

# High quality practica and the integration of theory and practice in initial teacher education

A literature review prepared for the Education Council

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New Zealand Council for Educational Research  
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# High quality practica

High quality practica depend on collaboration: developing and maintaining effective relationships between organisations (initial teacher education (ITE) providers and schools/early childhood education (ECE) services) and people. Organisations work in true partnership and have a shared commitment to supporting the student teacher.

High quality practica include targeted professional learning opportunities for student teachers, mentor teachers and visiting lecturers to learn and improve the way they carry out their roles and take on responsibilities.

High quality practica are embedded within ITE programmes that integrate theory and practice. All parties involved take responsibility for integrating theory and practice.

High quality practica are of sufficient length for student teachers to become part of a community of learners. Mentor teachers and visiting lecturers work with the student teacher to introduce them to the community and support them to take an active role in their own and others' learning.

High quality practica provide transparent formative and summative assessment opportunities to develop and evaluate student teachers' readiness for teaching.

## Background

The Education Council of Aotearoa New Zealand (the Council) wants to ensure initial teacher education (ITE) graduates have the capability to successfully teach in today's environments as well as have the skills to adapt to meet the needs of teaching in the future. The Council is currently considering a range of proposals that aim to lift and strengthen ITE, including reviewing practica requirements.

This summary document provides key findings from a literature review conducted by the New Zealand Council for Educational Research (NZCER) to help build an evidence base about what high quality practica look like to inform future programme requirements and to provide a practical resource for the ITE sector. We illustrate each section with some of the findings from New Zealand research. Readers should go to the full report for a fuller description of this research and for international findings. The research questions were:

1. What are the features of high quality practica that have a positive impact on outcomes for student teachers?
2. What are the features of high quality theory and practice integration within other parts of the ITE programme (course work) that have a positive impact on outcomes for student teachers?

3. What can we learn from other professions about integrating theory and practice in professional education?

The full report offers readers a more nuanced analysis of high quality practica. It also provides evidence for the third research question which is not addressed in the summary report. Many other countries including England, Wales, Scotland, Australia and Canada have undertaken similar reviews of practica arrangements within ITE. In the United Kingdom (UK) and the United States (US) in particular, movements to improve ITE have resulted in a number of different kinds of programmes with alternative pathways. Examples include field-based training or repositioning practicum as "clinical practice" as the medical community do. These are attempts to provide better integration of "theory" and "practice".

### The evidence base and how we went about writing the review

We read 50 refereed research articles, 13 research reports, 12 government reviews and discussion documents of ITE and nine books or theses. Of these, 35 were from New Zealand. We analysed the literature and identified four key areas: research specifically about practicum; research on field-based programmes; research discussing

theory to practice; and research concerned with clinical practice. We also looked at research from other professions. We also made a table outlining features of “exemplary” programmes, or programmes considered to be preparing teachers well for the realities of teaching. We prepared a literature review that outlined the available research findings organised by the research questions highlighted in the introduction, and highlighting possibility for change.

### Key findings: High quality practica and field experiences

High quality practica have *all* of the following features:

- The purpose is fully understood, negotiated and enacted by all participants.
- There is genuine/authentic partnership between organisations (the ITE provider and the school or ECE setting).
- Roles and responsibilities are clearly defined and understood (especially those of the visiting lecturer, the mentor teacher and the student teacher).
- Mentor teacher (and visiting lecturer) professional learning opportunities fully prepare those involved for their roles.
- The student teacher is prepared for and willing and able to take agency and to develop adaptive expertise with support.
- The whole school or ECE setting takes responsibility for the practicum (not one mentor teacher in one classroom) and is a site of learning (a community of learning/practice) for all involved.
- Every aspect of the ITE programme is integrated and there is not a sense of “theory” and “practice” being enacted separately in different organisations.
- Formative and summative assessment of student teachers is a negotiated, transparent and agreed process between the ITE provider, the school/ECE setting and the student teacher.

### Some examples from New Zealand research

#### *Partnerships between organisations*

The University of Auckland primary programmes have undergone a “major overhaul” (p. 180) of practicum in an undergraduate primary degree

(Grudnoff, Haigh, and MacKisack (2017)). The study involved the university and four of the 20 partnership schools. In this model, the whole school, rather than the individual classroom, becomes the practicum site.<sup>1</sup> The new model of practicum developed in collaboration includes:

- Group of 4–6 student teachers assigned to a school which then selects an appropriate mentor teacher for each student teacher
- School selects one teacher to have overall professional responsibility for all student teachers in the school and to work with the mentor teachers
- University selects one lecturer to work with school
- The principal is involved in designing the practicum that is appropriate for their school
- The selected teacher and lecturer have the prime responsibility of designing a practicum that meets school culture and university requirements for that group of students
- Practicum assessment practices involve a range of professional participants depending on the elements of the practicum design. (p. 182)

#### *Partnerships between people*

Student teachers bring many preconceptions and ideas about teaching to ITE. Mentor teachers in particular can help foster dispositions for teaching and challenge accepted wisdoms in student teachers. They will be most successful working in concert with visiting lecturers. Visiting lecturers and mentor teachers need to reconsider their roles to provide optimum support for student teachers. Providing student teachers with a variety of contexts can also foster important learning. It is the whole school/centre that needs to support the student teacher.

In a case study of 10 secondary schools Hoben (2011) explored an enhanced role for school-based co-ordinators. Hoben found that student teachers had a different (and more positive) experience of practicum when supported by these co-ordinators who were given time and money and conferred status to perform their roles. The success of the role and its positive impact on student teacher outcomes was dependent on the support of the principal and the senior leadership team.

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<sup>1</sup> The evaluation of Teach First NZ also highlighted the importance of the whole department and school as a site for ITE rather than just the individual classroom/mentor teacher.

relationships within practicum (Haigh and Ward, 2004). The authors found that practicum was not ideal for participants despite good will. They say there needs to be a “more explicit discussion” between the student teacher, the mentor teacher and the visiting lecturer about expectations. Roles and relationships could be enhanced through discussion of professional agency and cultural reform.

Five key themes necessary for the establishment and maintenance of effective professional relationships between mentor teachers and student teachers in primary practica appear to be: personal connectedness; role interpretation (understanding the roles and developing open communication); styles of supervision (which became more collaborative as the practicum progressed); collaboration (team work that enhanced student teacher development and student learning); and reflection (joint engagement in action research) (Ferrier-Kerr, 2009).

A Master’s case study of ECE associate teachers within low socioeconomic communities (Wilson, 2016) led to a conceptual model of an “invited space” where “both the associate teacher and the student teacher negotiate a respectful and trusting relationship that allows them to share their identity, beliefs, values and practices, and to be prepared to move flexibly between the roles of teacher and learner” (p. i).

### *Assessment is a shared endeavour*

Improved, shared and transparent assessment of student teachers, both formative and summative, is one area that could have significant impact on improving practica and student teachers’ learning during and as a result of the experience. For many programmes, this would require negotiated changes of responsibility and shared understanding of the purpose of practica.

Authentic assessment requires good relationships between participants, knowledge of the context, alignment of the expectations of the task and greater responsibility for decision making on behalf of associate teachers (Aspden, 2014). Assessment for student teachers can be less stressful if student teachers are involved in the assessment process early on.

In a study on primary practicum Haigh et al. (2013) outline the tensions about the purposes of assessment, the part that context plays and different definitions of “good practice” (p. 4). Using a series of vignettes, Haigh et al. found that

assessors were as likely to choose personal traits as professional qualities in prioritising aspects to assess. (Dimensions were: learning as a teacher; personal qualities; relationships; knowledge and planning; enacting teaching and management; and assessment and use of evidence.) Their assessments varied considerably as did their decision-making strategies. Some of this was related to beliefs about what someone can learn once they are teaching or if a student teacher was seen to respond well to feedback. The authors realised that everyone involved in decision making about practicum assessment needed to learn how to make valid judgements.

### **Structural aspects of practica that enhance learning**

The Council asked us to report specifically on any research that dealt with structural aspects of practica. We found that:

- Student teachers need to have school/ECE experiences early in their programme.
- Student teachers need to be taught how to approach early observation/immersion/relationship building in schools/ECE settings.
- Fewer longer practica appear to be more useful than a series of short practica. Practica need to be long enough for genuine relationships to develop and be maintained.
- There is some evidence that having a host school/ECE setting is important in terms of student teachers gaining a sense of “belonging” and “being”—both needed for their development. Field-based programmes tend to allow for this. A contrasting experience in an additional different context also builds student teacher knowledge and skills. At least one setting must offer student/teacher diversity.
- The practica need to be integrated with other courses. There is some research that identifies online programmes as ways to help with this integration.

### **Key findings about the integration of theory and practice**

We found that any exploration of practica needs to focus on the integration of theory and practice—the knowing and the being, practising and learning of a beginning teacher cannot be separated into different sites for learning but will most profitably come together when learning is embraced in a

range of contexts that cohere. Key findings related to this integration are:

- Notions of a theory–practice divide are unhelpful; reconceptualising learning in ITE can help overcome barriers and integrate learning.
- Creation of a “third” or “hybrid” space can help redefine responsibilities (e.g., of the school/ECE setting and the ITE provider). The clinical practice model does this, as can embedded or sustained practica.
- Student teachers, mentor teachers and teacher educators need to be specifically taught ways of seeing, thinking and being—in the school/ECE setting and the ITE provider. This includes deconstructing and talking about teaching and learning.
- Rehearsing, modelling, coaching, micro-teaching, think alouds, reflection, inquiry, representation, decomposition and approximation are strategies that help student teachers learn to teach and to become a teacher.
- Online learning platforms and shared portfolios can help with integration and a shared understanding of purpose and of assessment of the student teacher.

### Some examples from New Zealand research

#### *Reconceptualising theory and practice*

Embracing the concept of *embodiment* is one effective way to support student teachers to transcend theory/practice issues (Ord and Nuttall, 2016). The authors draw on Reid’s notions of the practice turn to argue that what is often described as “practice” is in fact the felt experience of becoming knowledgeable, of grasping “important concepts through their enactment in the messier, more complex reality of practice settings” (p. 359). The authors suggest that teacher educators should pay attention to how “the body feels during the experience of learning to teach” (p. 361, emphasis in original). In the school/centre setting, student teachers should closely observe their mentor teachers and talk to them about “how they negotiate space, time, resources, concepts and feelings in the ‘real time’ of classroom practice” (p. 361).

#### *Integrating theory and practice*

A Teaching and Learning Research Initiative study concerns ITE curriculum reform and the relational

aspects of teaching where teacher educators and student teachers explored new activities and pedagogies that would enable student teachers to engage with authentic problems of practice (Anthony et al., 2015). The authors wanted to know how student teachers would learn and then apply new learnings through practice-based inquiry. The researchers drew on Grossman et al.’s (2009) core practices (those that are understood to support high quality student learning) and on the recent discussion papers (Aitken et al., 2013) and Timperley (2013) that argue for ITE being re-framed in New Zealand to develop adaptive expertise in prospective teachers. One key aspect of the new approach was to “experiment with modelling and coaching during rehearsal” (Anthony et al., 2015, p. 9). This involved stopping and starting university sessions to ask questions and to think aloud at particular decision-making points. Teacher educators modelled the process and then student teachers practised. The process helped student teachers to develop understanding of students’ mathematical thinking and supported student teachers to learn about culturally responsive teaching.

### Integrating theory and practice: the clinical practice model

Teaching as a clinical profession draws on models of decision-making processes used by medical practitioners, and on models of educating medical interns to support the development of their knowledge and clinical judgement (McLean Davies, 2017).

The MESH Guide (McLean Davies, 2017) on clinical teaching summarises the characteristic of ITE for a clinical practice model:

- close partnerships between schools and universities that inform practice in both sites (Grossman, 2010; Conroy et al., 2013—cited in McLean Davies (2017))
- strong articulation between coursework and professional practice founded on a shared understanding and commitment to clinical reasoning and practice
- professional conversations between novice and mentor that pose questions and probe to make reasoning explicit (Kriewaldt & Turnidge, 2013)
- a shared community of practice who are committed to a clinical approach.

## Integrating theory and practice: “exemplary” programmes

A number of programmes have been identified in the research literature as providing high quality practical experiences for student teachers. Levine (2006) defines exemplary as the way they “integrate and balance academic and clinical instruction”, where “field experience is sustained, begins early and provides immediate application and connection of theory to real classroom situations” and “there is a close connection between the teacher education programme and the schools in which the teachers teach, including ongoing collaboration between academic and clinical faculties” (Levine, 2006, p. 81).

Darling Hammond, cited in Dillon and O’Connor (2010) reviewed seven programmes in the US that she considered had the features necessary for successful ITE. These programmes all had a clear vision, and in relation to practicum they addressed the problems of student teachers’ prior knowledge, their need to learn to *act* like a teacher and their preparation for the complexity of teaching. They also had:

- coherence and integration among university courses and between coursework and clinical work in schools

- pedagogies that confronted the problems of teaching and that fostered reflection on teaching (e.g., logs/journals, research inquiries, autobiography and self-reflection, etc.)
- integration of the traditionally separate roles of instructor, supervisor and mentor teachers through overlapping and sharing of responsibilities
- student learning occurring in a small-scale professional community
- practicum experiences that were strongly supervised and extensive (from 9 to 15 weeks at a time) in carefully chosen schools whose ethos echoed that of the university and whose student population was diverse
- close partnerships between schools and universities that built communities of learning and where traditional roles of visiting lecturer, mentor teacher and student teacher were disrupted and there was school renewal as well as high quality learning for student teachers.

We have included findings from two longitudinal international studies on ITE in the summary report because of the rigour of the studies and the potential for New Zealand research into practica.

## A significant UK study

Hobson et al. (2009) conducted a longitudinal study on different routes into teaching in England. This study is significant because it followed student teachers into teaching and because the authors compared outcomes for student teachers from different ITE pathways. The study found that “trainees who had followed employment-based and school-centred programmes tended to give higher ratings of the support they received and their relationships with mentors and other school-based colleagues than those who had followed other ITT (initial teacher training) routes” (p. 18). However, the authors reported statistically significant results for student teachers in the same ITE pathway but with different providers. Age, student teachers’ motives for doing ITE and their expectations and ideas about teaching were also important factors. The authors also cautioned against placing too much store on these results as the effects of different ITE preparation and support were not statistically significant once the student teacher began teaching.

Hobson et al. (2009) consider that a major reason student teachers withdraw from ITE is an unrealistic expectation of ITE and of the teaching profession more generally. Recommendations for ITE providers in relation to better supporting student teachers include:

- putting more emphasis on interpersonal skills
- helping student teachers deal with the emotional aspects of becoming and being a teacher, taking careful account of beginner teachers’ emotional states and welfare
- being sensitive and responsive to the unique characteristics (e.g. relating to age, ethnicity, motivations, prior experience and conceptions) and needs (with respect to emotional states as well as learning)
- giving student teachers a clear view on what kind of support they will need and how they might want or need to look for such support from more than one person; and more generally,
- developing appropriate noticing and reflection skills that will enable them to continue learning from their own and others’ experiences throughout their careers. (Hobson et al., 2009, p. 254)

## A significant US study: Linking teacher preparation to student outcomes

A few studies have attempted to tie teacher preparation to student outcomes. One of these (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2008) looks at data for student teachers from 31 ITE programmes in New York City. The study attempts to determine if particular ITE is more likely to lead to better academic outcomes for elementary school students.

A cautious conclusion of the study is:

The results also suggest that features of teacher preparation can make a difference in outcomes for students. One factor stands out. Teacher preparation that focuses more on the work of the classroom and provides opportunities for teachers to study what they will be doing produces teachers who are more effective during their first year of teaching. (p. 26)

Their findings identify differences between first- and second-year teachers suggesting that:

inexperienced teachers may make use of their preparation sequentially. Teachers with stronger preparation in day-to-day issues are relatively more effective in their first year, while those with stronger content knowledge are able to make use of that knowledge by their second year. (p. 27)

These findings all have implications for theory/practice integration and practica arrangements and have resulted in jurisdictions trialling or adopting alternative pathways (usually field-based) or a clinical practice model or moving from undergraduate to postgraduate qualifications.

<sup>2</sup> That is, what they put in place in their first year are the things they have practised but as they become more experienced they can draw on other things they have learned.

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### Some examples from New Zealand research

#### *Reconceptualising theory and practice*

Embracing the concept of *embodiment* is one effective way to support student teachers to transcend theory/practice issues (Ord and Nuttall, 2016). The authors draw on Reid’s notions of the practice turn to argue that what is often described as “practice” is in fact the felt experience of becoming knowledgeable, of grasping “important concepts through their enactment in the messier, more complex reality of practice settings” (p. 359). The authors suggest that teacher educators should pay attention to how “the body feels during the experience of learning to teach” (p. 361, emphasis in original). In the school/centre setting, student teachers should closely observe their mentor teachers and talk to them about “how they negotiate space, time, resources, concepts and feelings in the ‘real time’ of classroom practice” (p. 361).

#### *Integrating theory and practice*

A Teaching and Learning Research Initiative study concerns ITE curriculum reform and the relational

aspects of teaching where teacher educators and student teachers explored new activities and pedagogies that would enable student teachers to engage with authentic problems of practice (Anthony et al., 2015). The authors wanted to know how student teachers would learn and then apply new learnings through practice-based inquiry. The researchers drew on Grossman et al.’s (2009) core practices (those that are understood to support high quality student learning) and on the recent discussion papers (Aitken et al., 2013) and Timperley (2013) that argue for ITE being re-framed in New Zealand to develop adaptive expertise in prospective teachers. One key aspect of the new approach was to “experiment with modelling and coaching during rehearsal” (Anthony et al., 2015, p. 9). This involved stopping and starting university sessions to ask questions and to think aloud at particular decision-making points. Teacher educators modelled the process and then student teachers practised. The process helped student teachers to develop understanding of students’ mathematical thinking and supported student teachers to learn about culturally responsive teaching.

### Integrating theory and practice: the clinical practice model

Teaching as a clinical profession draws on models of decision-making processes used by medical practitioners, and on models of educating medical interns to support the development of their knowledge and clinical judgement (McLean Davies, 2017).

The MESH Guide (McLean Davies, 2017) on clinical teaching summarises the characteristic of ITE for a clinical practice model:

- close partnerships between schools and universities that inform practice in both sites (Grossman, 2010; Conroy et al., 2013—cited in McLean Davies (2017))
- strong articulation between coursework and professional practice founded on a shared understanding and commitment to clinical reasoning and practice
- professional conversations between novice and mentor that pose questions and probe to make reasoning explicit (Kriewaldt & Turnidge, 2013)
- a shared community of practice who are committed to a clinical approach.

## Integrating theory and practice: “exemplary” programmes

A number of programmes have been identified in the research literature as providing high quality practical experiences for student teachers. Levine (2006) defines exemplary as the way they “integrate and balance academic and clinical instruction”, where “field experience is sustained, begins early and provides immediate application and connection of theory to real classroom situations” and “there is a close connection between the teacher education programme and the schools in which the teachers teach, including ongoing collaboration between academic and clinical faculties” (Levine, 2006, p. 81).

Darling Hammond, cited in Dillon and O’Connor (2010) reviewed seven programmes in the US that she considered had the features necessary for successful ITE. These programmes all had a clear vision, and in relation to practicum they addressed the problems of student teachers’ prior knowledge, their need to learn to *act* like a teacher and their preparation for the complexity of teaching. They also had:

- coherence and integration among university courses and between coursework and clinical work in schools

- pedagogies that confronted the problems of teaching and that fostered reflection on teaching (e.g., logs/journals, research inquiries, autobiography and self-reflection, etc.)
- integration of the traditionally separate roles of instructor, supervisor and mentor teachers through overlapping and sharing of responsibilities
- student learning occurring in a small-scale professional community
- practicum experiences that were strongly supervised and extensive (from 9 to 15 weeks at a time) in carefully chosen schools whose ethos echoed that of the university and whose student population was diverse
- close partnerships between schools and universities that built communities of learning and where traditional roles of visiting lecturer, mentor teacher and student teacher were disrupted and there was school renewal as well as high quality learning for student teachers.

We have included findings from two longitudinal international studies on ITE in the summary report because of the rigour of the studies and the potential for New Zealand research into practica.

## A significant UK study

Hobson et al. (2009) conducted a longitudinal study on different routes into teaching in England. This study is significant because it followed student teachers into teaching and because the authors compared outcomes for student teachers from different ITE pathways. The study found that “trainees who had followed employment-based and school-centred programmes tended to give higher ratings of the support they received and their relationships with mentors and other school-based colleagues than those who had followed other ITT (initial teacher training) routes” (p. 18). However, the authors reported statistically significant results for student teachers in the same ITE pathway but with different providers. Age, student teachers’ motives for doing ITE and their expectations and ideas about teaching were also important factors. The authors also cautioned against placing too much store on these results as the effects of different ITE preparation and support were not statistically significant once the student teacher began teaching.

Hobson et al. (2009) consider that a major reason student teachers withdraw from ITE is an unrealistic expectation of ITE and of the teaching profession more generally. Recommendations for ITE providers in relation to better supporting student teachers include:

- putting more emphasis on interpersonal skills
- helping student teachers deal with the emotional aspects of becoming and being a teacher, taking careful account of beginner teachers’ emotional states and welfare
- being sensitive and responsive to the unique characteristics (e.g. relating to age, ethnicity, motivations, prior experience and conceptions) and needs (with respect to emotional states as well as learning)
- giving student teachers a clear view on what kind of support they will need and how they might want or need to look for such support from more than one person; and more generally,
- developing appropriate noticing and reflection skills that will enable them to continue learning from their own and others’ experiences throughout their careers. (Hobson et al., 2009, p. 254)

## A significant US study: Linking teacher preparation to student outcomes

A few studies have attempted to tie teacher preparation to student outcomes. One of these (Boyd, Grossman, Lankford, Loeb, & Wyckoff, 2008) looks at data for student teachers from 31 ITE programmes in New York City. The study attempts to determine if particular ITE is more likely to lead to better academic outcomes for elementary school students.

A cautious conclusion of the study is:

The results also suggest that features of teacher preparation can make a difference in outcomes for students. One factor stands out. Teacher preparation that focuses more on the work of the classroom and provides opportunities for teachers to study what they will be doing produces teachers who are more effective during their first year of teaching. (p. 26)

Their findings identify differences between first- and second-year teachers suggesting that:

inexperienced teachers may make use of their preparation sequentially. Teachers with stronger preparation in day-to-day issues are relatively more effective in their first year, while those with stronger content knowledge are able to make use of that knowledge by their second year. (p. 27)

These findings all have implications for theory/practice integration and practica arrangements and have resulted in jurisdictions trialling or adopting alternative pathways (usually field-based) or a clinical practice model or moving from undergraduate to postgraduate qualifications.

<sup>2</sup> That is, what they put in place in their first year are the things they have practised but as they become more experienced they can draw on other things they have learned.

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