Chapter 5. How can we provide integrated early professional development for new teachers?

This chapter discusses the challenges countries are facing in providing a coherent support and early professional development system for new teachers. These revolve around three key aspects: overcoming the theory – practice divide, providing support to beginning teachers tailored around their specific needs, and ensuring a smooth transition from ITE to school practice by recognising induction and post-induction periods as critical in becoming professionals. The chapter then proposes some specific strategies including strengthening practical experience in engaging in critical reflection and evaluation of teaching, ensuring effective mentoring schemes with competent mentors, and securing continuity in professional support throughout the early career years. Finally, the last section suggests specific strategies for policy makers, teacher education institutions, and schools and teachers.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

The transition from initial training education (ITE) and training institutions to real school environments is the most important stage in the process of becoming a teacher. Even a well-organised ITE cannot compensate for a systematic induction in the first stages of new teachers coping with all the demands of their profession (Valencic Zuljan and Marentic Požarnik, 2014[1]). Attention to practice and field experiences in teacher education has become a key concern and many jurisdictions have undertaken a variety of efforts to make initial training preparation (ITP) more "practice-based" (Jenset, Klette and Hammerness, 2017[2]) in order to:

1. overcome the divide between theory and practice in initial teacher education programmes and promote an integrated professional pathway for teacher candidates
2. provide initial and tailored support to address the particular challenges beginning teachers face – e.g. workload, classroom management, lack of collegial support and knowledge of the school culture – to prevent attrition
3. recognise the first years of the teacher career as a critical stage to both guarantee the implementation in real settings of the knowledge and experience from ITE and the acquisition of new critical professional knowledge and skills.

As a result, during the last 20 years the idea of an "induction phase" where beginning teachers receive a dedicated support has been growingly recognised in OECD countries. However, the existence of a mandatory and quality induction programme providing systemic guidance and personal, social and professional support is far from being the reality in most countries (ETUCE, 2008[3]). Although induction refers to a wide variety of processes by which beginning teachers are supported and introduced into the teaching profession[1], mentoring programmes of new teachers is the most visible, implemented and researched practice (Valencic Zuljan and Marentic Požarnik, 2014[1]).

Overall, the existence of a transitional stage plays a strategic role in the provision of a continuum of teachers' professional growth and development, as represented in the Teacher Education Pathway Model. In order to guarantee a positive and effective induction support, these programmes need to be better integrated into pre-service education and training, and to expand well beyond the very first year of experience in schools.

5.1. Why is this a challenge?

5.1.1. Making the positive effects of pre-service education fieldwork experience last

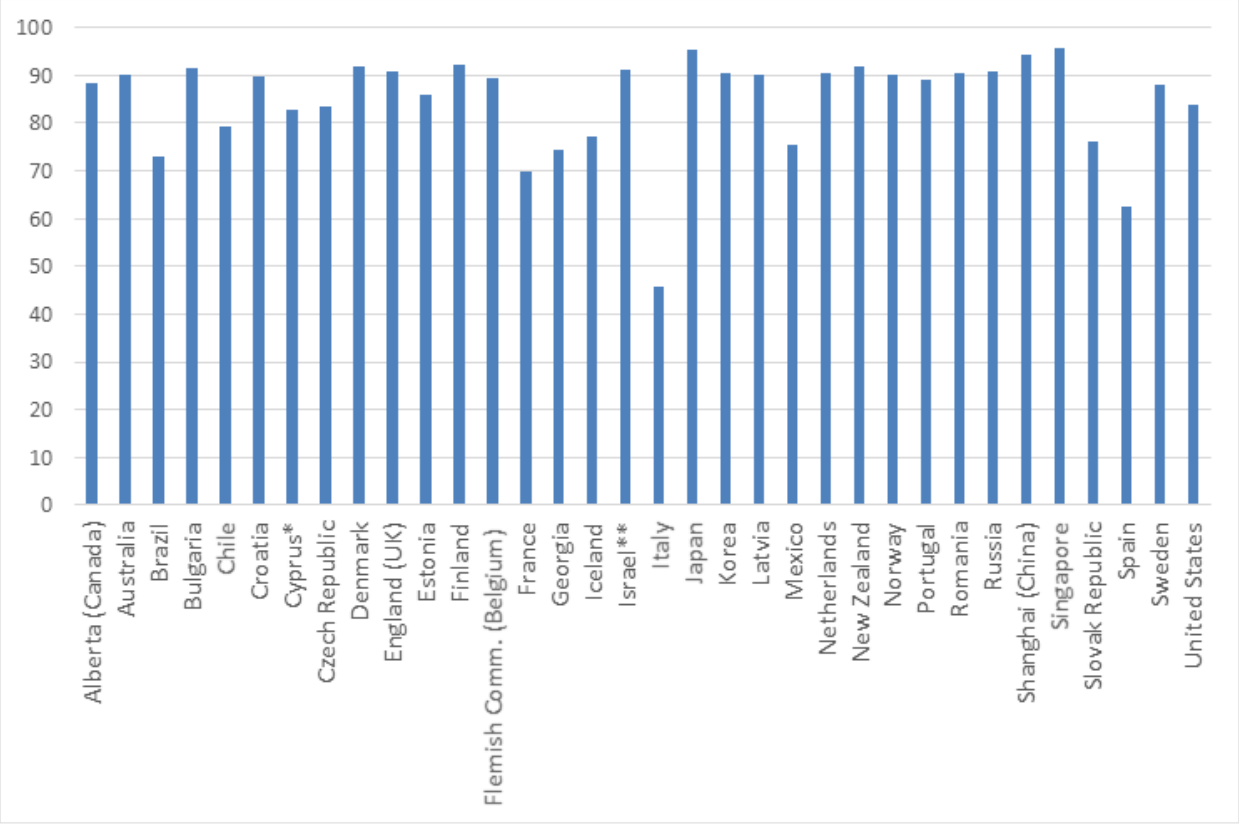
Teacher education has been historically underpinned by divergent views about the relationship between theory and practice in teacher training and learning, and about the nature of the "craft knowledge" or "practical wisdom" that teacher candidates need to work effectively in real classrooms (Burn and Mutton, 2015[4]). In fact, one of the most important studies about the socialisation of teachers to date, the large-scale "Becoming a Teacher" project (Hobson et al., 2009[5]), highlighted in its findings that it is essential to provide beginner teachers with effective strategies for managing workloads and pupil behaviour. Simply said, there is an ongoing need to guarantee a minimum threshold of practical knowledge or experience easily transferable to address the immediate challenges of being in a classroom.

Countries participating in the OECD ITP study reported the lack of integration of practice and theory (Korea, Wales), the limited preparation of candidates for the reality of school cultures (Australia, Norway, the United States) or the inadequacy of training to address practice shock and work overload (Japan, the Netherlands). Rather than exceptional, the shortcomings of ITP systems around the world are still reflected in the persistent difficulties that most early career teachers encounter in schools, and which have largely remained unchanged over the last 50 years (Schuck et al., 2018[6]; Cherubini, 2009[7]).

This difficult relationship between theory and practice in teacher education is well-reflected in the responses of new teachers in the Teaching and Learning International Survey. While 50% of new teachers report that they feel very well-prepared in relation to the content of their subject, only 33% expressed this level of confidence regarding the pedagogy and classroom practice of these subjects (OECD, 2014[8]). Further, well-established concepts in educational sciences and ITE programmes such as personalised learning and instructional alternatives, e.g. collaborative learning, are still rarely seen in classrooms, and show the limited impact of education reforms in ITE on the practices displayed in real settings (Wyss, Kocher and Baer, 2017[9]). As shown in Figure 5.1, although the proportion of teachers in the EU reporting having completed an ITE covering content, pedagogy and practice is relative high – 80% on average -, there are significant differences and several countries display much lower percentages, such as France, Spain or Italy.

Figure 5.1. Theory and Practice in ITE

Percentage of teachers for whom content, pedagogy and classroom practice for some or all subject(s) taught were included in their formal education or training.



Source: OECD (2013[10]), Teaching and Learning International Survey (TALIS): 2013 complete database http://stats.oecd.org/index.aspx?datasetcode=talis_2013%20.

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The lack of alignment between ITE and induction initiatives can exacerbate the inherent burden that accompanies the transition from training and practice, in sheltered environments, to the challenges of the diverse and changing nature of the classrooms where teachers work. Given the particular complexity of teacher knowledge (Révai and Guerriero, 2017[11]), beginning teachers commonly experience a "transition shock", including being exhausted and finding it difficult to achieve a work/life balance (Newman, 2010[12]). When the difference of expectations between previous experiences in ITE and initial experiences in real school settings are dramatic, new teachers are more likely to experience what has been reported as "reality shock" (Gaede, 1978[13]; Dicke

et al., 2015[14]), "practice shock" or "cultural shock". Some of the key challenges beginning teachers have to address include: to understand and adapt to the specific school(s) context and culture where they start their careers; to learn how to navigate the traditions and particular "staffroom politics"; and to negotiate divergent views about the most appropriate teaching methodology. Further, they have to learn quickly how to manage conflicts between personal perceptions and public expectations, or how to make sense of the idiosyncratic practices derived from their colleagues' experience (Schatz-Oppenheimer and Dvir, 2014[15]; White and Moss, 2003[16]; Rots, Kelchtermans and Aelterman, 2012[17]). Consequently, finding ways to cope effectively with stress and workload continues to be strongly based on experience rather than effective preparation, which in turn makes new teachers more exposed to emotional exhaustion and burnout.

When teacher candidates' opportunities to learn in grounded practice differ from the realities of schools or induction programmes, they try to adopt "survival strategies" rather than consolidate their teaching skills with knowledge obtained at the faculty (Valencic Zuljan and Marentic Požarnik, 2014[1]). That is to say, even when ITP programmes focus on offering strong and coherent programmes grounded in practice (Jenset, Klette and Hammerness, 2017[2]), these positive experiences risk to become "overwritten" or by-passed by other personal, ad-hoc experiences of expert teachers that might or might not be based on educational sciences. In real classroom situations, beginning teachers do not have time to research their problems or to develop reflective skills quickly and effectively enough.

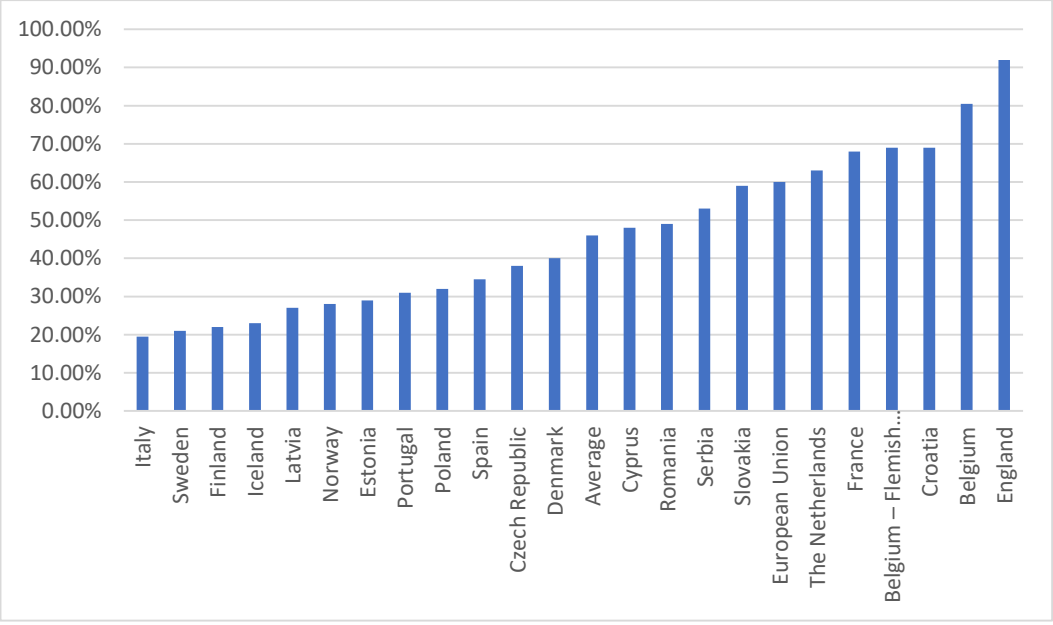
In order to make the positive effects of pre-service fieldwork experience last, the transition to in-service teaching should offer beginning teachers support to creatively overcome challenging situations by implementing previous skills and knowledge, ideally with the help of a dedicated and experienced mentor. When perceived problems are numerous and intense, teachers concentrate more on these "survival strategies" and approach instruction and the maintenance of order in the classroom as a way to protect their own physical and mental well-being (Woods, 1977[18]; Donche, Endedijk and Daal, 2015[19]), rather than try to become autonomous, creative and innovative professionals.

Despite the lack of sounding and definitive evidence of the impact of induction initiatives, there has been a growing research identifying and reporting some good practices and benefits (European Commission, 2010[20]; Hobson et al., 2009[21]; Picard and Ria, 2011[22]; Fransson and Gustafsson, 2008[23]). For example, Hobson et al. (2009[21]) review of evidence reported the way in which mentoring can reduce the isolation of beginning teachers, and also increase their confidence and self-esteem. Mentoring is not the only way in which new teachers can enhance their opportunities to reflect on their practices and connect. For example, Cochran-Smith et al. (2015[24]) describe how, even through online meetings, new teachers can connect and interact with other teachers to express their decision and clarify their views. Other research has pointed to the professional growth and improved self-reflection and problem-solving skills of teachers receiving mentoring (Franke and Dahlgren, 1996[25]; Ingersoll and Strong, 2011[26]). In order for these mentoring and induction initiatives to work effectively, it is critical that ITE providers are aligned with schools in terms of purposes and content of teacher education. When ITE content collides with the practice of schools – for example, because ITE focuses mainly on knowledge and academic content rather than providing professional and practice-based skills – this may result in conflicts that, in turn, might undermine these partnerships (Hunt, 2014[27]). The nature and purpose of mentors is therefore strongly influenced by the extent to which ITE prepares teacher candidates for day one and teaches them to become lifelong learners.

5.1.2. Creating strong induction initiatives: the case of mentoring programmes

Mentoring is far from being universally available for teachers. On average, across the OECD countries, one out of four lower secondary teachers teach in a school whose principal reported having no access to a mentoring system in the school. In some countries such as Chile, Finland, Mexico or Portugal, the percentage is much higher, over 60% (OECD, 2014[8]). As shown in Figure 5.2, more support is available in the European Union (EU), but still, in many of the EU countries only 60% or less of lower secondary teachers participate in formal induction programmes.

Figure 5.2. Proportion of early career teachers in lower secondary education who took part in formal induction programmes



Source: European Commission (2015[28]), *The Teaching Profession in Europe: Practices, Perceptions, and Policies*, European Commission, https://eacea.ec.europa.eu/national-policies/eurydice/content/teaching-profession-europe-practices-perceptions-and-policies_en (accessed on 26 September 2018).

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One of the main challenges to scale up and sustain mentoring schemes is attracting experienced teachers and training them to become effective mentors. All the countries taking part in the ITP study stated that mentor teachers lack guidance and training or certification. In some cases, countries acknowledged that mentors did not have enough experience as teachers. For example, roughly two thirds of the teachers being mentored in OECD countries had a mentor in their subject field of expertise (OECD, 2014[8]). As

highlighted in most of the participating countries in the ITP study, trained mentors face a heavy teacher workload that poses a significant burden to find time for mentoring. Finally, the lack of recognition in the form of clear incentives or career paths is an important barrier to improving the quality assurance of mentoring.

Regardless of claims in the literature of the importance of the preparation of mentors, their status and training continues to be an under-researched field in education (Aspfors and Fransson, 2015[29]). For example, it is still important to reflect upon how and why mentoring in the induction phase differs from the mentoring of teacher candidates during their in-school placements (Aspfors and Fransson, 2015[29]), or how to identify potential candidates, for having experience does not guarantee expertise: teachers also need to be competent at mentoring (Wang and Odell, 2007[30]).

Another important challenge lays in the nature of the mentoring programme itself. Different approaches to mentoring may elicit different kinds of learning and develop different kinds of dispositions and actions in mentees. Kemmis et al. (2014[31]) argue that mentoring may include support, and/or supervision, and/or collaborative self-development. On the other hand, Fransson and Gustafsson (2008[23]) discuss the need to balance the role of evaluation and of the promotion of professional development in these initiatives to avoid conflicting goals – or if induction should encourage new teachers to question existing teaching practices or rather be concerned with instrumental and managerial outcomes (Simmie et al., 2017[32]). Of special interest are potential dangers of "judgementoring" in school-based mentoring (Hobson and Malderez, 2013[33]). If the goal of mentoring is to support beginning teachers to become "reflective practitioners"' by offering scaffolding and encouraging their participation, the tendency of mentors to reveal too readily and/or too often their own judgments or evaluations of mentees planning, fails to create the necessary safe and trusting relationship that must permeate mentoring. Moreover, these pitfalls are likely to happen when mentors are forced to become mentors, when they do not receive appropriate training or when they are both in charge of assessing and supporting them – two conflicting agendas (Hobson and Malderez, 2013[33])

An additional problem is the context-related nature of successful mentoring initiatives. In this sense, without a form of quality assurance and systematisation to identify and replicate successful experiences, policy initiatives formulated at a system level do not always work well at the school level (Schuck et al., 2018[6]). There is still a need to continue building from the experiences of schools where previous early career teachers have reported positive experiences (Allen, 2009[34]). At the same time, it is also important to produce more small scale, in-depth qualitative studies to better understand these processes, as these are still scarce (Simmie et al., 2017[32]).

5.1.3. Situating induction within early professional development and ensuring transition to continuous learning

Many of the challenges new teachers cope with are not exclusive of the initial years of the career but are illustrative of the teaching profession (Paniagua and Sánchez-Martí, 2018[35]). For example, Caspersen and Raaen (2014[36]) describe a limited difference in the way novice and experienced teachers cope with teaching, and also small variance between their sense of self-efficacy. Further, in their study on the nature of burnout among teachers, Høigaard, Giske and Sundsli (2012[37]) argue that teachers' stress is not a short-lived problem and cannot be circumscribed to a phenomenon taking place in the early stages of the profession. Although it is commonly suggested that early career

teachers seemingly go through differentiated stages – e.g. anticipation, survival, disillusionment, rejuvenation and reflection (Moir, 1999[38]); cited in (Keogh et al., 2012[39]), teacher pathways are likely to repeat these stages at different points of the career, especially if teachers are confronted with new contexts and challenges (Paniagua and Sánchez-Martí, 2018[35]). It is in this sense that, to an extent, continuous professional development programmes can be seen as linked to some areas and goals of induction programmes.

Highlighting the similarities of new and experienced teachers' needs is not intended to denaturalise the importance and particular characteristics of the "induction phase" of beginning teachers. Rather, the policy challenge is that post-induction transition is a particular area where research is scarce, and there is a growing need to identify strategies to facilitate early career teachers' integration into school communities (Fenwick and Weir, 2010[40]), and avoid framing induction as a stand-alone, fragmented practice. This need derives its significance from the fact that mentoring programmes should ideally extend beyond the common duration of induction programmes, for mentoring involves a relationship that ranges from one to three years (Spooner-Lane, 2017[41]). Many of the implications for facilitating provision of support to beginning teachers outlined by Hobson (2009[42]), such as ensuring that teachers are not solely dependent upon the support of individual mentors or providing access to peer support network, cannot simply be conceived as one-off initiatives lasting less than a year. In fact, this author explicitly emphasises that induction programmes should "ensure that provision is in place beyond the first year of teaching for appropriate forms of continuous professional development for beginner teachers" (Hobson, p. 314[42]).

The conceptualisation of induction as a form of early professional development – years 2-6 of a teacher's career (Fenwick and Weir, 2010[40]) – is derived from the growing need among researchers, educators and policy makers of approaching schools as learning organisations, that can better adapt to changing environments, embrace innovations and address new learning goals (Kools and Stoll, 2017[43]). The design and introduction of new curricula, practices and organisational forms in schools require that newcomers are provided with invaluable assistance not only to "survive" their first classroom experiences but also to build a context-related form of professional development, which in turn is very valuable for schools. As discussed by Paniagua and Istance (2018[44]), schools that are promoting innovations or that have developed a distinctive pedagogical approach often find it challenging to include beginning teachers that are not familiar with their pedagogical or organisational model. At the same time, early career teachers bring with them enthusiasm and recent training that can be potentially valuable for schools to innovate and reflect on their own practices. In other words, developing a culture of enquiry, innovation and exploration, and promoting team learning are processes that are on going in that they always benefit from new contributions, in which beginning teachers should engage from the very beginning.

However, this need for career progression from the induction phase is challenged by the instability and fragmentation of the initial teaching career paths in many countries. It is common that teachers will spend their early years of teaching in a series of temporary positions, in a variety of schools – which are likely to be the most challenging – and therefore they do not have the possibility to know the particular school culture or to establish supportive professional relationships (Paniagua and Sánchez-Martí, 2018[35]). As suggested by Fenwick and Weir (2010[40]), the uncertainty associated with post-induction experience along with temporary status, creates a de-motivating effect and sense of

isolation that precludes the potentials of beginning teachers to be involved and impact the school where they work.

5.2. What strategies can address the challenge?

5.2.1. Offering extensive opportunities for teacher learning grounded in practice

The goal of creating a continuum of teacher professional development strongly resonates with the need of building a continuum of the fieldwork experiences of teacher candidates and beginning teachers. A growing body of research has suggested that efforts in preparing teachers more closely for practice can have an impact on student learning and increase teacher retention (Jenset, Klette and Hammerness, 2017[2]). Internationally, strategies include extending the practicum or field placement for prospective teachers, placing teachers in school residencies, or create strong partnerships between universities and schools that are focused on new teachers' learning (Hunt, 2014[27]; Pedaste et al., 2014[45]; Lane, Lacefield-Parachini and Isken, 2003[46]). Further, Mattsson, Eliertsen and Rorrison (2011[47]) describe other practices such as involving pre-service teachers in school development projects, integrated models of pedagogy in practicum, or enhancing reflection on practices in relation to theories – i.e. clinical practice.

The main challenge reported by Burn and Mutton (2015[4]) is that addressing the gap between theory and practice is not simply a result of increasing in classroom "field experiences" or operating 'partnership' models between university and schools. Rather, the goal is to allow beginning teachers not only to have opportunities to practice and refine teaching skills or witness "judgement in action", but also to engage in creative and critical reflection and evaluation of teaching and learning models. When critical reflections of "field experiences" draw on research evidence, and student data, and explicitly address the key role of experience in context, teacher learning is said to be more "grounded in practice", as illustrated in Table 5.1.

Table 5.1. Opportunities Grounded in Practice in Teacher Education

Opportunities to:

	Description of dimension
1. Plan for teaching and teacher role(s)	The extent to which candidates have opportunities in the class to plan lessons or units, to develop instructional materials and resources, etc.
2. Practice of rehearse teacher role(s)	The extent to which candidates have opportunities in the class period to practice, rehearse, or approximate elements of practice (e.g. practice leading a whole-class or small-group discussion)
3. Analyse pupils' learning	The extent to which candidates have opportunities to analyse pupils' learning (e.g. to analyse K-12 pupil work, to view classroom transcripts or videos, and analyse pupils' learning)
4. Include teaching materials, artefacts, and resources	The extent to which candidates have opportunities to use, discuss, or analyse artefacts or resources from real classrooms and teaching (e.g. video of teachers or samples of real K-12 pupil work)
5. Talk about field placement/ student teaching experiences	The extent to which candidates have opportunities to discuss or relate what they are discussing or doing in class to their own fieldwork or student-teaching (e.g. bring in their own pupils' work)
6. Take pupils' perspective	The extent to which candidates have opportunities to do work that their pupils will or might do (e.g. candidates read texts their pupils will read)
7. See models of teaching	The extent to which candidates have opportunities to see their teacher educators explicitly modelling the kinds of practices discussed in class (e.g. instructors model group work or giving good feedback)
8. See connection to national or state curriculum	The extent to which candidates have opportunities to read, review, critique, or analyse materials or resources specific to the national, state, or local context (e.g. to analyse national, state, or local curriculum, etc.)

Source: Jenset, I., K. Klette and K. Hammerness (2017[2]), Grounding Teacher Education in Practice Around the World: An Examination of Teacher Education Coursework in Teacher Education Programs in Finland, Norway, and the United Sates", *Journal of Teacher Education*, Vol. 69/2, pp. 184-197, http://dx.doi.org/10.1177/0022487117728248.

However, even if ITE programmes improve these opportunities grounded in practice or provide further integrated models of theory and practice, if these experiences are too disconnected with the real contexts of practice where beginning teachers start their careers, the valour risks to be reinterpreted as "false practice" – i.e. theory. For example, it is not uncommon that teacher candidates engage with their first experiences in exemplary or less challenging schools, whereas new teachers are more likely to be allocated to disadvantaged schools on their first jobs. Similarly, these "practices" should reflect to some extent either the realities of teaching in schools or demonstrate how new teachers can build on these to improve and innovate teaching.

Therefore, instead of focusing on the type of contexts – e.g. elite vs. challenging schools – these grounded practices should take place in schools that provide a sheltered environment with a strong culture of professional learning, where prospective teachers can practice and develop their teaching skills. Ideally, teacher education institutions should work with a diverse set of schools that are learning organisations regardless of how challenging these environments are. Tailored mentoring schemes for very particular contexts can also be an important strategy to improve the readiness of new teachers and address certain sources of teacher shortages (see Box 5.1)

5.2.2. Building on the experience of effective induction and mentoring programmes

Mentoring programmes are the spearhead of the organisation of induction for beginning teachers and there has been growing research identifying good practices and indicators to guarantee the quality delivery of mentoring (Rockoff, 2008[48]; European Commission, 2010[20]; Hobson et al., 2009[21]; Kraft, Blazar and Hogan, 2018[49]; Schuck et al., 2018[6]). In their review of induction and early-career support of beginning teachers, Zuljan and

Požarnik describe a number of key conditions to ensure the success of induction initiatives:

1. Financial support (reduced workload of novice teachers without reducing their salaries, reduced teaching workload of mentors to allow time for mentoring).
2. Clarity about roles and responsibilities (of novice teachers, mentors, head teachers, teacher educators, ministries and/or local authorities, unions/ professional bodies/ steering boards).
3. Cooperation between different parts of the system (induction as part of a continuum: building on initial teacher education and feeding into continuing professional development).
4. Quality management (the competence of mentors, the competence of school leaders, monitoring and evaluation of induction policies).
5. A culture focused on school as a learning community in which all the participants can benefit from mutual professional development (2014, p. 201[1])

For the design and implementation of induction programmes, the European Commission (2010[20]) also advises policy makers to consider the explicit policy aims of each initiative, for different countries might have different priorities – e.g. reducing the drop-out rate of beginning teachers or providing feedback for initial teacher education. A second main consideration lies in ensuring that induction is delivered as a coherent programme addressing three kinds of support: personal/emotional, social and professional. In order to fulfil this support, four main interlocked systems are identified: systems for mentoring, expert inputs, peer support and self-reflection (Table 5.2.)

Addressing the lack of research on training effective mentors is another key policy issue that would allow for building the capacity of experienced teachers to become mentors and enhance the evidence-base on effective mentoring (Simmie et al., 2017[32]; Spooner-Lane, 2017[41]).

Table 5.2. A comprehensive model for induction programmes

	Mentor	Expert	Peer	Self-reflection
Support Provided	• professional • personal • social	• professional	• professional • personal • social	• professional • personal
Aims	• stimulate professional learning • create safe environment for learning • socialisation into school community	• ensure beginning teacher's professional development • expand content knowledge and teaching competences	• create safe environment for learning • share responses to common challenges	• promote meta -reflection on own learning • promote professionalism • develop attitude of lifelong learning • link ITE and CPD
Key Actors	• experienced, suitably trained teacher(s)	experts in teaching (e.g. from teacher education institutions)	• other new teachers • experienced teachers • other colleagues	• beginning teacher
Activities	• coaching • training • discussion • counselling • coordinating school level arrangements	• seminars • various courses • support materials • resources • guidelines	• networking in and between schools • face-to-face meetings (can be aided by a virtual community) • team-teaching • collegial feedback	• observation of and feedback on teaching • peer review • system to record experiences, learning and reflections, e.g. portfolios, diaries
Conditions for success	• careful matching of mentors and student teachers • mentors must share and support vision, structure of induction programme etc. • co-ordination in school • facilitation of mentors tasks (e.g. workload) • training for mentors	• easy access to external expertise and advice • non-judgemental approach	• reduced workload to allow time for cooperation and sharing	• reduced workload to allow time for reflection • established standards against which performance can be self-assessed

Note: In the expert system, the focus is on creating access to external expertise and advice in order to expand content and teaching. The peer system brings beginning teachers together, thus creating opportunities to network within and across schools. Self-reflection ensures the continuation of study and of personal growth, allowing for a bridge between ITE and CPD at the level of personal investment.
Source: European Commission (2010[20]), *Developing coherent and system-wide induction programmes for beginning teachers: a handbook for policymakers*.

5.2.3. Embedding new teachers' early development in a culture of continuous professional learning

The common indicator of well-developed systems for teacher development is that they truly work as systems, with multiple and coherent components ranging from recruiting to professional development in schools (Darling-Hammond, 2017[50]). Similarly, the conceptual framework of the ITP study proposes a continuum of four consecutive stages that are meant to be well-connected and aligned. If one key insight underpinning the idea of ITP is to ease the divide between pre-service preparation and in-service work, then the systemic approach inscribed in the conceptualisation of ITP systems must also link other divides in the preparation of teachers – e.g. induction vs. post-induction – and go beyond the first two years of teaching experience. In fact, according to research on mentoring, this support should be treated as a three to five year process, thus going clearly beyond the common usages and conceptualisations of the "induction" phase (Spooner-Lane, 2017[41]; Fenwick and Weir, 2010[40]).

While teacher policies had placed a great interest on how to guarantee the necessary teacher workforce, there has been an increasing attention to the need to prepare new

teachers to become change agents in order to help schools improve the engagement of learners and address persistent educational gaps (Pettersson and Molstad, 2016[51]). In many systems, teachers are now not simply expected to follow a set of standardised practices but to play an active role in the design of learning environments (Schleicher, 2011[52]). In practice, this leaves ITP systems with the challenge of preparing new teachers to become at the same time good professionals with the capacity to help schools to innovate. This apparent contradiction – i.e. is experience a prerequisite for innovation, or rather is it through the process of innovation and enquiry that meaningful teacher experiences are developed – becomes blurred when considering innovative skills a core part of teacher professionalism (Paniagua and Sánchez-Martí, 2018[35]). When formal induction and long-term support programmes are permeated with an integrated professional culture –i.e. learning organisations – (Kardos et al., 2001[53]), schools are able to move beyond "assisting" new teachers and engage them in their professional culture of teaching.

5.3. How can the different actors apply these strategies?

5.3.1. What can policy makers do?

Promoting frameworks with integrated subjects that help address the gap between theory and practice

In order to effectively ground teacher education in practice, subject content, theory and subject pedagogy must be taught in an integrated way. For this to happen, it is not enough to increase the hours of practice that teacher candidates spend in classrooms or the number of "practice-based" subjects in teacher education programmes. Offering integrated subjects instead of isolated ones has a stronger potential to ease rather than deepen the theory/practice divide.

The Norwegian Ministry of Education promotes "professional subjects" (Table 5.3/11) in its National Qualification Framework (NQF) and guidelines for initial teacher education. These require ITP providers to develop programmes that combine academic knowledge, subject didactics, the pedagogy underlying them. Professional subjects also need to build on research-based evidence to sustain teaching practices combining knowledge in learning theories.

Encouraging university-school partnerships through specific targeted funding schemes to align the classroom experiences of teacher candidates and new teachers

Policy makers can monitor and identify schools facing shortages of teachers and establish pre-employment training immediately before new teachers enter the classroom, followed by a dedicated mentoring programme in these schools. The Gyeonggi's pre-employment approach in Korea (Table 5.3/8) shows the effectiveness of such initiatives for addressing the immediate needs of new teachers and enhance the opportunities for grounded practices. More generally, governments can allocate special funding for universities and schools, so that they can create unified pathways enabling teacher candidates to ground their experience in the same schools where they will be hired upon graduation, like the University of Tasmania internship model (Box 5.1, Table 5.3/1).

Positioning mentoring as a key quality lever and guaranteeing that mentoring is rigorous and fully available for most if not all beginning teachers

Mentoring schemes can become strong avenues for supporting beginning teachers if they are carefully planned and implemented. Central authorities can allocate financial support and promote standards for mentoring as a first step in this regard. Across countries participating in the ITP study, some strong initiatives were identified acknowledging the importance of induction that mobilised a significant amount of resources. In Japan, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) provides guidelines for the 1-year induction period for new teachers, involving 120 hours of in-school training (Table 5.3/5). In Australia, support for teachers in the early years of their career is available in many forms, and induction programmes can be found in all the states and territories. Recent efforts include the development of national guidelines for induction into the profession and diverse tailored initiatives (see Box 3.3 in Chapter 3), Table 5.3/2) to guarantee the provision of new teachers according to the needs of rural and challenging schools.

In the United States, 29 states require support for beginning teachers, of which 15 require support beyond the first year of teaching. In California, beginning teachers must take a 2-year programme called Beginning Teacher Support and Assessment (BTSA). One of the most salient initiatives are the teacher residencies, such as those provided by Inspired Teaching in Washington (Table 5.3/13). Teacher residencies last an average of 1 year and improve the clinical experience of teacher candidates, providing stronger links between ITE, induction and continuous professional development. In Norway, the Ministry of Education and Research and the Norwegian Association of Local and Regional Authorities (KS) work together to ensure that all beginning teachers can access mentoring programmes. For 2014, 72% of beginning teachers reported that their schools had a mentoring scheme (Norwegian Ministry of Education and Research, 2016[54])

Providing more stability in new teachers' assignments so that mentoring programmes can become a form of on-going support

Policy makers need to envisage strong mentoring programmes that move beyond addressing urgent needs associated to the very first teaching experiences. Extending support for the initial stages of teaching and explicitly linking induction with ongoing professional development can ensure a continuing development of skills that require more experience to master. This, in turn, requires policy makers to encourage, to the extent possible, some degree of stability in the assignments of new teachers to schools. Promising practices that guarantee the stability of new teachers include replacement pools where new teachers are permanently assigned to one school. This means that when they do not have an assignment as a substitute, they stay in that school, which allows them to extend their experience and develop collegiality in a professional community (OECD, 2005[55]). Other initiatives include ITP schemes where training takes place in schools that upon graduation will hire these teacher candidates, as it is the case of the University of Tasmania internship model (Box 5.1, Table 5.3/1).

Advancing large-scale improvement reforms targeting comprehensive models of team work, enquiry and collective learning

Structured teaching experiences in schools provide a platform for teacher candidates to improve their inquiry and reflective skills. Fostering the degree of collegiality in schools is important to foster the guidance and support of experienced teachers towards new

teachers. A good example of how the commitment of governments can promote integrated models of support for new teachers comes from the Welsh Government. In their last action plan for 2017-21, entitled "Education in Wales: Our National Mission", there is an explicit call to develop schools as learning organisations (Box 5.3). This model includes the promotion of mentoring, continuous professional development and a culture of enquiry, exploration and innovation. This is well-aligned with the goal of integrating induction and post-induction phases for new teachers, while offering them opportunities to participate and the support they need. In the same spirit, in Japan, the Ministry of Education encourages schools to use a co-ordinated comprehensive and collaborative approach to training new teachers (Table 5.3/6).

Box 5.1. University of Tasmania internship model

Across the eight states and territories in Australia, recent graduates of initial teacher education (ITE) programmes commonly experience challenges securing permanent employment as full-time teachers. Currently, a relatively low number of recent graduates obtain full-time employment upon graduation. Further, teachers who do secure such an employment commonly experience a disconnection between their teacher education and their new professional demands. This can be the result of a sharp increase in job expectations, including the expectation that new teachers will be fully independent, and the challenge of applying theory to practice.

To address teacher shortages, the Tasmanian Department of Education in Australia partnered with the University of Tasmania to create the Teacher Intern Placement Program to better connect teacher preparation and hiring. The programme aims to identify, attract and retain teacher candidates into priority teaching areas and locations as identified by the department. It offers prospective teachers a full-time (35 hours/week) internship in a local classroom during the final year of their ITE programme, with the promise of being hired and to have school-based mentoring in that same school the following year upon graduation (Table 5.3/1).

5.3.2. What can teacher education institutions do?

Exploring further mechanisms to smooth the transition from the fieldwork experiences offered in ITE programmes and the induction initiatives offered in schools

Schools serving diverse communities with higher proportions of families from low socio-economic backgrounds commonly face unique challenges that ITE programmes might find difficult to address. Creating specialised programmes to equip teachers for particular challenging contexts, along other incentives such as stability, has the potential to not only prepare but also attract teachers to these schools.

For example, in Australia, the Queensland University of Technology originally developed the National Exceptional Teachers for Disadvantaged Schools (NETDS) initiative and, after ten years, this programme is now implemented in seven other universities in other states. This academic model offers a tailored learning model preparing teacher candidates for working in disadvantaged schools, including a mentoring scheme (Table 5.3/3).

Advancing new ways to bridge the so-called "university-school divide" and designing new ITE programmes that then can spread to other ITP providers

Universities and organisations providing ITP programmes are in a privileged position to promote new ways of designing fieldwork experiences. In particular, if ITP providers welcome the contribution of schools and teachers and implement a co-design approach, they can further develop integrated models and better address the context where teacher candidates will start their careers. Well-monitored pilot programmes can serve as a platform for national authorities to support and scale strong induction programmes.

A powerful case with a significant track record is the Clinical Faculty model created by diverse universities in the U.S during the 1980s and 1990s (Box 5.2, Table 5.3/14). Clinical approaches to ITP represent one of the most important ways in which ITP systems are integrating theory and practice, and create a stronger link between preparation, induction and ongoing professional development.

In the Netherlands, the University of Groningen initiated a 3-year induction period for all new teachers that may be considered by the Ministry for scaling up (Brouwer et al., 2016[56]). In Australia, the ITP review identified several models of clinical practice successfully integrating practice and research into ITE programmes by immersing students in the work and culture of schools Table 5.3/4).

Providing specific guidance and training to schools in the development and implementation of induction programmes

In the Netherlands, ITP institutes support schools in the development and implementation of induction programmes through the national project "supporting beginning teachers", which aims to address the shortage of available mentoring for new teachers. More generally, ITP institutions need to tap into existing research gaps regarding the impact of different induction programmes and new induction models and training pathways for prospective mentors. As mentioned, the residency and clinical approaches advanced by universities in the United States illustrate the role ITP institutions can play in improving or supporting induction programmes. The recently created Centre for Professional Learning in Teacher Education (ProTed) in Norway has focused, among other actions, on innovating in the training of teacher educators (see Box 2.1. in Chapter 2 and Table 5.3/12). Similar efforts from universities should include the area of mentors, teacher educator-and-mentor partnerships or the relationship between mentors and supervisors of the fieldwork experiences of students to guarantee the continuity and coherence of experiences.

Box 5.2. Clinical Faculty Model

Clinical practice in education conveys the necessity of bringing research based understandings of teaching and learning into dialogue with the professional understandings of experienced teachers. It is conceived along two main goals:

- To facilitate and deepen the interplay between the different sources of knowledge that are produced in different contexts, i.e. school and university.
- To provide scope for beginning teachers to reflect critically these different types of knowledge in relation to each other, aiming at interpreting and adapting that knowledge with their particular classroom experiences.

Clinical practice in ITP is built on the premise that in order to be granted full access to real classroom, teacher candidates must complete rigorous academic and practical training. This includes: working effectively with clients, securing an amount of scientific knowledge, understanding how to use evidence and judgement in practice, and comprehending and readapting according to the standards of practice of their respective teacher communities.

Source: Burn and Mutton (2015[4]), "A review of 'research-informed clinical practice' in Initial Teacher Education", *Oxford Review of Education*, 41, 2, pp. 217-233.

5.3.3. What can schools and teachers do?

Creating and sustaining effective and deep partnerships with universities to co-design ITE programmes, in-school fieldwork experiences for teacher candidates and induction or mentoring schemes for new teachers

The alignment between students, mentors, teacher educators and school leaders can be viable only if schools are eager to cooperate and work collaboratively with other stakeholders. Norway, for example, has converted teacher training degrees to Master's programmes that requires trainee teachers to conduct a school-based research project as part of their thesis. The importance of the role of schools is one of the factors explaining the successful partnerships taking place in the Netherlands to enable a good balance of theory and practice, and for developing a continuum of skills to guide development of ITE into induction (Table 5.3/10). Moreover, the Dutch government funds and accredits partnerships where teacher candidates spend two days per week in a partner school, courses are co-designed and delivered by university and school staff, and academics and school teachers work in partnership on research projects.

Affiliated schools in Japan provide another case of strong university-schools partnerships (Table 5.3/7). Indeed, 258 affiliated schools provide in-site innovative teaching experiences for teacher candidates, and conduct research in cooperation with the university. These partnerships between universities and schools should aim to include strategic issues such as working collaboratively to identify key competences for mentors, how to train experienced teachers to become mentors, or strengthen the collaboration between school mentors and teacher educators.

Conceiving induction as an integrated, systemic model of support where principals, experienced teachers, and early career teachers are eager to address the different needs of new teachers

In order to guarantee the successful implementation of induction programmes, school leaders and their staff should work together to build a welcoming and supportive environment in their schools. If the goal is to address the emotional, social, and professional needs of novice teachers, then schools need to view induction as something more than an isolated action involving just a mentor and a mentee. Since mentoring is anchored in the particular context and community of practice, schools should not expect that top-down initiatives per se can guarantee the enactment of powerful school-based induction programmes. Financial support and encouragement from central bodies are the basis, but the development of a culture focused on a community where all teachers can benefit from mutual professional development requires schools to have a strong role in claying the responsibilities and competences of mentors and other professionals. The conceptualisation of schools as learning organisations (SLO) offers an integrated model of enquiry and professional development that places the creation and support of all professionals at the centre (Box 5.3, Table 5.3/15).

Launching collaborative networks to provide opportunities for early professional development for new teachers

Promoting induction initiatives that are particularly suited to address certain schools' needs can also be a form of investment to retain new teachers beyond the induction period. For those schools that are consciously engaging with innovation, that have developed a distinctive approach, or have difficulties to attract teachers given their particular context (e.g. rural or challenging schools), a collaborative design of early professional development is particularly interesting. Teachers that are part of school networks are continuously in contact with a large community of practice and structures that support their professional development. These structures include meetings for sharing experiences and reflecting on new practices.

In Korea, individual teachers organise "Study Groups and Professional Learning Communities" to support strategic innovation, including the introduction of new teachers to the community and induct them into the culture of collaborative study and innovation (Table 5.3/9). These groups can have an impact in helping schools move towards horizontal cultures more open to innovation and change. Within this approach, support to new teachers is systematically integrated into creating and supporting continuous learning opportunities for all teachers.

Box 5.3. Schools as learning organisations in Wales

The strategic education plan, *Education in Wales: Our National Mission (2017–2021)*, presents Wales' national vision for education building in four key enabling objectives:

1. developing a high-quality education profession
2. inspirational leaders working collaboratively to raise standards
3. strong and inclusive schools committed to excellence, equity and well-being
4. robust assessment, evaluation and accountability arrangements supporting a self-improving system.

The Welsh Government considers the development of SLOs as vital for realising these four objectives and supporting schools to put the new curriculum into practice. As a growing research suggests, SLOs react more quickly to changes, improve job satisfaction, enhance experimentation and are also associated positively with student outcomes (Kools and Stoll, 2017[43]). In particular, the SLO model of Wales focuses its efforts on the seven dimensions proposed by the OECD guidelines for making schools a learning organisation.

Source: OECD (2016[57]), *What makes a school a learning organisation? A guide for policy makers, school leaders and teachers,* OECD Publishing, Paris.

Table 5.3. Practices to ensure an evidence-informed, self-improving ITP system

Reference number	Title of practice	Country
1	Creating a pipeline to teaching in Tasmanian government schools: From the university to hire	Australia
2	Recruiting highly qualified mature STEAM graduates to teaching in Australia	Australia
3	The National Exceptional Teachers for Disadvantaged Schools Initiative in Australia	Australia
4	Clinical practice approaches in initial teacher education in Australia	Australia
5	Mandatory 1-year induction for new teachers in Japan	Japan
6	The use of lesson study to develop teachers in Japan	Japan
7	Collaboration between and within universities, boards of education and schools in Japan	Japan
8	Pre-employment training for new teachers in Gyeong-gi Province in Korea	Korea
9	Professional learning communities and master teacher networks: Building collective responsibility for the profession and for supporting new teachers	Korea
10	Schools and teacher education institutions co-creating ITE programmes in the Netherlands	Netherlands
11	Integrating knowledge and practice in teacher education in Norway	Norway
12	Centre for Professional Learning in Teacher Education (ProTed): Promoting innovation, research strategic partnerships and sharing of best practice in initial teacher education in Norway	Norway
13	Teacher residencies featuring the Centre for Inspired Teaching	United States
14	Clinical faculty in the United States	United States
15	Towards a research-informed, evidence-based reform agenda in initial teacher education in Wales	Wales (United Kingdom)

Note: Hyperlinks point to the description of Promising Practices identified in the ITP reviews accessible on the Teacher Ready! platform.

Note

[1] Such as: Networking/Virtual Communities, scheduled meetings with the school head and/or colleagues, peer review, courses and seminars, collaboration with other schools, diaries, and team teaching (European Commission, 2015[28]).

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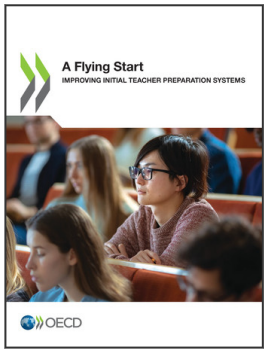

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