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Teacher qualifications and entry into the profession

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Teacher qualifications and entry into the profession. By Lucio Sia.

This paper served as a background study for the 11th session of the Joint ILO/UNESCO Committee of Experts on the Application of the Recommendations concerning Teaching Personnel (CEART), held in Geneva 8-12 October 2012.

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Teacher qualifications and entry into the profession

Introduction

A synthesis of the main teaching policy proposals of major international organizations such as UNESCO, OECD and the World Bank reveals points of convergence such as: the importance of establishing selection mechanisms for entrance into teacher training degree courses, owing to the decisive impact of this measure on the quality of graduates and the status of the profession; the need to increase the quality of initial teacher education, offering a solid background in subject matter knowledge and pedagogy, with consistent practical work experience; the importance of the accreditation of teacher training institutions and programmes; emphasis on the need for solid programmes on continual training, related to everyday work in schools; agreement that the suite of action criteria for improving teaching requires the implementation of performance assessment systems for professional teachers, as well as competencies on graduation for new teachers; and finally, assessments based on standards that are agreed with teaching unions and social organizations.

In terms of *initial teacher education*, it is pointed out that the absence of selection processes to train as a teacher has negative effects on both the quality of future teachers and the capacity of the education system to attract talented applicants. Fundamental shared trends for change in initial teacher education are described in terms of four key concepts, which in the logic of public policy for the sector should be centres of action: I) *pedagogic knowledge of the content*, or the union of subject matter knowledge and knowledge of teaching; II) *work experience or clinical experience*: teaching requires that knowledge and learning be put into practice alongside assessment capacities of that performance in the classroom; III) *effectiveness in diversity*: learning outcomes must be achieved by all students to the level set in the national curriculum, requiring a new type of teaching; and IV) *Reflectivity*: the experience of initial education should give preparation in capacities for description, evaluation, and reflection on a teacher's own practice and that of colleagues, which serve as a base for growth of the individual and of professional groups that work in line with the ideal of learning communities.

Two accountability tools form the backbone of modern policies for the improvement of initial education in the most advanced countries: accreditation of institutions and programmes, and national examinations of teaching competencies for graduates or training centres. Both require the definition of standards.

When McKinsey & Company¹ analyzed how the world's best school systems stay on top, there were certain common themes. Perhaps the most important was that "the quality of an education system cannot exceed the quality of its teachers." This simple statement conveys a profound truth - and masks considerable complexity. Research has shown that of all the controllable factors in an education system, the most important by far is the effectiveness of the classroom teacher. The world's best-performing school systems make great teaching their "north star". They have strategic and systematic approaches to attract, develop, retain, and ensure the efficacy

of the most talented educators - they make it a priority to attract graduates to a career in teaching and they make sure great teachers serve students of all socio-economic backgrounds.

Fortunately, improving “teacher effectiveness” to lift student achievement has become a major reform theme in education. Many schools, including some “Race to the Top” competitors and other education stakeholders like local teacher unions and charter management organizations, are finding new ways to measure, evaluate, reward, coach, and replicate effectiveness in teaching. Yet most such efforts focus either on improving the effectiveness in teachers who are already in the classroom- that is, people who have chosen teaching given the current nature of the profession – or on retaining the best performers and dismissing the least effective. Little attention has been paid to altering the value proposition of teaching to draw young people with strong academic backgrounds to the career.

McKinsey’s work with school systems in more than 50 countries suggests this is an important gap in many countries’ debate, because the world’s top performing school systems- Singapore, Finland and South Korea- make a different choice. They recruit, develop and retain what this report will call “top third+” students as one of their central education strategies, and they have achieved extraordinary results. These systems recruit 100% of their teacher corps from the top third of the academic cohort, and then screen for other important qualities as well. In the U.S., by contrast, 23% of new teachers come from the top third, and just 14% in high poverty schools, which find it especially difficult to attract and retain talented teachers. It is a remarkably large difference in approach, and in results.

Paradoxically, research on whether teachers’ academic backgrounds significantly predict classroom effectiveness is very mixed, and it suggests that merely sprinkling teachers with top-third academic credentials into an existing system will not by itself produce dramatic gains in student achievement. No single reform can serve as a quick solution. Nonetheless, the extraordinary success of top-performing systems suggesting a “top third+” strategy deserves serious examination as part of a comprehensive human capital strategy for education systems. Moreover, given that a big chunk of the teacher corps will be eligible for retirement in the next decade, the question “who should teach?” seems especially timely. Research suggests the need to pursue “bold, persistent experimentation” to attract and retain top graduates to the teaching profession, so one can learn whether more teachers with such backgrounds, working in the right school system context, can help lift student achievement to the levels that top-performing nations now enjoy.

What lessons might be learned from nations such as Singapore, Finland and South Korea that succeed in delivering world-class educational outcomes with top talent in teaching and what might local versions of such a strategy entail? Singapore, Finland and South Korea do many things differently to recruit and retain top-third+ students. These countries make admissions to rigorous teacher training programs highly selective; some also pay for these programmes’ tuition and fees, and give students a salary or living stipend while they train. In addition, government closely monitors the demand for teachers and regulates supply to match it, so that teachers who complete this selective training are guaranteed jobs in the profession. They offer competitive compensation, so that the financial rewards from teaching suffice to attract and retain top third students given the dynamics of these nations’ labor markets. They offer opportunities for

advancement and growth in a professional working environment, and bestow enormous social prestige on the profession. Officials in Singapore, Finland and South Korea view the caliber of young person they draw to teaching as a critical national priority.

McKinsey's market research with 900 top-third college students and 525 current teachers with similar backgrounds shows that it would take major new efforts to attract and retain more top-third+ talent to teaching. Most students see teaching as unattractive in terms of the quality of the people in the field, professional growth and compensation. Among the 91 percent of top-third college students who say they are not planning to go into teaching, the most important job attributes include prestige and peer group appeal, but compensation is the biggest gap between teaching and their chosen professions. The research suggests that improving compensation and other features of teaching careers could dramatically increase the portion of top-third new hires in high-needs schools and school districts, and retain these teachers in much greater numbers with complementary changes, such as better school leaders and working conditions. Given the real and perceived gaps between teachers' compensation and that of other careers open to top students, drawing the majority of new teachers from among top-third+ students likely would require substantial increases in compensation.

A top-talent strategy would involve substantial costs, and would therefore likely require the country to reexamine many elements of its human capital system, including student-teacher ratios, the basis and structure of teacher compensation, over time, and per-pupil school funding formulas and levels. The cost of top-third initiatives could be reduced significantly, however, by accepting higher student/teacher ratios, raising the salaries of only those teachers deemed effective by comprehensive evaluations, transitioning existing teachers to this pay structure on an "opt-in" basis, or by finding ways to reallocate less effective K-12 spending. Further research might reveal less expensive ways to use prestige and peer groups to attract top talent to high-needs schools for a career, or whether well-defined paths for advancement within the profession could have an analogous impact on retention.

Beyond cost-effectiveness is the question of how the system must change to produce more truly effective teachers – or how to put the "+" in a "top-third+" strategy. The three countries examined use a rigorous selection process and teacher training more akin to medical school and residency than to a typical school of education. A top-talent strategy might aim to transform schools of education directly, give districts the power to demand better-equipped educators, or rely more heavily on identifying effective and ineffective teachers early in their careers. Singapore's integration of a top-third approach with rigorous performance management systems, moreover, shows these can be mutually reinforcing strategies: a nation need not choose between drawing high-caliber talent to the profession and assuring that this talent delivers results in the classroom. For a "top-third+" strategy to be effective, it would need to address not only the attraction and retention of top-third graduates to teaching, but also the many levers that support the efficacy of teachers once they are in the classroom.

Progress will require research, experimentation and learning, but the economic and social returns from getting it right could be enormous. In the education system research and work in more than 50 countries, it was observed that an education system cannot achieve or sustain world-class

status without top talent in its teaching profession. A top-third+ strategy for the teaching profession must be part of the debate for quality teachers and quality education systems.

Internationally, recruiting quality teachers is a problem due primarily to the low status of teaching (as evidenced in some countries by very low salaries) and the lack of appeal found in the profession. In a study of ten Asia- Pacific countries, Japan and Taiwan were exceptions to this generalization, with salaries and teacher status being quite high in these countries (Morris and Williamson, 2000)². Germany, Ireland, and Belgium are other countries in which a surplus of qualified teachers has led to a highly competitive entry process serving as the main recruitment strategy. Recruitment issues internationally fall into one of five categories: (a) flexible entry routes; (b) new forms of initial teacher training; (c) courses for candidates from other fields (that is, career switchers); (d) recruiting qualified teachers from other countries; and (e) increasing incentives, such as higher salaries and job sharing. In developing countries these issues tend to be more centralized than in such countries as the United Kingdom, Australia, and the United States, where recruitment is often handled at either the school or local area level.

Effective teacher preparation programmes, both traditional and alternative, must include high standards for entry and require strong content preparation, substantial pedagogical training, and supervised clinical experiences in schools. There is great diversity in teacher preparation programmes internationally depending in large part on the economic, political, and social contexts that exist within each country. In countries such as China (both mainland and Hong Kong), Indonesia, and Singapore, changes in school standards and programmes have influenced the emphasis given to teacher preparation. In several countries, preparation standards vary for teachers intending to teach in elementary and in secondary schools. Elementary teachers for primary school are often trained in special institutes or teacher training colleges. Secondary teachers are more often trained at universities, increasingly in “consecutive” programmes in which a degree in a subject area is earned prior to undertaking pedagogical training. These differences in preparation requirements between elementary and secondary teachers do not so much reflect a philosophy that elementary teachers need less schooling as much as a concession to issues of supply, demand, and compensation.

There are four components of teacher preparation programmes that contribute to their effectiveness. The first is the existence of high standards for entry. Over the past two decades, there have been increases in the entry-level qualifications of students enrolling in teacher education programmes, both in terms of undergraduate grade point average and standardized test scores. The second and third components of effective teacher education programmes are strong content (subject matter) preparation and substantial pedagogical training. Heated debates have occurred as to the relative importance of these two areas, but essentially both are key to effective preparation.

In terms of content preparation, most researchers believe in the importance of solid subject matter knowledge. However, the idea that more content is better is not always necessarily true. Rather, there may be a point after which additional content courses produce minimal value. What seems to be needed is not necessarily more content preparation but rather having sufficient knowledge of content to teach it well.

In addition, teachers need to know how to organize and present the content in a way that makes it accessible for increasingly diverse groups of learners. Shulman (1987)³ calls this knowledge, “pedagogical content knowledge.” The link between content and pedagogical knowledge shapes teachers’ decisions about materials, instructional approaches, and assessment.

In addition to pedagogical content knowledge, teachers must possess general pedagogical knowledge, including competencies in the areas of classroom management and discipline. To ensure that subject matter expertise and pedagogical expertise receive sufficient emphasis, programmes are being redesigned to allow for a degree in a subject matter field to be obtained during a baccalaureate programme followed by education coursework in a graduate degree programme.

The final component of an effective teacher education programme is supervised clinical experiences that are integrated with more formal coursework. Although most pre-service teachers describe their practicum experiences as the most valuable component of their teacher preparation programme, many practicum experiences are narrowly focused and disconnected from students’ previous coursework. Clinical experiences are most effective when they are carefully planned, interwoven with coursework, undertaken with highly effective classroom teachers, and carefully supervised.

The importance of well-prepared teachers for student learning is unquestionable. Better prepared teachers are more academically able, are rated as more effective by principals, supervisors, and colleagues, and enter and remain in teaching in greater numbers. In contrast, less well prepared teachers have more classroom difficulties, are rated less effective by evaluators and colleagues, and leave at much higher rates at earlier points in their careers. Whether prepared in traditional or alternative teacher education programmes, well prepared teachers are the foundation for ensuring that high quality teachers are working in all classrooms. As mentioned earlier, the ultimate determiner of whether a teacher is “high quality” is student achievement. If the teacher is consistently successful in helping students to achieve at or above expected levels of academic performance, then he or she can be considered effective and of high quality. Research shows that having a sequence of quality teachers can help students overcome the deficits of their home environments.

To recapitulate, high standards of quality for teacher preparation programmes are the key to preparing high quality teachers for schools. Although teacher shortages require implementation of a variety of recruiting strategies, it is essential that all teacher preparation programmes contain high entry standards, a combination of subject matter preparation and pedagogical training, and a long-term, supervised clinical practicum. Additionally, more research is needed on efforts to combine subject matter and pedagogical preparation by having teachers in various university departments work together to enhance teacher development. Quality teacher preparation is not the sole responsibility of Colleges of Education; faculty in a variety of departments throughout the university must be involved.

Teacher induction and the quality of education

Effective teaching is the number one factor that influences student achievement after accounting for student characteristics. New teachers typically take from three and five years to teach at a level that maximizes student growth and achievement.⁴ Despite these widely accepted findings, many new teachers entering the field do not receive the necessary support or feedback they need to develop into effective teachers. New teachers face a host of unique challenges associated with entering the profession beyond instruction in the classroom, such as translating theory from teacher preparation programs into practice, developing classroom management skills, and often accomplishing these tasks in relative isolation.⁵ Unfortunately, one consequence of this lack of support for novice teachers is their high attrition rate. In the U.S. for instance, between 40 and 50 percent leave the field within the first five years of service.⁶ With a growing proportion of teachers drawing closer to retirement age—and with so many of today’s teachers having just a year or two of teaching experience⁷—inadequately supporting new teachers and losing such a large proportion of these educators in their first five years is unsustainable for a quality teaching workforce.

To address these challenges, induction programs are increasingly being used to help new teachers’ transition into a school and provide the critical support these teachers need to begin an effective teaching career. Comprehensive, high-quality teacher induction can accelerate professional growth and teacher effectiveness, reduce teacher turnover, and improve student learning.⁸ However, teacher induction involves much more than just assigning a mentor to a teacher as an informal “buddy” to help orient them to a new school. Effective teacher induction provides systemic support to new teachers over at least two years, including opportunities for collaboration with peers, regular formative and evaluative assessment of progress based on state teaching standards, and professional development that is tailored to the challenges faced by new teachers.

This paper examines the role teacher induction programs can have on developing effective teachers and reducing teacher turnover and explores how educators can help develop and foster these critical programs. The following items will be discussed:

- The international context
- Research findings: research on the major issues facing the teaching workforce and teacher induction programs
- Elements of effective teacher induction programs
- Impact of teacher induction: positive results demonstrated by quality induction programs.

Defining Teacher Induction

Teacher induction has come to mean a variety of things in supporting new teachers. From a stand-alone mentor who meets with a new teacher a few times a year to comprehensive support services for new teachers, teacher induction can vary in focus, implementation, and scope. For example, teacher induction and mentoring are two terms that are sometimes used interchangeably given that mentoring has become the dominant form of induction support over the last twenty years. But while mentoring is an important component of an induction program, comprehensive induction is much more than pairing a new teacher with a veteran one for a specified period of time. This paper uses the term “comprehensive induction” to include the following:

- multi-year support for new teachers for at least two years;
- high-quality mentoring utilizing carefully selected and well-prepared mentors;
- regularly scheduled common planning time with other teachers;
- ongoing professional development; and
- standards-based evaluation of new teachers throughout the process.

However, researchers estimate that less than one percent of new teachers receive supports that could be classified as comprehensive induction under this definition.

The International Context

International interest in teacher induction has existed since the 1960s, but only in a relatively few countries. Research conducted since the 1980s has focused on five areas: (a) mentors for novice teachers; (b) release time for both novices and mentors; (c) planned, school-based support activities; (d) planned, external support activities; and (e) increased administrative support. In general, when retention is a greater problem, induction receives greater emphasis. New Zealand, for example, encouraged mentor programmes to offset retention and recruitment problems. In Japan in the late 1990s, the focus was on lifelong professional development of teachers, with mentoring being an important aspect.

Research Findings

One approach to stemming the high attrition rates in teaching is to redefine novice teacher needs. Consistent with recent research, the first years of teaching need to be viewed as a phase of learning that follows and builds on the learning that occurred prior to entry into the profession. If teachers receive no support during this time, one of two outcomes typically occurs. First, the teacher may leave the profession (attrition) or transfer to other schools in search of support (migration). Second, the teacher may stay in the profession but learn poor practices in an attempt to cope with his or her struggles.

Although novice teachers indicate that induction support is important in their development as teachers, there is a great deal of disparity in terms of both the quality and accessibility of induction programmes found in schools. Three reasons can be given for this variability:

1. The criteria for participation in mentoring programmes are variable, especially in situations where the programmes are not adequately funded.
2. The criteria for the qualifications and support of mentors are also diverse, resulting in a wide variety of expertise.
3. The structure of mentoring programmes is varied and is rarely set up in such a way as to be most accessible and convenient for novices or their mentors.

Effective induction programmes must address these areas if they are to meet novice teachers' needs and improve retention rates.

High quality induction programmes are effective in providing the support needed by novice teachers during their first years of teaching. Novice teachers indicate that where such programmes are supported and financed, the guidance offered them has increased the likelihood that they will remain in teaching.

It takes several years to become an effective teacher. Unfortunately, many novice teachers leave the profession much too early. The following recommendations are intended to change this pattern. The first is funding research on models of developmentally staged supervision and induction. Support for teachers that enables them to move along the developmental continuum is also important. The second is funding the development of effective mentor/induction programmes and quality assessments of these programmes. Because student learning is the ultimate goal of classroom instruction, the assessment of mentoring programmes must include the monitoring of student learning. When funding for induction programmes is on a par with that provided for recruitment of new teachers, both teachers and the educational system benefit. The time, effort, and money necessary to mentor novice teachers are substantial. Fortunately, the rewards in terms of teacher retention are also substantial. Investing in the short term yields long-term payoffs in terms of higher quality teachers who remain in the profession longer.

Regardless of reason, the lack of experienced teachers staying in the field strains schools' ability to develop communities of learning that support student achievement and teachers with any degree of continuity. Without addressing these issues in a comprehensive and sustainable manner, countries will struggle to provide a quality education to all students. Countries need to find ways to better support incoming teachers to stabilize the teaching workforce, and improve teaching quality across the board. Without these supports, new teachers will continue to feel overwhelmed and under-supported and prematurely leave the field. Teacher induction is one important strategy many countries currently employ to address these challenges. The next section examines the role teacher induction can have on improving teacher quality and reducing turnover.

Impact of Teacher Induction

While many view induction as a remedy for turnover problems in a school or district, the overarching goal of a comprehensive induction program should be developing and supporting new teachers so they are more effective and make a smooth transition into the teaching profession. If countries are able to achieve this goal, related outcomes such as improved student achievement and reduced teacher turnover rates will follow. This section explores the positive effects teacher induction programs can have on teaching practice, student achievement, and teacher turnover.

Improved Teaching Practice

Induction can improve teaching practice. As teachers become better at managing the challenges of being new to the field, their focus can then be turned to how to improve instruction. Induction expedites this process. Richard Ingersoll and Michael Strong⁹, prominent researchers in teacher induction, found that *beginning teachers who participated in some kind of induction performed better at various aspects of teaching, such as keeping students on task, developing workable lesson plans, using effective student questioning practices, adjusting classroom activities to meet students' interests, maintaining a positive classroom atmosphere, and demonstrating successful classroom management*. Experienced teachers also benefit from their participation in comprehensive induction. Educators who served as mentors refine their own teaching practices and build leadership skills through reflection on their own practices. Participation by new teachers and experienced teachers alike helps contribute to, develop, and sustain communities of collaboration within a school.¹⁰

Higher Student Achievement

Improved student achievement is a universal goal for education reforms and initiatives. Given how induction positively influences teaching practice and creates more effective teachers, it is not surprising that induction also has a positive impact on student achievement. Effective teaching practices are the foundation for what makes effective teachers, and effective teachers have the ability to increase student achievement by up to 10 percentile points when compared to less effective teachers.¹¹ Analysis of a randomized controlled study of teacher induction programs found student achievement gains in math and reading were significantly greater when a teacher received two years of comprehensive induction support when compared to teachers who received less-intensive supports.¹² In addition, teachers who participated in high-quality induction services were more likely to incorporate instructional methods that promoted student growth and as a result had increased achievement.¹³

Lower Teacher Turnover

Given the positive role induction programs play in helping new teachers, comprehensive programs are able to have a positive impact on teacher turnover rates. Comprehensive induction programs are able to reduce these turnover rates by more than half for first-year teachers. In one analysis of results from the *Schools and Staffing Survey*, a nationally representative data source on educator staffing, researchers found that teachers who received comprehensive induction supports had a turnover rate of only 18 percent compared to 40 percent for new teachers who received no induction supports. Additionally, after controlling for school and teacher characteristics, certain types of induction activities and support decreased turnover more than others. For example, teachers who received induction services such as common planning time with other teachers in the same subject, regularly scheduled collaboration with other teachers, and being part of an external support network of teachers were less likely to leave the field than teachers who participated in induction programs that did not provide these services.¹⁴ Given these findings, it is vital to shift induction for new teachers away from stand-alone mentoring and toward a vision of comprehensive teacher induction. Without these supports, it is unlikely that schools will experience reduced turnover and increased student achievement. While many new teachers now participate in some form of induction program, the support schools provide to new teachers varies immensely. Therefore, it is vital for state boards to have a clear vision of what comprehensive induction entails, especially given the impact it can have on teacher quality, teacher turnover, and student achievement. The next section examines the elements of comprehensive induction.

Elements of Comprehensive Induction

Researchers estimate that almost 80 percent of new teachers in the United States participate in some form of induction, ranging from stand-alone mentoring to a comprehensive induction program.¹⁵ This represents almost double the participation rates in these services since the early 1990s.¹⁶ In addition, 27 states now require new teachers to participate in some form of induction support, with 11 requiring two or more years of support.¹⁷ However, while participation rates are increasing, providing quality, comprehensive induction supports for new teachers still challenges most states and districts across the country. As implementation of induction programs continues to vary, so do the outcomes states are experiencing in their teaching workforce. This section examines the vital elements of a comprehensive induction program. As state boards consider action in teacher induction, articulating these elements into policy will help ensure all new teachers receive the support they need to develop into high-quality educators.

Multi-year support for new teachers lasting at least two years

Comprehensive induction programs provide services to new teachers for at least two years. Research suggests that effective learning about instruction occurs during the second and third year of teaching.¹⁸ Analysis of a randomized controlled study of teacher induction programs

found student achievement gains in math and reading were significantly greater when a teacher received two years of comprehensive induction support when compared to teachers who received less intensive supports.

Additionally, when the randomized controlled study on teacher induction cited previously looked at induction's impact on student achievement, researchers found no statistically significant difference between teachers receiving only one year of comprehensive induction versus teachers who received no induction support.¹⁹ As a result, induction services that end prior to this window fail to capitalize on the opportunity to support and guide new teachers as they strive to become more effective educators. Intensive, on-going support through the second year of teaching not only gives new teachers the support they need to survive the first year, but also assists them as they work to improve their instruction over the long haul. In addition, multi-year support provides structure and continuity for new teachers at a critical juncture in their careers. Once this structural element is in place, the substantive elements below provide the interactions and support new teachers need to develop into effective instructors.

High-quality mentoring using carefully selected and well-prepared mentors

Mentoring is an important element of a comprehensive induction program. While mentoring alone cannot provide all the support new teachers need, it does provide the face-to-face interaction with an experienced veteran that is important for new teachers' development. Ideally, mentors provide insight on teaching practice through classroom observations, routinely conduct formative assessments on the progress of new teachers, give feedback on these assessments, and provide support on challenges a new teacher is facing.²⁰ However, the qualities of a good mentor go well beyond simply being a veteran teacher who has a firm grasp of effective instructional practices. Mentors need to develop specific skills to be successful in their role of supporting new teachers. Therefore, rigorous selection of mentors, appropriate training, and ongoing professional development and support of these mentors is an essential part of any comprehensive induction program.

Rigorous mentor selection criteria used by high-quality induction programs include:

- Effective instructional practice of three or more years;
- Integration of reflection into the mentor's own teaching practices;
- Content knowledge and subject-based pedagogy;
- Commitment to ongoing professional growth for new teachers and mentors; and
- Empathy toward and understanding of the needs of new teachers.

Once selected, mentors need training in specific strategies and skills to help new teachers progress.

Researchers find that the best mentor preparation occurs prior to meeting new teachers assigned to them and continues through the entire induction program. Some important features of effective mentor preparation include training in:

- Developing strategies for building relationships with new teachers;
- Providing an understanding of effective observation in the classroom;
- Using formative assessment to improve teaching;
- Collecting and analyzing evidence of student achievement and effective teaching practices;
- Using student data to focus instruction and learning; and
- Collecting and analyzing evidence of student learning and effective teaching based on standards.

The relationship a new teacher builds with a mentor is a foundational component of a comprehensive induction program. New teachers and mentors need protected, regularly scheduled times to meet so this relationship develops with purpose²¹ instead of being used on an as-needed informal basis or when there are emergencies.²² Coupled with other induction supports, mentoring can give new teachers the ability to both troubleshoot with and learn from an experienced veteran in the field.

Regularly scheduled common planning time with other teachers

International best-practices in teaching routinely use active collaboration among educators as a method for improving instructional effectiveness.²³ Providing new teachers the opportunity to collaborate with others helps both improve communities of learning within a school and reduce feelings of isolation for a new teacher. However, less than half of new teachers receive this kind of induction support.²⁴ New teachers need this collaborative time and benefit the most when there are teachers from a variety of experience levels and the meetings are structured around sharing instructional practices.²⁵ Effective collaboration also includes development of and feedback on lesson plans and using student data for improvement. As state boards consider this component of comprehensive induction, it is not only important to set aside time for collaboration, but also to help schools set goals for these interactions, including what teachers should be getting out of such sessions.

Ongoing professional development

Professional development for new teachers needs to be more than lecture-based single workshops. While nearly all teachers report participating in some form of conference or workshop for professional development, less than a third of all teachers participated in activities such as being able to observe instruction in other schools or enrolling in university courses to expand content knowledge in their subject.²⁶ Additionally, a majority of all teachers reported participating in fewer than 16 hours of professional development over the previous 12 months. While these are statistics regarding the entire teaching population, it is unlikely that lectures alone and fewer than 16 hours a year will effectively provide the professional development any teacher, let alone a new one, needs to continue to refine and hone his or her instruction. Research finds that effective professional development for new teachers is built around the following practices:

- Expanding content knowledge;
- Focusing on the challenges of practices that are part of a teacher's day-to-day work;
- Scheduling sessions on a regular basis with appropriation duration multiple times over the course of the year to allow progressive advances in knowledge and skill;
- Encouraging collaboration; and
- Providing opportunities for new teachers to pose questions, engage in finding answers, and reflect on these findings.

Professional development for new teachers gives states, districts, and schools the opportunity to address many of the challenges of being a new teacher in a collaborative and supportive environment. However, a brand new teacher trying to learn classroom management skills will have different challenges than a second-year teacher trying to integrate technology into the classroom in meaningful ways. Therefore, it is essential that professional development opportunities for new teachers reflect these differences. As authorities consider professional development as an element of a comprehensive induction program, it will be important to integrate these practices to ensure new teachers receive the kinds of support they need when they need them in their career arc.

Standards-based evaluation of new teachers throughout the process

Quality evaluation of new teachers is an important component of comprehensive induction. Ideally, these evaluations provide schools and teachers with the information they need to identify areas that need improvement as well as improve overall instruction. These evaluations should be based on teaching standards and conducted at multiple intervals throughout the induction process.²⁷ These evaluations should complement the on-going, formative feedback new teachers receive from a mentor. Both kinds of assessments have the same goal of improving new teacher instruction and they can support and inform each other in the process. Mentors can use results from the standards-based evaluations to identify the supports needed for a new teacher, and school decision makers can use the formative evaluations from mentors to chart progress and growth on state teaching standards. By developing this mutually supportive system, teachers will be familiar with the expectations for teaching from the beginning, be given opportunities to demonstrate competency and growth, and receive the appropriate supports needed if there are areas of improvement identified. Some use these evaluations as an indication of completing the induction process. Others use the evaluations as a vehicle for teachers to develop a portfolio of work that demonstrates competency for relicensure.²⁸ Regardless of the goals of these evaluations, teachers, mentors, and schools alike benefit from having a better understanding of a new teacher's development through time.

The elements of comprehensive induction provide the supports new teachers need to address the challenges they face and develop the skills they need to improve instruction. Through this process, new teachers receive a structured, methodical way to develop teaching skills, network with colleagues, and receive the guidance they need. At the same time, schools that embrace comprehensive induction programs develop communities of learning with a strong school culture based on student achievement. Without comprehensive induction supports, schools and countries will continue to have difficulty developing effective teachers who stay in the field.

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