachers with an evidence-based toolkit to teach and address reading challenges in schools. The SOLAR Lab also provides opportunities for current practising teachers to upskill through short courses and direct engagement with schools.

La Trobe University identifies that **close relationships with schools** are important to enable pre-service teachers to build skills through real-world experience. Communities of Practice provide opportunities to connect with other students and learn from experienced teachers. The University maintains a physical presence at partner schools to support professional experience placements and gain program input from expert teachers and educational leaders.

The [NEXUS program](#) at La Trobe University provides an employment-based pathway into teaching for mid-career professionals by supporting them to gain a teaching qualification, while teaching in schools in rural, regional and lower-socioeconomic areas. Strengthening partnerships with 'hard-to-staff' schools is essential to this program, along with funding to ensure quality individual mentoring from experienced school-based staff. The program is delivered as part of the High Achieving Teachers Program, supported by the Australian and Victorian Governments.

Considerations for the panel

The expert panel should consider whether the existing Program Standards and accreditation processes are sufficient to embed evidence-based teaching practices into ITE programs and professional experience. Specifically, the panel could consider:

How can the National Program Standards be strengthened to better integrate evidence-based practices into the design and delivery of ITE programs?

This could include:

- Revising the Program Standards to incorporate the best practice principles (particularly vision, content and pedagogy) into the accreditation requirements.
- Developing national guidance on the best practice principles to provide clarity and help ITE providers embed evidence-based practices into ITE program design and delivery.

How can accreditation and compliance processes be strengthened to support a high national standard?

This could include:

- Developing more specific elaborations around the best practice principles to support robust and consistent assessment by accreditation panels.
- Enhancing training for accreditation panel members to achieve a high common standard for accreditation practices across jurisdictions (e.g., using case studies to examine challenging issues, sharing examples of best practice).

Are there ways to clarify the roles and responsibilities for ITE providers and school systems?

This could include:

- Developing MOUs between the Teacher Regulatory Authorities (TRAs), ITE providers, government departments (on behalf of schools) and other school authorities to outline responsibilities and better align needs.
- Leveraging key points around partnerships between ITE providers and school systems as part of the next National School Reform Agreement.

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Appendix A - Alignment with Program Standards

The full text of relevant [Program Standards](#) is included below to consider alignment with the principles.

Principle 1. Vision

Standard 1 – Program outcomes

1.1 Program design and assessment processes identify where each Graduate Teacher Standard is taught, practised and assessed and require that pre-service teachers have demonstrated successful performance against all of the Graduate Teacher Standards prior to graduation.

Standard 2 – Program development, design and delivery

2.1 Program development, design and delivery are based on:

- a. a documented coherent rationale based on authoritative and evidence-based understandings of how the program will develop effective teachers who meet the Graduate Teacher Standards, including having a positive impact on student learning*
- b. a coherent and sequenced delivery of program content including professional experience that facilitates achievement of the Graduate Teacher Standards.*

2.3 The resourcing for the program and its teaching and assessment strategies is consistent with the program's rationale and expected outcomes and:

- a. prepares pre-service teachers for contemporary school environments and early childhood education environments where relevant*
- b. takes into account the learning and professional experience needs of pre-service teachers across all offered modes of delivery*
- c. includes staff who have ongoing or recent school-based experience and early childhood experience where relevant.*

Principle 2. Content

Standard 4 – Program structure and content

4.1 Programs comprise at least two years of full-time equivalent professional studies in education and are structured so that a graduate has undertaken a four-year or longer full-time equivalent program(s) that leads to a higher education qualification(s) in one of the following configurations:

- a. a three-year undergraduate degree providing the required discipline knowledge, plus a two-year graduate entry professional qualification*
- b. an integrated degree of at least four years comprising discipline studies and professional studies*
- c. combined degrees of at least four years comprising discipline studies and professional studies*
- d. other combinations of qualifications proposed by the provider and approved by the Authority in consultation with AITSL as equivalent to the above that enable alternative or flexible pathways into the teaching profession.*

4.2 Initial teacher education programs prepare pre-service teachers for the school curriculum and learning areas of their chosen discipline and/or stage of schooling in accordance with Schedule 1.

4.3 Combined programs: Some programs prepare graduates for teaching across multiple educational settings, for example early childhood/primary school and primary school/secondary school ('middle school'):

- a. Programs that prepare graduates to teach in both early childhood settings and primary schools prepare teachers for teaching the curriculum across both contexts.*
- b. Programs that prepare graduates for primary and secondary school teaching must fully address the requirements for primary teaching and for secondary teaching in at least one major study or two minor studies in secondary teaching areas. However, programs may have a stronger emphasis on teaching particular year levels (e.g. Years 5 to 9).*
- c. Programs that prepare graduates for teaching in other specialised teaching roles in schools and other educational settings must address the specific content and pedagogy of the specialisation.*

4.4 In addition to study in each of the learning areas of the primary school curriculum sufficient to equip teachers to teach across the years of primary schooling, programs provide all primary graduates with a subject specialisation through:

- a. clearly defined pathways into and/or within a program that lead to specialisations, that are in demand, with a focus on subject/curriculum areas*
- b. assessment within the program requiring graduates to demonstrate expert content knowledge and pedagogical content knowledge and highly effective classroom teaching in their area of specialisation*
- c. publishing the specialisations available, and numbers of graduates per specialisation through their annual reports.*

Principle 3. Pedagogy

Standard 2 – Program development, design and delivery

2.3 The resourcing for the program and its teaching and assessment strategies is consistent with the program's rationale and expected outcomes and:

- a. prepares pre-service teachers for contemporary school environments and early childhood education environments where relevant*
- b. takes into account the learning and professional experience needs of pre-service teachers across all offered modes of delivery*
- c. includes staff who have ongoing or recent school-based experience and early childhood experience where relevant.*

Principle 4. Assessment

Standard 1 – Program outcomes.

1.1 Program design and assessment processes identify where each Graduate Teacher Standard is taught, practised and assessed and require that pre-service teachers have demonstrated successful performance against all of the Graduate Teacher Standards prior to graduation.

1.2 Program design and assessment processes require pre-service teachers to have successfully completed a final-year teaching performance assessment prior to graduation that is shown to:

- a. be a reflection of classroom teaching practice including the elements of planning, teaching, assessing and reflecting
- b. be a valid assessment that clearly assesses the content of the Graduate Teacher Standards
- c. have clear, measurable and justifiable achievement criteria that discriminate between meeting and not meeting the Graduate Teacher Standards
- d. be a reliable assessment in which there are appropriate processes in place for ensuring consistent scoring between assessors
- e. include moderation processes that support consistent decision-making against the achievement criteria.

1.3 Providers identify how their pre-service teachers demonstrate a positive impact on student learning in relation to the assessment requirements in Program Standards 1.1 and 1.2.

Standard 2 – Program development, design and delivery

2.3 The resourcing for the program and its teaching and assessment strategies is consistent with the program's rationale and expected outcomes and:

- a. prepares pre-service teachers for contemporary school environments and early childhood education environments where relevant
- b. takes into account the learning and professional experience needs of pre-service teachers across all offered modes of delivery
- c. includes staff who have ongoing or recent school-based experience and early childhood experience where relevant.

Standard 4 – Program structure and content

4.4 In addition to study in each of the learning areas of the primary school curriculum sufficient to equip teachers to teach across the years of primary schooling, programs provide all primary graduates with a subject specialisation through:

- a. clearly defined pathways into and/or within a program that lead to specialisations, that are in demand, with a focus on subject/curriculum areas
- b. assessment within the program requiring graduates to demonstrate expert content knowledge and pedagogical content knowledge and highly effective classroom teaching in their area of specialisation
- c. publishing the specialisations available, and numbers of graduates per specialisation through their annual reports.

Standard 5 – Professional experience

5.4 Providers work with their placement school(s)/systems to achieve a rigorous approach to the assessment of pre-service teachers' achievements against the Graduate Teacher Standards including:

- a. identification of the Standards to be assessed
- b. provision of assessment tools, protocols, practices and guidelines
- c. clarification of expectations and roles in assessment, particularly designated roles for supervising teachers in practical assessment of pre-service teachers
- d. timely identification of pre-service teachers at risk of not satisfactorily completing the formal teaching practice, ensuring appropriate support for improvement
- e. mandating a satisfactory formal assessment of pre-service teachers against the Graduate Teacher Standards as a requirement for graduating from the program.

Principle 5. Partnerships

Standard 5 – Professional experience

5.1 Formal partnerships, agreed in writing, are developed and used by providers and schools/sites/systems to facilitate the delivery of programs, particularly professional experience for pre-service teachers. Formal partnerships exist for every professional experience school/site and clearly specify components of placements and planned experiences, identified roles and responsibilities for both parties and responsible contacts for day-to-day administration of the arrangement.

5.2 The professional experience components of programs are relevant to a classroom environment, and:

- a. include no fewer than 80 days in undergraduate and double-degree teacher education programs and no fewer than 60 days in graduate-entry programs
- b. consist of supervised and assessed teaching practice undertaken over a substantial and sustained period that is mostly in Australia and mostly in a recognised school setting
- c. are as diverse as practicable
- d. provide opportunities for pre-service teachers to observe and participate purposefully in a school/site as early as practicable in a program.

5.3 For every professional experience placement, regardless of delivery mode, there are clear mechanisms to communicate between the initial teacher education provider and the school the knowledge, skills and experiences pre-service teachers have already developed in a program and the expected learning outcomes of that placement.

5.4 Providers work with their placement school(s)/systems to achieve a rigorous approach to the assessment of pre-service teachers' achievements against the Graduate Teacher Standards including:

- a. identification of the Standards to be assessed
- b. provision of assessment tools, protocols, practices and guidelines
- c. clarification of expectations and roles in assessment, particularly designated roles for supervising teachers in practical assessment of pre-service teachers
- d. timely identification of pre-service teachers at risk of not satisfactorily completing the formal teaching practice, ensuring appropriate support for improvement
- e. mandating a satisfactory formal assessment of pre-service teachers against the Graduate Teacher Standards as a requirement for graduating from the program.

5.5 Providers support the delivery of professional experience in partner schools/sites, including by identification and provision of professional learning opportunities for supervising teachers and communication from, and access to, designated initial teacher education provider staff who, preferably, have current or recent experience in teaching.