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A good start in uncertain times: Preparing teachers for a successful career

Effective teaching starts with high-quality preparation that provides prospective teachers with a strong foundation on which they can continue to build throughout their career. Initial teacher preparation should provide beginning practitioners with a coherent learning experience that integrates coursework, practical training, induction and early career development. This requires education systems to conceive of initial teacher preparation as part of a career-long learning continuum, to expand the range of actors involved in the process, and to create and sustain strong partnerships and feedback loops between schools and teacher education institutions. While the importance of practice-based components in initial teacher education (ITE) is now widely recognised, the COVID-19 disruption of schooling has created new challenges for their implementation. This Policy Brief draws on evidence from the OECD School Resources Review and beyond to explore the following questions:

- What do we know about effective initial teacher education programmes?
- How to link teachers' initial education to induction and continuing professional learning?
- How to adapt initial teacher preparation to remote and hybrid teaching contexts?

What do we know about effective initial teacher education programmes?

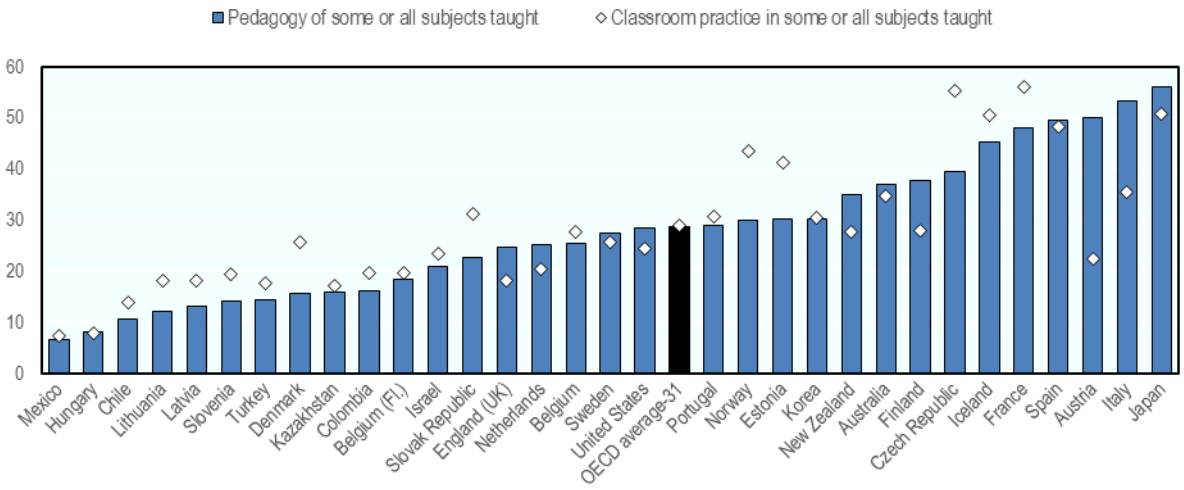
Initial teacher education (ITE) remains the most common starting point for a career in schools. In the 2018 OECD Teaching and Learning International Study (TALIS), a large majority of lower secondary teachers report having received preparation in content, pedagogy and classroom practice for some or all of the subjects they teach. To enable teachers to engage in high-quality instruction, their initial education should prepare them for the challenges of the classroom and provide them with a strong foundation for a process of continued professional learning (see also OECD Policy Education Perspectives No. 10 on continuing professional learning (OECD, 2020[1])).

Yet, at least one in two teachers in Austria, the Czech Republic, France, Iceland, Italy, Spain and Japan reports feeling underprepared for classroom practice, subject pedagogy or both (see Figure 1). Teachers frequently struggle to engage students, to manage misbehaviour (Emmer and Stough, 2001[2]) and to transform complex subject-matter knowledge into pedagogical content knowledge (Hill, Rowan and Ball, 2005[3]; O'Neill and Stephenson, 2012[4]; Feuer et al., 2013[5]). This raises serious concerns about the effectiveness of initial teacher preparation and the efficient use of resources. Ensuring that teachers feel prepared for the classroom raises their likelihood to remain in the profession (Ingersoll, Merrill and May,

2014[6]), thus preserving systemic investments in the next generation of teachers and reducing recruitment costs and potential detrimental effects on schools associated with turnover.

Figure 1. Teachers' sense of preparedness for different elements of teaching (ISCED 2), 2018

Percentage of teachers who felt "not at all" or "somewhat prepared" for the following elements



Notes: Countries and economies are ranked in ascending order of teachers' sense of preparedness in pedagogy.
Source: OECD (2019[7]), *TALIS 2018 Results (Volume I): Teachers and School Leaders as Lifelong Learners*, Table I.4.20, https://doi.org/10.1787/1d0bc92a-en.

Although the evidence on key ingredients of effective teacher education remains limited, there is widespread international agreement that effective ITE programmes must provide student teachers with opportunities to practice their skills in the classroom (OECD, 2019[8]; Grossman, Hammerness and McDonald, 2009[9]). This successful integration of theoretical and practical components is a central challenge in ITE.

In almost all OECD countries, prospective teachers gather some practical experience in schools prior to entering service. Yet, the design of teacher training programmes and the amount and intensity of their practical components varies widely across education systems and different programmes (see (OECD, 2019, pp. 273, Table 4.1[10])). Research indicates that to be most effective, practical experience should take place in schools with a strong culture of professional learning and a sheltered environment for prospective teachers to practice and develop their teaching skills with guidance and supervision (OECD, 2019[8]; Ronfeldt and Reininger, 2012[11]).

Education authorities can play a role in identifying and supporting schools to provide a suitable learning environment for student teachers and set quality requirements (e.g. concerning the qualifications, experience or evaluation results of teacher mentors). They can also support the quality of ITE programmes by promoting the collaboration between institutions that prepare teachers for different levels of education so teachers can benefit from their respective strengths in theory or practice. In addition, teacher residency models, in which student teachers spend the majority of their time in school, are a promising way to integrate traditional university-based preparation with on-the-job learning, fostering an exchange between research-based approaches and the professional understanding of experienced teachers.

Several OECD countries and systems participating in the School Resources Review (referred to below as School Resources Review [SRR] countries) have reformed their initial teacher education programmes with these objectives in mind. Unless otherwise noted, country examples throughout this brief are drawn from the SRR country reviews available on the project website:

- Since 2015/16, **Austria** has promoted the collaboration between two types of teacher education institutions: University colleges of teacher education (*Pädagogische Hochschulen, PHs*), which train teachers for provincial schools and have closer ties to schools and practice, and universities, which train teachers for federal schools and have particular strengths in theory and research. This aims to ensure teachers can benefit from the best of both approaches.
- **Portugal** has developed a system to ensure the quality of teachers supervising teacher candidates during their ITE programmes. The participating teachers are required to have at least five years of experience and to be selected by a higher education institution (HEI). It is the HEI's responsibility to screen for the quality of supervising teachers and to provide them with training in mentorship.
- In **Uruguay**, education authorities play an active role in identifying and supporting schools that provide a suitable learning environment for student teachers in primary education. Schools that are designated as practice schools (*escuelas de práctica*) by the central education authority serve as a practicum site for teacher candidates. Teacher mentors in these schools receive dedicated training for their role and additional compensation in the form of a salary allowance.
- In the **United States**, a few dozen teacher residency programmes have been set up since the early 2000s to integrate aspects of traditional and alternative teacher preparation pathways, modelled on the medical residency system. Residency programmes typically select teacher candidates to work alongside a mentor for a full year before becoming a teacher of record. Residents also complete coursework leading to both state certification and a master's degree from a partner university. In exchange for tuition remittance and a residency-year stipend, they commit to teaching in the district for a specified period, generally three to five years and often in hard-to-staff schools (OECD, 2019, p. 277[10]). Most evaluation studies show improved retention outcomes for teachers entering the profession through these residencies, with potential but not definitive learning gains for students of teachers prepared through a residency (Papay et al., 2012[12]; Guha, Hyler and Darling-Hammond, 2016[13]).

Initial teacher education must integrate theory and practice and keep up with the evolving challenges of the classroom

Effective initial teacher preparation programmes provide teacher candidates with the skills to engage in effective instruction and with a strong foundation on which to build throughout their career. Nevertheless, many beginning teachers report feeling underprepared for the practical challenges of the classroom. Common challenges for ITE programmes relate to integrating theory and practice, keeping up with students' evolving learning needs, and building strong partnerships between teacher education institutions and schools. Education authorities can help to strengthen ITE programmes by requiring all ITE programmes to provide teacher candidates with practical experience and designing mechanisms to ensure the quality of practicum sites, guidance and supervision. Authorities can also ensure that accredited ITE programmes cover priority areas and promote the collaboration between schools and teacher education institutions to develop and refine the ITE curriculum and delivery.

How to link teachers' initial education to induction and continuing professional learning?

Initial teacher preparation can be understood as a continuum comprising not only initial or pre-service education, but also teachers' induction and mentoring during the first years of teaching. Assuming a full-time teaching role for the first time can present unique challenges and to be effective teachers need tailored

support in their transition from initial education to schools (OECD, 2019[8]; Paniagua and Sánchez-Martí, 2018[14]; Jensen et al., 2012[15]). Nevertheless, a recent OECD report highlights that initial teacher preparation rarely provides for a coherent learning experience across teachers' initial education and their early career professional learning in practice (OECD, 2019[8]). This disconnect may be caused by a lack of co-ordination between ITE institutions and schools and/or by the limited availability of high-quality induction programmes to orient beginning teachers to the profession and to the context of a new school.

High-quality induction programmes can bridge the gap between teachers' initial education and the start of their career

On average across OECD countries participating in the OECD's Teaching and Learning International Survey (TALIS) 2018, 66% of beginning teachers with up to five years of experience report not having participated in any form of induction during their first employment (OECD, 2019, pp. 208, Table I.4.38[7]) and fewer than half of the SRR countries require schools to provide new teachers with formal induction activities (see (OECD, 2019, pp. 285, Table 4.2[10])). Induction processes can take different forms and involve a variety of mechanisms to support new teachers in launching their career, including teacher orientations, course sequences, mentoring or coaching. A number of countries have invested in expanding these provisions (OECD, 2019[8]; Jenset, Klette and Hammerness, 2017[16]), yet reviews of traditional induction programmes have found mixed effects (Ingersoll and Strong, 2011[17]). Much remains to be understood about the types of induction processes that work best, and their context and duration seem to play an important role for their effectiveness in supporting new teachers and retaining them in the classroom (Ingersoll and Strong, 2011[17]; Ronfeldt and McQueen, 2017[18]; Glazerman et al., 2010[19]).

Some of the more promising forms of induction involve intensive teacher coaching (Kraft and Blazar, 2017[20]; Allen et al., 2011[21]; Powell et al., 2010[22]). A recent meta-analysis of 60 causal research studies found coaching for new teachers to improve their practices by about half a standard deviation and to raise student achievement by around a fifth of a standard deviation (Kraft, Blazar and Hogan, 2018[23]). Yet, intensive coaching requires significant time and money to reduce beginning teachers' workloads, to provide mentors with stipends or course releases and/or to hire external trainers. School systems must therefore consider resource trade-offs when investing in induction programmes and carefully weigh the relative costs and expected benefits of different policy options. For example, in England (United Kingdom), starting in autumn 2021, the Early Career Framework reforms will guarantee a 10% reduction in beginning teachers' timetables during their first year, and a 5% reduction during their second year. Regular trainings for early career teachers and their mentors will be fully funded, and a specific curriculum will be created. As of 2019, the anticipated cost of the reform was GBP 130 million per year (Department for Education, 2020[24]).

Several SRR countries have sought to ease beginning teachers' transition into schools by improving and expanding mandatory introduction processes or by raising the attractiveness of voluntary induction provisions:

- **Austria** has expanded its mandatory one-year professional entry phase (*Unterrichtspraktikum*) to all teachers starting in 2019/20, as part of its new teacher service code (*Dienstrechts-Novelle 2013 – Pädagogischer Dienst*). Previously, this induction requirement had only applied to teachers of academic secondary schools. During the entry phase, beginning teachers are supported by experienced mentors. These mentors are active teachers within their schools who received specific mentorship training. In addition, new teachers attend induction courses at a university college of teacher education. At the end of the induction period, new teachers receive an evaluation of their performance by the school principal.
- In **Chile**, a 2016 reform (the System for Teacher Professional Development) established a mandatory induction process for all beginning teachers, which had previously been at the

discretion of school providers and schools. The induction phase lasts up to ten months during the first or second year of teaching and includes mentoring at the school by an experienced teacher with a proven record of quality teaching. The additional hours required for the induction process by the beginning teacher and the mentor are funded by the Ministry of Education. The induction process has a formative function and is not associated with a probationary period.

- In **Estonia**, induction programmes are not mandatory, but encouraged and supported. Beginning teachers may voluntarily participate in a 12-month induction programme, which is funded by the Ministry of Education and Research and implemented by two of the country's three public comprehensive universities. The induction programme provides beginning teachers with a mentor to supervise their work. The mentors are active teachers who are appointed by their principal and have at least three years of experience in pedagogical work and passed a training in supervision. The mentors are also required to provide feedback to the beginning teachers' initial teacher education institution. During the induction year, the beginning teacher is expected to prepare an individual development chart containing a self-evaluation of their experience. Other offers include workshops that address common challenges experienced by beginner teachers and seek solutions, either jointly or individually.

The coherence of initial teacher preparation hinges on the co-ordination between schools and ITE institutions

Besides a lack of high-quality induction programmes, the disconnect between teachers' initial education and the start of their career can be aggravated by limited co-ordination between schools and ITE institutions. A recent OECD report highlights the frequent misalignment between initial teacher education programmes and induction curricula, as well as challenges in following up on the induction period with continuing professional learning activities (OECD, 2019[8]). Some systems have sought to address these challenges by developing stronger links between teacher education institutions and schools. An innovative example for such partnerships in the Netherlands is presented in Box 1.

Box 1. Collaboration between initial teacher education institutions and schools in the Netherlands

To address concerns about the "classroom readiness" of newly qualified primary teachers, the Dutch Ministry of Education, Culture and Science has launched a range of initiatives to improve the match between ITE programmes and schools' needs. These initiatives have facilitated and funded a closer integration of universities with school boards at the strategic level, and with individual schools at both the strategic and operational level. Some examples of such partnership activities that benefit both schools and prospective teachers include:

- The teacher education institution employs a teacher educator to oversee the partnership and provide strategic leadership.
- Schools and teacher education institutions exchange staff and work in each other's institutions.
- School and teacher education institution staff work closely together to develop and refine the initial teacher education curriculum and delivery.
- The school board and the teacher education institution jointly design how to select candidates and both have a role in the selection.
- The teacher education institution provides training for teachers interested in being mentors.

- The school evaluates the practice of the student teachers who must achieve a pass mark to receive their teaching certificate.

Source: OECD (2019[8]), *A Flying Start: Improving Initial Teacher Preparation Systems*, OECD Publishing, Paris, https://doi.org/10.1787/cf74e549-en.

Beyond induction, initial teacher education also needs to connected to the broader learning continuum for education professionals. Although teachers' initial education, their continuing professional learning and – at the other end of the continuum – the preparation for leadership roles have historically been thought of and developed independently, a growing body of research calls for strengthened links between them (Paniagua and Sánchez-Martí, 2018[14]). Teacher standards describing the competencies expected of newly qualified teachers as well as for different career stages can help support this continuum. This holistic approach implies ensuring that the curricula of initial teacher education, induction programmes, CPL and leadership training are consistent, well connected and complementary. It may also require systems to systematically develop or strengthen relationships between the actors involved, including, for example, the establishment of consultation processes, feedback loops between relevant stakeholders and collaboration between the different actors and stakeholders of initial teacher preparation and continuing professional learning systems (Boeskens, Nusche and Yurita, 2020[25]).

Initial teacher preparation should provide a continuous and coherent learning experience

Assuming a full-time teaching role for the first time presents unique challenges. To support teachers in their transition to the classroom, initial teacher preparation should provide a continuous and coherent learning experience that integrates ITE and teachers' early career professional development. Evidence suggests that high-quality induction programmes for beginning teachers can support this transition. Several OECD countries have therefore invested in raising the quality of their induction processes, for example by training mentors or providing dedicated time and resources for intensive coaching activities. Another reason why teachers' initial education can feel disconnected from the start of their career is an insufficient co-ordination between schools and ITE institutions. Fostering stronger links and regular exchange between teacher education institutions and schools can be a promising way to align initial teacher education programmes with induction curricula and ensure that it is followed up with relevant continuing professional learning activities.

How to adapt initial teacher preparation to remote and hybrid teaching contexts?

The COVID-19 pandemic has disrupted both higher education and schooling, forcing education systems to rethink many aspects of initial teacher education. First, the social distancing rules related to the health crisis have affected ITE institutions themselves and in many cases obliged them to develop online and hybrid course formats to ensure the continuity of learning for student teachers. Second, the mass closures of schools disrupted teaching practica and created an obligation and opportunity to think of alternatives and complements to in-school experiences for teachers. Third, the remote and hybrid (combining remote and in-person teaching) teaching contexts during school closures and re-opening phases have put pedagogy for virtual teaching more firmly on the map of relevant ITE contents.

Some of the approaches developed under constraint have brought innovations to the delivery of programmes that – if sustained and further improved – may well contribute to their longer term

improvement and continued relevance. The use of virtual learning environments in ITE is not a new phenomenon. Research, however, has so far primarily focused on technology use, rather than its impact on practice (Clarke, 2012[26]). For example, the use of virtual learning in primary and secondary education has been growing in the United States (McAllister, 2016[27]; McAllister and Graham, 2016[28]), yet the number of ITE programmes integrating online pedagogy in their curriculum component is still small. The lockdowns and mass school closures made digital technologies not just a supplement to the conventional practice of teaching and learning but also a critical medium to ensure the continuity of education systems.

The smart integration of digital technologies in the delivery of ITE programmes is likely to help prospective teachers in developing general information and communication technology (ICT) skills as part of their initial education. ICT skills and digital literacy help teachers connect with other colleagues while easing geographical and time constraints, for example due to the possibility of asynchronous interaction and saving communitng time (Silva, Usart and Lázaro-Cantabrana, 2019[29]). Familiarity with using digital technology can increase teachers' access to new teaching strategies and pedagogical resources online (Seo and Han, 2013[30]; Compton, 2009[31]). Therefore, integrating the use of ICT and digital technologies as part of pedagogical experience in ITE may further strengthen the resilience of prospective teachers. This is because teachers prepared with digital technologies are more likely to take initiative in searching for new tools and networks when adapting to fast-changing needs in today's classroom.

Going further, however, learning about the specific aspects of interating digital technologies effectively in classroom teaching requires for systems to more thoroughly review and examine curricular components to support an effective use of technology to improve teaching. However, equipping teacher candidates with new pedagogies and skills to develop virtual teaching models requires significant financial and time investments. It could also add more requirements to an already packed ITE curriculum. It is thus critical to review and examine the respective roles of ITE, induction and continuing professional learning systems in this area. Since technology is fast-changing, ITE mostly needs to prepare teachers to become continuous learners in this area.

The COVID-19 pandemic also impacted on the practice-based experiences of student teachers. As illustrated in the previous sections, many policy interventions have focused on making ITE more practice-based, so that teacher candidates have opportunities to prepare for the practical challenges of classroom teaching. Attention to practice and field experiences has been a key priority to make ITE more effective, to bridge the divide between theory and practice, as well as to support teacher candidates to develop their personal competences and tacit knowledge about teaching (Smith and Lev-Ari, 2005[32]). However, the COVID-19 pandemic disrupted not only the conventional activities in ITE but especially its practice-based programme components.

ITE programmes across OECD countries took different approaches to adapt their practice-based components to the context of mass school closures. In **Portugal** and **Chile**, for example, when the government suspended schools and universities in March 2020, all education activities, including ITE, moved online. Some ITE institutions also moved the practicum online, but how these online practia were implemented varied across different settings (Flores and Gago, 2020[33]; Sepulveda-Escobar and Morrison, 2020[34]). In **Turkey**, the Turkish Higher Education Council issued a decision to allow ITE institutes to experiment with different approaches to organising their teaching practicum during school closures. Bahçeşehir University and Marmara University collaborated to launch an "e-practicum" where student teachers practiced their teaching in a virtual classroom made up of 25 other prospective teachers (Ersin, Atay and Mede, 2020[35]). In **Japan**, the Ministry of Education took a different approach. Instead of moving the practicum online, ITE institutions received an exceptional permission to replace up to one third of required hours of teaching practicum by coursework (MEXT, 2020[36]). The variations in how different systems and ITE institutions adapted their practice-based compnents reflect different priorities assigned to the types and amount of experiences deemed critical in ITE.

The sudden interruption of traditional teaching practica could thus be an opportunity to critically review what types of experiences matter the most to ensure the effectiveness of ITE practica. The increased use

of digital and mobile technologies could further advance the use of remote support for prospective teachers during their practice experiences. Learning Management Systems (LMS) and video-archives are some of the already existing approaches that use digital technologies to support sharing and exchanging educational experiences to enhance prospective teachers' experience in their teaching practicum (Rideout et al., 2008[37]; Prilop, Weber and Kleinknecht, 2020[38]). An increased use of of interactive technologies in both schools and ITE institutions could open the possibility to have real-time and remote engagement with prospective teachers undergoing the practicum in a classroom, as well as providing support remotely for novice teachers in their induction phase. While both application of and research on remote supervision and assessment of teaching practice are limited, some systems, such as the United Kingdom, have experimented with it (Chilton and McCracken, 2017[39]). Remote interactions between student teachers and their supervisors in schools and ITE institutions hold the potential to enhance guidance, collaboration and reflective practice, which can help overcome the divide between theory and practice in ITE.

In addition, digital technologies may offer alternatives or complements for prospective teachers to gain practical experiences. As in the case of Turkey, where other prospective teachers substituted actual students and took on playing the role of learners, simulated experiences of classroom teaching could become part of ITE environments, including virtual ones. Research has identified a positive impact of learning in virtual worlds, especially when simultaneously engaging multiple users, attributed to increased engagement (Wrzesien and Alcañiz Raya, 2010[40]), the co-construction of knowledge (De Lucia et al., 2009[41]; Jamaludin, Chee and Ho, 2009[42]), collaboration (Jarmon et al., 2009[43]), and the promotion of critical thinking (Herold, 2010[44]). Although mostly limited to English as a second language teaching, there are some case studies using an online platform, *Second Life*, for prospective teachers to gain teaching experience during their practicum (Cheong, 2010[45]; Kozlova and Priven, 2015[46]).

Digital technologies can help improve the ITE experience

The COVID-19 pandemic has affected all aspects of ITE programmes, disrupting both course-based instruction and practice-based experiences of student teachers. This radically changed teaching environment has accelereated the creative use of digital technologies in ITE systems, including simulated experiences of classroom teaching. It has also drawn further attention to the importance of including technology-related aspects in both the delivery and the learning objectives of ITE and induction programmes. Some of the approaches developed under constraint have brought innovations to the delivery of programmes that – if sustained and further improved – may contribute to their longer term improvement and continued relevance. While further evidence is needed, the effective application of digital technologies in ITE could contribute to reducing teacher workload related to supporting prospective teachers and improve the involvement of university researchers and supervisors in the practice-based components of ITE.

School Resources

This document was prepared by the School Resources Review (SRR) team at the OECD. It is based on SRR thematic reports and country reviews, with analytical and drafting contributions from: Luka Boeskens, David Liebowitz, Deborah Nusche, Thomas Radinger, Makito Yurita.

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See: OECD School Resources Review

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