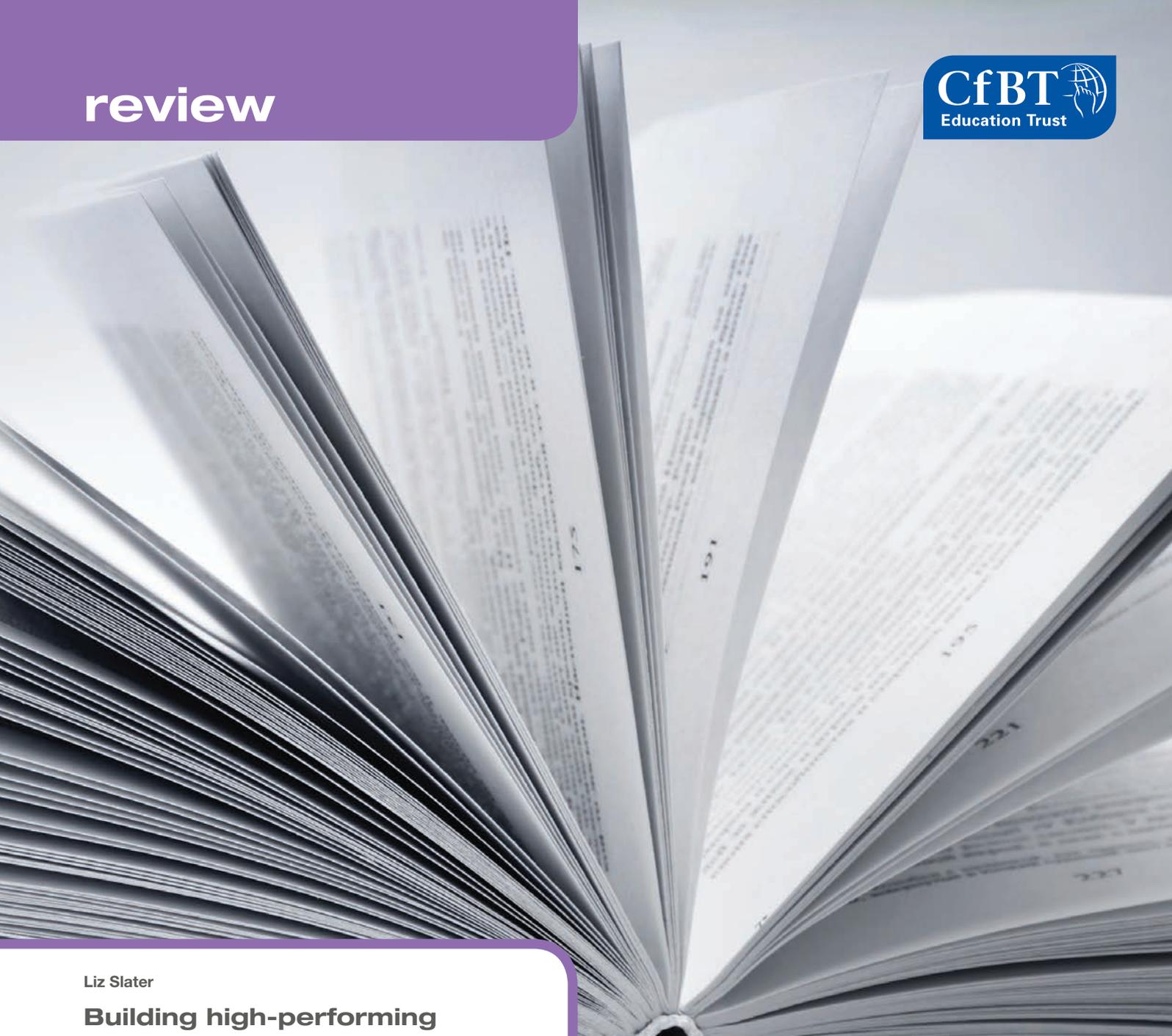


review



Liz Slater

**Building high-performing  
and improving education  
systems**

Teachers

*Providing  
education for public  
benefit worldwide*

## Acknowledgements

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## 1 Introduction

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### Why are teachers important?

There is overwhelming evidence that teachers have the most effect on pupil outcomes (closely followed by the quality of leadership). The OECD<sup>1</sup> concluded that:

- a. teachers were central to school improvement
- b. in order to improve the quality and fairness of education, teachers had to be skilled and able to teach very well
- c. all students had to be taught by good-quality teachers.

In fragile states, as elsewhere, besides teaching formal knowledge and skills (such as literacy and numeracy), teachers pass on values such as ‘tolerance’ and ‘citizenship’.<sup>2</sup> They also pass on information crucial to survival, such as health education.

McKinsey & Company’s 2007 report, which looks at high-performing systems in wealthy countries,<sup>3</sup> describes the evidence, including the Sanders and Rivers<sup>4</sup> study which showed that if two average eight-year-old students were given different teachers (one effective and the other of poor quality), their performance would differ by more than 50 percentile points in three years. McKinsey & Company also showed evidence from the then Department for Education & Skills (UK) that students whose progress is below standard at age 7 have reduced chances of success at 11 and 14 and very limited (6%) chances of leaving school at 16 with the minimum expected level of qualifications.

Where the teaching force is less highly qualified, there may be greater reliance on curriculum materials, such as textbooks, to make sure knowledge is passed on accurately. Sammons,<sup>5</sup> in her review of school effectiveness, notes that in developing countries schools (rather than teachers) seem to have the greatest impact. She thought this was because of the ‘variability in the availability of trained teachers and textbooks and materials’. Mourshed et al.<sup>6</sup> report that improving systems which are moving from ‘poor’ to ‘fair’ support low-skilled teachers with textbooks and teaching materials.

The evidence on the impact of teachers has been cited widely.<sup>7</sup> As a result of the drive for school improvement,<sup>8</sup> in many countries there has been increasing government involvement in policies relating to the recruitment, training, management and reward of teachers. Generally speaking, systems have taken broadly similar approaches. Where this has led to the relative exclusion of the profession itself from decision-making, there is a risk of de-professionalisation and loss of status. These changes, in turn, make teaching less attractive to high-quality potential entrants to the teaching profession.<sup>9</sup>

Consequently, this review looks at:

- a. The characteristics of effective teachers
- b. Strategies for attracting high-quality candidates
- c. Recruitment to pre-service training
- d. Pre-service training and routes into the profession
- e. Deployment
- f. Performance management, reward and professional development

It also covers briefly the role, training and deployment of para-professional and non-teaching staff.

As with other component parts of high-performing and improving education systems (such as quality assurance, the curriculum and assessment) system leaders appear to focus on similar priorities. However, they have taken different approaches. There are important lessons to be learned from these different approaches, bearing in mind the different starting points, the cultural and political contexts and the available human and financial resources.

## 2 What are the characteristics of effective teachers?

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### Characteristics

There is considerable consistency in the identification of the characteristics of effective teachers.<sup>10</sup> They include:

- a. High levels of subject knowledge; for example, in evaluating Teach First, Ofsted inspectors reported: ‘The programme recruited highly motivated graduates with outstanding personal qualities and strong subject expertise... Four of the trainees seen during visits to schools were judged by inspectors to be amongst the most exceptional trainees produced by any teacher training route.’<sup>11</sup>
- b. Teaching expertise, together with knowledge and understanding of their pupils in their care – whether in Canada,<sup>12</sup> Australia<sup>13</sup> or Finland:<sup>14</sup> ‘Heterogenous groups... necessitate highly educated teachers, genuine experts in pedagogy. This is largely because in comprehensive systems, the task of the teacher consists in taking care of every single student and allowing, in everyday school work, for a diverse student body...’
- c. High overall levels of literacy and numeracy<sup>15</sup> with language skills where appropriate

- d. Continuing interest in improving and developing expertise, in carrying out research and in reflecting critically on practice: 'They are great thinkers, they are very well read and never balk at improving their craft...'<sup>16</sup>
- e. The ability to innovate, to cope with change, recognising the need to learn new skills; this is linked to the ability to understand the importance of keeping up to date with related developments beyond education<sup>17</sup>
- f. The willingness to learn and ability to teach effective approaches to learning, including selecting the appropriate strategy, setting goals, establishing standards,<sup>18</sup> controlling and evaluating the learning process to meet students' identified needs<sup>19</sup>
- g. Strong interpersonal and communication skills<sup>20</sup>
- h. Enthusiasm for teaching<sup>21</sup> and characteristics variously described as altruism, creativity and passion<sup>22</sup>

### Codifying characteristics into standards

In some countries, these characteristics – knowledge, skills and behaviours – have been set out formally in standards as part of a plan to improve the quality of teaching and learning. This has been described as making the process of teaching 'more transparent'.<sup>23</sup>

Interest in teacher standards is widespread: standards exist, have been proposed or are under development in England (the Professional Standards for Teachers in England),<sup>24</sup> New Zealand,<sup>25</sup> Bahrain and Australia (via the Australian Institute for Teaching and School Leadership, as well as in Victoria and Queensland). Chile has established standards for teachers and for headteachers.<sup>26</sup>

To be useful,<sup>27</sup> standards need to:

- a. form part of a hierarchy linking high-level principles and values with areas of competence (e.g. 'professional knowledge') through to statements providing criteria that can be used in evaluation<sup>a</sup>
- b. have rules for gathering evidence to support the assessment of teaching
- c. be clear about what counts as meeting each of the standards.

<sup>a</sup> Ingvanson and Kleinhenz (2003) provide extracts from the Praxis standards which have level 1 (i.e. statements of principles), level 2 (which set out the main areas of teachers' work) and level 3 (which form the basis of evaluation criteria). For example, Domain C: Teaching for student learning, is broken down at level 3 into:

C1: Making learning goals and instructional procedures clear to students

C2: Making content comprehensible to students

C3: Encouraging students to extend their thinking

C4: Monitoring students' understanding of content through a variety of means, providing feedback to students to assist learning, and adjusting learning activities as the situation demands

C5: Using instructional time effectively.

Validity and credibility are important, requiring that standards are:

- a. linked to objectives for student learning<sup>28</sup>
- b. based on research, with levels set and illustrated against examples of evidence
- c. developed in partnership with teachers' representatives.<sup>29</sup>

In addition, teachers' and prospective teachers' performance against standards needs to be judged by independent, well-trained assessors, with full and thorough guidance for candidates being assessed.<sup>30</sup>

The exact and careful use of standards raises professional status. While it can be politically challenging, failure to stick to standards undermines efforts to improve teacher performance and to use public funds to best effect. Indonesia is using a certification process, scheduled for completion in 2014, to move the majority of teachers lacking a degree<sup>b</sup> onto a pay scale that doubles salaries. It is a one-off process and the large numbers of candidates for assessment has meant that the original plan of competency measures, including subject examinations, has been replaced by a non-standardised portfolio review conducted by universities. The World Bank thought the change led to a risk of less reliability and credibility.<sup>31</sup>

These principles for developing professional standards are generally applicable. However, they need to take account of the circumstances of individual states in relation to education development. Otherwise, they will not reflect the existing levels of skill and professionalism in the teacher workforce. The same World Bank<sup>32</sup> report on Indonesia noted that:

- a. unannounced visits to schools in 2002/03 revealed 19.6% of teachers absent from the classroom; this had improved to 14.1% by 2008 through improved supervision, higher salaries and teachers' overall sense of improved welfare
- b. comparison of grade 8 maths teaching methods in Indonesia with those in seven other relatively high-performing countries found that teachers tended to deal with lower proportions of complicated problems and place less emphasis on applied maths in problem-solving.

## Using professional standards

Some high-performing and improving education systems are building individual sets of standards into an overall framework. The standards in the frameworks can be used to design and accredit programmes of initial teacher education, induction and subsequent development.<sup>33</sup> They also show teachers (and potential teachers) a route map for future growth and professional development – as in New Zealand.

<sup>b</sup> The World Bank reported in April 2010 that 37% of the 3.3m teachers in Indonesia had a degree.

In the most challenging circumstances, such as in fragile states,<sup>34</sup> recruitment criteria are more basic: recruits need to be educated to a higher level than their students, to be old enough to command respect and to be able to show understanding of their students' circumstances. Overall, community participation in recruitment is recommended to ensure the right people are recruited as teachers. Also essential are: a gender balance (since women teachers are likely to attract girls to school) and a clear and fair recruitment process. In these circumstances, pre-service and in-service training are especially important ways of making up for the lack of trainees' knowledge and skills.

### 3 What needs to be done to secure good teachers?

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#### Introduction: critical elements

The first McKinsey & Company report identified three factors common to high-performing school systems:<sup>35</sup>

- a. getting the right people to become teachers
- b. developing these people so that they are effective teachers
- c. putting in place systems and targeted support so that every child benefits from excellent teaching.

High-performing systems think carefully about:

- a. how many teachers they need
- b. making the profession attractive and competitive via status, pay and conditions
- c. the pre-service selection process
- d. pre-service training
- e. the way in which performance management and professional development (in combination with other factors) reduce drop-outs, continue to improve professional effectiveness and ensure those not suited to the profession leave.

They also design recruitment, deployment, pay and promotion policies to encourage more equal access to high-quality teachers.

## 4 Teacher supply: how many is enough?

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### How many is enough?

#### When are too many detrimental to quality and to budget control?

Knowing how many teachers are needed is a key first step in the efficient planning of teacher supply. Broadly speaking this is determined by the student/teacher ratio. Of course, policy choices are limited by systems' economic circumstances and available teacher capacity. However, as the OECD points out in its report on the 2003 PISA outcomes, international comparisons can be used to find policies that may be the most effective. International evidence can also show where it is possible to achieve greater cost effectiveness. The World Bank reported that Indonesia could improve teacher utilisation and reduce teacher-related costs by raising student/teacher ratios to 24:1 in junior secondary schools and 22:1 in senior secondary schools, along with making sure teachers carried a full teaching load (of 24 hours per week) and encouraging multi-grade teaching.<sup>36</sup>

The link between student attainment and class size is weak. McKinsey & Company<sup>37</sup> cite 112 studies which examined impact: nine found smaller class sizes improved pupil outcomes, while 103 found that there was either no link or a negative relationship. In the high-performing countries, approaches to class and group size differ. Singapore's student/teacher ratio is 24:1 in primary grades.<sup>38</sup> In the Gulf Cooperation Council States, where students' performances were markedly below OECD averages in TIMSS 2003 8th grade maths and science assessments, the average student/teacher ratio is 12:1.

**Table 1. Student/teacher ratios**

Country	Primary	Secondary
Australia	15.8	12.0
Canada		16.3
Chile	24.1	24.8
Finland	14.4	13.6
Korea	24.1	18.2
Netherlands	15.8	15.8
New Zealand	17.1	14.5
Poland	10.5	12.5

Source: OECD: *Education at a glance 2010*

Where student/teacher ratios are low, the need to spread funds for pay among more teachers reduces individual salary levels. The PISA 2009 report<sup>39</sup> concluded that 'higher teachers' salaries, but not smaller class sizes, are associated with better student performance.'

Decisions about class sizes need to be made for the right reasons. In *Improving education in the Gulf*<sup>40</sup> Barber et al. looked at the reasons for policies to reduce class sizes, as well as the implications and unintended consequences. Reducing class sizes was attractive, because it was easy to measure. It absorbed excess graduate capacity (especially among women, who had few employment opportunities in other fields). Inevitably, coupled with finite resources, this led to lower salaries. Unintended results included the failure to attract high-quality men into the profession (with the result that outcomes in the largely segregated boys' schools were poorer than in girls' schools). A similar pattern was identified in Pakistan<sup>41</sup> along with low levels of esteem and of commitment to the job.

While there is no single answer about the best pupil/teacher ratio and numbers of teachers required, there is a range which seems to work well. Glass<sup>42</sup> was quoted as saying that, taking student achievement as the guide, student/teacher ratios of between 15 and 40 are associated 'at best with marginal differences in educational quality'. Deciding on the best student/teacher ratio within that range needs to take account of availability of funding and teachers, as well as contextual factors such as cultural attitudes to education.

Countries moving towards offering universal access to education are at the extreme end of this range. Ghana has a student/teacher ratio (STR) in primary schools of 36:1, but achievement of free compulsory basic education will require teacher numbers to rise from 24,000 to 39,000 in primary schools which may force up ratios.<sup>43</sup> India is aiming to achieve an STR of 1:40 in elementary schools, alongside offering universal elementary education. While there has been a substantial increase in teacher numbers (teachers in primary schools in 1990-91 numbered 1.62m, rising to 2.2m in 2004-05),<sup>44</sup> there is a continuing need to increase recruitment to training. Kenya reports<sup>45</sup> that class sizes have been raised from 40 to 45 to increase access to secondary education and that financial constraints prevent it from hiring additional teachers. The issue, therefore, is how to use the teacher workforce most effectively in these circumstances – with consequent implications for training and support.

Efficient planning requires regular and systematic monitoring of teacher supply requirements. (Information used to do so includes pupil/teacher ratios, recruitment to pre-service training, retention, and changes to curriculum requirements and the labour market.) It also needs to identify the specific expertise required, quality and ability of teachers to meet the requirements of students in remote and/or disadvantaged communities. Since 1997, the Ministry of Education (MoE) in New Zealand has carried out a Teacher Vacancy Survey to monitor staffing in publicly-funded schools. Subsequently,

the MoE has taken action to reduce shortages, including Maori, Pasifika and rural scholarships, conversion courses, national and international relocation grants, student loan relief in key subjects (such as secondary maths) and the introduction of rented housing (at significantly discounted rates) to encourage teachers to move to remote and hard-to-staff areas.<sup>46</sup> Similarly, Finland reintroduced data collection<sup>47</sup> after a break in the 1990s, identified potential teacher shortages due to retirement and attrition, and established a working group to look at needs up to 2020. The Netherlands has found similar problems<sup>48</sup> and taken steps to solve them. (This has included new opportunities for graduates to take a test to become teachers on a two-year temporary contract. Following support and training, if they pass qualification exams,<sup>c</sup> their contracts are made permanent.) Conversely, some countries – such as Tunisia and Bahrain – will require fewer teachers,<sup>49</sup> creating opportunities to invest in quality.

## 5 How are the best candidates attracted to training?

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If they do not have enough good-quality applicants, states will have more difficulty in setting a high standard for entry to the teaching profession. The attractiveness of any profession is the result of a mix of factors including pay and career structure,<sup>50</sup> status and conditions. It also depends on whether potential teachers think they have the qualities and characteristics demanded of teachers.

### Pay

Pay affects decisions about whether to join the profession both directly (i.e. whether the pay is competitive) and also as an indicator of status.<sup>d</sup>

Countries wanting high-quality teachers need to know about the pay levels in other professions with which they are competing as well as the structure of the labour market:<sup>51</sup>

- a. McKinsey & Company's survey<sup>52</sup> of starting salaries derived from OECD data showed that two of the high-performing systems (South Korea and Germany) paid a starting salary that was much more than the starting salary as a percentage of GDP per capita (141% in both cases). Most of the strong systems paid close (81–99%) to the average (95%). McKinsey & Company's second report<sup>53</sup> looked at this further and found that countries, such as Singapore and South Korea, which are aiming to attract the best possible candidates into the profession, pay more than the national GDP per capita.
- b. Where salary levels become less competitive, the quality of the workforce falls. Koutsogeorgopoulou,<sup>54</sup> writing about the importance of improving teacher quality in Australia, notes that a drop in the academic quality of new and trainee teachers over the past two decades happened alongside a fall in the average pay of teachers compared with that of non-teachers with a university degree. He also notes secondary school principals had difficulty recruiting well-qualified specialist teachers.

<sup>c</sup> With the possibility of exemption from some parts of the examinations.

<sup>d</sup> Riaz cites Greaney and Hasan on teaching in Pakistan: 'Teaching is a low-status job in Pakistan, especially for men, and salaries are poor.'

- c. Where the pool of potential teachers is small, salary levels are also critical. Labour-force survey data in Indonesia showed that comparative wage rates influenced decisions about whether to become a teacher. Recognising the need to compete in a market where only 10% of the labour force has a degree, Indonesia's government has taken steps to increase pay levels.<sup>56</sup> There is evidence of increased demand for places to train in universities and colleges and that candidates are of higher quality.<sup>e</sup>

Comparative pay, along with other factors such as working conditions, not only affects decisions about joining the profession but also about remaining in it (i.e. retention). In the Netherlands, the Government reached agreement with employers' organisations and trade unions on a range of measures to improve retention. These included the reduction in incremental stages from 2009 and the allocation of funds from 2010 to promote a number of teachers to higher salary scales, an increase in teacher development grants and the allocation of more resources to Randstad, where teacher shortages were greatest.<sup>57</sup>

## Status

Status is also defined in terms of social standing. This can include how society values the profession of teacher, whether the profession is seen as specialised and highly skilled, the length and level of training, how difficult it is to become a teacher and – sometimes – whether the profession is able to regulate itself (i.e. its area of expertise).

The 2007 McKinsey & Company report<sup>58</sup> notes that in Finland 'powerful feedback loops' reinforce the high status of teaching. Yet it is possible to turn round negative perceptions. McKinsey also noted the separate branding for Teach First in England was successful because 'it succeeded in making teaching acceptable among a group who had perceived it as having low status by constructing the participants as an elite group'.<sup>59</sup> Ofsted reported<sup>60</sup> not only that Teach First attracted recruits who would not otherwise have gone into teaching, but that participants had a strong effect on their schools.

*'Participants remaining in their schools for a second year or more were starting to have a notable impact, for example, in transforming underperforming departments. At least one of the schools visited attributed a rapid improvement in its standards almost entirely to the contribution of Teach First participants.'*

This was confirmed by a subsequent report which concluded 'the evidence of impact is compelling'.<sup>61</sup>

Many of the high-performing systems have made teaching a graduate-only profession – in some cases a postgraduate-only profession – as in the case of Finland.<sup>62</sup> Conversely, an analysis of the failures of reforms in Pakistan found several factors, including the low status of teaching and lack of teacher expertise. Countries trying to improve the quality of candidates aimed to make the status of teaching comparable with that of other professions, such as 'medicine, engineering, business...'.<sup>63</sup>

<sup>e</sup> In terms of college entry test scores (World Bank, 2010).

Status is also linked to the quality of the training institution. Singapore's National Institute of Education is seen as a model for developments elsewhere and other countries aim to follow it. (Abu Dhabi, for instance, hosts the NIE's first campus outside Singapore.)<sup>64</sup> Ghana has recently announced the upgrading of 38 training colleges to tertiary level to improve course content and strengthen pedagogy.<sup>65</sup>

Teaching as a profession in South Korea<sup>66</sup> carries high status and is relatively sought after. Conversely, Avalos<sup>67</sup> reports the negative impact on prestige – and, as a result, the quality of applicants to teaching – of the Chilean military regime's policies depriving teachers of civil servant status, dismissing them for political reasons and moving training to non-university tertiary institutions. Following the regime change, training institutions and teachers lost no time in pressing to change these policies.

Status is also linked to selectivity. In Finland, only one in ten applicants gets a place on a teacher training course. Singapore is clear about its unwillingness to give way on quality, even to overcome potential teacher shortages. When asked, through the FAQ section of the Ministry of Education website, why so many applications were unsuccessful despite the great demand for teachers, the answer was as follows:

'Each year, MOE receives many teaching applications. All applicants must first and foremost meet our minimum selection criteria. Our selection criteria have to be stringent. They are assessed based on the totality of their academic and non-academic achievements. Their applications are considered in competition with others.'<sup>68</sup>

More nebulous, but unmistakable in states able to recruit high-quality entrants, is the concept of a profession whose expertise is acknowledged and taken into account; enjoying professional independence alongside public accountability.<sup>69</sup> This is the opposite of the idea that teachers should undertake short, vocational training which is limited to the learning of technician-level skills.<sup>70</sup> The idea of teachers as expert professionals can be shown in a number of ways, including:

- a. influence on entry to the profession (for instance, junior teachers are supported and assessed by their mentors and school principal in Slovenia)<sup>71</sup>
- b. establishing professional standards and governing certification via professional bodies (for example, the Institute of Teaching in Victoria sets standards of eligibility and registers teachers;<sup>72</sup> the Teachers' Council in New Zealand<sup>73</sup> has a similar role)
- c. input to policy, such as the pedagogical institutes' role in evaluating new programmes in Slovenia<sup>74</sup> and Singapore's NIE Centre for Research in Pedagogy and Practice<sup>75</sup>
- d. involvement in pre-service education, as in South Korea<sup>76</sup> where practising teachers undertake part-time roles as teacher trainers.

## Conditions

OECD<sup>77</sup> reports that teachers are highly motivated by rewards that are built into the job, such as working with children, helping them to develop and contributing to society. Logically, decisions about conditions of service would reflect what is known about the characteristics and motivations of effective teachers, ensuring that the profession remains attractive. While differing in terms of scale and context, whether in Chile,<sup>78</sup> Europe<sup>79</sup> or Ghana,<sup>80</sup> teachers and their advocates in high-performing and improving education systems describe the benefits of a broadly similar range of incentives which are in keeping with the drivers identified by OECD. These include:

- a. having the right educational materials
- b. an adequate school infrastructure<sup>f</sup>
- c. manageable class sizes
- d. access to professional development
- e. a career path that provides a range of professional avenues (e.g. as a mentor to new teachers, as head of department)
- f. a salary structure linked to increasingly challenging professional roles and growing expertise rather than one-off payments
- g. opportunities for more flexible working arrangements, particularly to reduce the loss of older, skilled teachers
- h. a policy framework that recognises teachers as professionals and works with them as partners.

Surveys in Canada, for instance, have shown that salary is not the overriding concern;<sup>81</sup> instead, it is professional issues that dominate. Teachers were looking for smaller classes (with reductions in paperwork and workload), more literacy and numeracy programmes and increased assistance for at-risk, immigrant and special needs students. Teachers also mentioned student discipline, school atmosphere and asked that policy-makers made more effort to introduce changes carefully and with an understanding of the demands they imposed.

<sup>f</sup> i.e. buildings, equipment, systems and processes.

## 6 How are the best candidates recruited?

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The most effective systems are highly selective and, because teaching is seen as an attractive career choice, they tend not to have a supply problem. Selection takes place at the point of entry to pre-service training and targeted at school-leavers. Moreover, the highest-performing education systems recruit from the best students. McKinsey & Company<sup>82</sup> cite South Korea (top 5%),<sup>9</sup> Finland (top 10%), Singapore and Hong Kong (30%). Training models tend to be based on a period of full-time study.

Other countries, including those of the Gulf Cooperation Council states<sup>83</sup> and Australia,<sup>84</sup> are aiming to select high-quality entrants to teaching. Variants of this approach have been copied in other programmes, such as the Boston Teacher Residency, the New York Teaching Fellows and the Chicago Teaching Fellows. Whereas the general requirements of entrants to initial teacher training in England are relatively low,<sup>85</sup> those for Teach First candidates are much higher, including a 2.1 degree and 300 UCAS points.

In recruiting to programmes like this, some of the most effective systems design their selection processes to test for the knowledge and attributes necessary to become an effective teacher, i.e. high levels of academic achievement; strong literacy and numeracy, interpersonal and communication skills, a willingness to learn as well as a drive to teach. The softer attributes are often checked by using serving professionals.

Countries do this in a number of ways:

- a. In Singapore, screening and testing take place before entry to teacher education, including minimum admission requirements<sup>h</sup> and an Entrance Proficiency Test.<sup>86</sup> Only one in six candidates is accepted. Candidates are required to be in the top 30% of their age group.<sup>87</sup> Entry can take place at a pre-undergraduate, undergraduate or graduate level. Of the graduate entrants admitted in July 2012, out of 1117 recruits, 401 had degrees in arts/social sciences and 360 in science, of which 39.2% and 38.1% respectively had first class or upper second class honours degrees. (Percentages were lower for engineering and business entrants.)<sup>88</sup> Having passed this filter, and demonstrated high levels of literacy, further assessments are conducted by a panel of experienced headteachers to assess their suitability as teachers. This may include practical tests.
- b. In Finland, from 2007, the first filter is a multiple-choice examination to test numeracy, literacy and problem-solving skills. Successful candidates are then assessed at individual universities, where they are tested and interviewed to check communication skills, motivation to learn, drive to teach and academic ability.

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<sup>9</sup> In *Achieving excellence in teacher workforce and equity in learning opportunities in South Korea*, Nam-Hwa Kang and Miyoung Hong cite Korean Labor Institute figures from 2004 as showing that the top 10% of high-school students enter teaching.

<sup>h</sup> These include a degree for entrance to the postgraduate diploma; a polytechnic diploma plus five O Level passes including English and Maths or two A and two O Level passes for entry to the Dip Ed course relating to primary school teaching. There are also four-year BA (Ed) and BSc (Ed) for primary teaching.

- c. South Korea calls for entrants to meet the general requirements for admission to university and encourages the admitting institutions to evaluate applicants' fitness for the profession through three criteria: high school records, interviews and entrance examinations.<sup>89</sup> South Korea has tried to use examinations to test suitability, but has found it difficult to design tests that are objective and valid (i.e. that measure the right qualities).<sup>90</sup>
- d. In Ontario, Canada, while recruitment is carried out at provincial level using a centralised application system, the actual selection of candidates is made by individual universities, whose specific requirements may differ. (For instance, the University of Toronto requires evidence of proficiency in oral and written English.)

Presumably learning, to some extent, from these approaches, in 2007 the Ministry of Education and Training in Tunisia launched an exam for university graduates wishing to become teachers.<sup>91</sup>

States also put in place additional checks and filters prior to confirming membership of the teaching profession. (See the section on induction.)

Quality and cost-effectiveness drive decisions about the allocation of training places and, where an over-supply may have an impact on teacher quality and status, countries take steps to address it:

- a. In June 2008, Australia decided to establish a national accreditation system for teacher education courses. This included standards, together with associated processes, including governance and quality assurance mechanisms.<sup>92</sup> In New Zealand, all courses must meet standards established by the Teachers' Council.
- b. Having identified problems with an over-supply of secondary teachers,<sup>i</sup> the South Korean government is considering<sup>93</sup> removing responsibility for ITT from graduate schools. Indonesian colleges and universities have no incentive to control intakes. In consequence, for every 100 teachers graduating, only 53 are employed as teachers. The World Bank<sup>94</sup> advised that more effective selection would raise the profession's status and make it possible to run higher-level teacher training programmes.

Countries with large-scale or even localised supply problems have developed more flexible opportunities for entry. Options include the following:

- a. Enabling graduates without professional training and qualifications to be employed on a temporary basis. Since 2000, shortages of primary teachers, together with a drive to employ 'teachers with other qualities' has led policy-makers in the Netherlands to allow graduates without teaching qualifications to enter teaching in primary and secondary schools if they pass an aptitude test. They are employed on a temporary contract for up to two years, given training and support and may be exempted from some of the

<sup>i</sup> which could also damage the attractiveness of the profession to high-quality candidates.

pedagogical examinations. If they pass examinations,<sup>95</sup> they are awarded a permanent contract. Slovenia has a similar option available to graduates.<sup>96</sup>

- b.** Enabling non-graduate serving teachers to upgrade their qualifications. Singapore<sup>97</sup> permits such teachers to apply for professional development leave, unpaid study leave and/or examination leave, together with interest-free study loans.
- c.** Recruitment of overseas-trained teachers, as in New Zealand<sup>98</sup> and Australia.<sup>99</sup> However, successful deployment requires adequate data on incoming teachers' country of origin and language, efficient appointment processes including accurate information about the prospective employment location, an effective induction process and ongoing support – particularly where there are cultural differences.

Unless the training and assessment requirements are as strict as for those entering by more conventional routes, there is a risk that the trainees will not develop the full range of professional knowledge and skills. They will be competent technicians, rather than professionals. Ofsted's inspection of bodies operating the Graduate Teacher Programme<sup>100</sup> found that they attracted good candidates into teaching but the outcomes achieved did not always fulfil their potential. While candidates had strengths in practical skills (e.g. behaviour management, classroom organisation), they had a narrower range of teaching methods, did not plan or assess as well and were given insufficient tuition on how best to teach their specialist subject. The approach tended to work better for primary than for secondary trainees.

## 7 What are the most effective pre-service training models?

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### Introduction

Pre-service teacher education is now seen as the start of a process of professional development for those successfully completing training. It remains a critical determinant of teachers' effectiveness, laying the foundations for subsequent performance and development. Its task is to ensure that the beginning teacher has the necessary subject knowledge, pedagogical skills and attributes to enter the profession and to respond to inevitable change.

### What does pre-service education and training need to offer?

In a world where governments are conscious of the importance of educating as many of their citizens as possible to high levels in order to compete economically, equity becomes more than a moral issue. Reynolds<sup>101</sup> argues that in these circumstances, teachers should not be left to work out teaching methodologies for themselves, partly because they may simply draw on their existing preconceptions (e.g. expectations of learners in relation to their socio-economic background). The alternative is to ensure – as the Netherlands and Taiwan do – that all teachers learn their pedagogy by being given access to knowledge

bases about 'effective instruction, intervention programmes...'. This is underpinned, as is the Finnish system, by a belief that all children can achieve success.

Common features of pre-service training in high-performing and improving education systems – either in place or planned – comprise:

- a. Ensuring a high level of subject expertise in one or more subjects. Subject knowledge is either achieved by requiring a degree, often from a range of specified subjects, prior to entering teacher training or from extended subject study as part of initial teacher education (ITE) itself (i.e. consecutive and concurrent training, respectively)
- b. Developing pedagogical knowledge and a wide repertoire of appropriate skills relevant to the context
- c. Equipping trainees with practical classroom management skills
- d. A lot of practical, school-based experience, with opportunities to see good practice and coaching and feedback from an experienced coach/mentor
- e. Developing the ability to carry out research and the commitment to professional updating

Howe<sup>102</sup> describes three main models of pre-service ITE:

- a. Teacher training institutions with courses of 2–4 years' duration
- b. Bachelor's degree programmes with an emphasis on subject content and with instruction in teaching in the last two years of the programme
- c. Master's degree and/or a 5th year programme focused on teaching practice and pedagogy open to holders of a bachelor's degree

These patterns are evident in the high-performing education systems where there are generally distinctions between primary and secondary education. In Australia, options include a four-year undergraduate teacher education degree (often the route into primary teaching), a double degree programme offering two concurrent degrees of which one is a teacher education degree (generally lasting four years) and a three- or four-year subject degree followed by a one- or two-year postgraduate teacher training course.<sup>103</sup> (New Zealand has a similar model.)<sup>104</sup> Additionally, some of the highest-performing countries require even higher standards of elementary/primary teachers. For instance, in Slovenia pre-school teachers must hold a bachelor's degree, others must hold a master's degree as a minimum,<sup>105</sup> as must teachers in Finland.

High-performing systems are also demonstrating interest in strengthening subject expertise: South Korea is changing the pre-service curriculum for elementary teachers so

that it matches the primary school curriculum and introducing subject-based training programmes. Some elementary schools have started to employ specialist teachers of music, fine art, PE, science and practical arts, as well as for extra-curricular activities.<sup>106</sup> In Finland many teachers in basic schools are also qualified as subject teachers.

Selection and training are designed to achieve both subject strength and flexibility of deployment. For instance, the National Institute of Education (NIE) in Singapore requires a general degree (with a preference for a major in at least one teaching subject) of prospective primary teachers; majors in two teaching subjects of prospective secondary school teachers (with strong encouragement to graduates in sciences, humanities and maths to teach at secondary level); and honours degrees of prospective junior college level teachers wishing to enter the one-year Post Graduate Diploma in Education (PGDE) programme. Alternatively, the concurrent training route remains open for A Level (and equivalent) entrants, who enter a two-year course leading to the award of the Diploma in Education. Generally, this prepares candidates to teach in primary schools, though there are specialist courses of preparation for secondary art and music teachers. The courses include early school placements to provide contextual understanding followed by a block of time allocated to a particular institution (the ‘practicum’).

Generally, the practicum is a short placement in schools to provide experience of being in a school and helping experienced teachers with teaching, followed by a longer block of time when students teach their specialist subject(s) to complete classes. It is overseen by teachers and NIE supervisors who observe teaching, offer assistance and advice.<sup>107</sup>

The principles are broadly the same in Finland,<sup>108</sup> with an emphasis on commitment and self-direction. During their five years’ study leading to the master’s degree, the aim is to produce teachers who: have appropriate phase/grade-related subject knowledge,<sup>109</sup> know a range of teaching methods, have the motivation and skills to carry out educational research so they can deal with issues arising from their own teaching, are well-prepared and motivated to undergo further training to develop their professional skills, set high expectations for students, and can be relied on to carry out student assessments. Special needs teachers and student counsellors are also required to hold master’s degrees.

Class teachers, who teach all subjects in grades 1–6,<sup>j</sup> take a master’s degree comprising language and communication, basic and subject studies in education, advanced studies in education, minor subject studies and teaching practice. Teaching practice comprises a short placement followed by a longer, advanced school placement. In the former, students carry out tasks such as team teaching. In the latter, the aim is to enable students to broaden their understanding of teaching and to find their own ways of working, developing their teaching, problem-solving and self-evaluation skills. Completion of a course in a minor subject will allow them to work as a specialist subject teacher in grades 1–9 of basic education. The majority of graduating class teachers teaching students in grades 1–6 have both class and subject teacher qualifications.<sup>110</sup>

<sup>j</sup> Pupils start school aged 7.

Slovenia's approach is similar, with basic school teachers largely undertaking concurrent subject and teacher training and upper secondary, vocational and technical school teachers undertaking their professional training after their training in an area of vocational/technical expertise. The initial placement (of 14 days per subject) is built into the teacher training and is followed by a placement practice of six weeks under the mentorship of experienced teachers.<sup>111</sup>

In the Netherlands, in addition to more traditional forms of pre-service education, the drive to achieve linkage between theory and practice has led to a shared responsibility for pre-service training between schools and teacher training institutions. There is a formal division of responsibility; certificates of competence are issued by training institutions.<sup>112</sup>

### Interim and alternative models of ITE

Systems on an improvement trajectory often have to ensure, as a first step, that there are sufficient teachers available to teach at elementary level, before looking to create an all-graduate profession. This is a well-established approach, used in European countries in the 20th century.<sup>113</sup> Even South Korea still has a group of teachers trained in the 1970s when two-year programmes were offered.<sup>114</sup> Indonesia has established pre-service training options including a one-year course leading to a certificate, and a three-year course leading to a diploma/associate degree.<sup>115</sup> The World Bank reported that the four-year degree programmes for primary teachers and postgraduate teacher training courses are still in their early stages. In fact 37% of 3.3m teachers have a four-year degree.<sup>116</sup> In these circumstances, in-service professional development is the key to raising the standards of serving teachers.

Countries undertaking large-scale development and expansion of their education systems are similarly aiming to improve subject knowledge and quality of teaching. There is a recognition that teacher training programmes need to be adapted to provide primary teachers in particular with the pedagogical skills to be effective in multi-age and multi-grade settings, where there is also an emphasis on inclusion.<sup>117</sup> In 2008, Tunisia launched teacher training institutes for primary school teachers with curricula explicitly designed to improve pupil attainment benchmarked against that in high-performing systems.<sup>118</sup> Kenya has moved towards specialisation in the training of both primary and secondary teachers from 2005 specifically to improve students' 'learning, achievements and motivation'.<sup>119</sup>

More flexible, cost-effective models are required, particularly by countries expanding access to pre-service training. Faced with a growing demand for education in Ghana (particularly at elementary/basic level<sup>k</sup>) which would generate unsustainable costs using the traditional pre- and in-service models,<sup>120</sup> the Government is turning to distance learning<sup>121</sup> and started training 24,000 pupil teachers in 2005.<sup>122</sup> Driven partly by economics and partly by a desire to reduce drop-out, the Ghana's University of Education in Winneba<sup>123</sup> has replaced a four-week teaching practice in its four-year BEd degree with a final-year internship, spent entirely in school. Interns teach for a maximum of 16 hours a

<sup>k</sup> The UIS Statistics for Ghana show that net enrolment rates to primary schools in the period 1999–2008 had risen from 60% to 76%. The National Action Plan: Education for All: Ghana: 2003-2015 is aiming to reduce the percentage of untrained teachers from 21.2% at primary level and 12.8% at junior secondary level to not more than 5% by 2015.

week, supervised and assessed by school-based mentors, working in partnership with university supervisors who carry out classroom observation, inspect portfolios, organise counselling sessions and assess the role of the interns in school and their community participation. While there have been challenges, including the scale of training required for mentors and supervisors, there have been benefits including better links between schools and interns, interns' development of improved teaching skills and development for mentors and supervisors.

## Control of standards and accreditation

High-performing and improving education systems show the importance they attach to this stage of teachers' careers by controlling the content of the programmes and setting the standards required for qualification in both government-funded and private institutions. In some cases, registration and/or entry to the profession is subject to a further filter after qualification. (See the section on induction.) There is considerable diversity in the extent and nature of the role taken by the teaching profession in shaping pre-service education.

Singapore has considerable control over the shape and content of teacher education since it is all delivered via the NIE, part of Nanyang Technological University.<sup>124</sup> In South Korea, while content is supervised by the institutions, it is guided by statute<sup>l</sup> which specifies the number of subject and pedagogical courses required. Moreover, the Ministry of Education, Science and Technology in South Korea, in addition to establishing policy relating to teacher certification, supervises matters such as the establishment and closure of teacher training institutions<sup>m</sup> and has taken steps to change both elementary and subject-related training,<sup>125</sup> as well as extending training placements. Slovenia<sup>126</sup> takes a similar approach: tertiary institutions design study programmes in accordance with regulations on accreditation, and seeking the opinion of the Council for Higher Education on accreditation. In Indonesia<sup>127</sup> the pre-service content is determined by the institutions, but based on guidelines from the Ministry of Education.

An alternative way to ensure good-quality teacher training is to accredit the institutions through evaluation against an external set of standards. This is the approach adopted in Australia,<sup>128</sup> where recognised higher education institutions develop programmes for approval and registration by the states. Similarly, in the Netherlands, the Education Professions Act<sup>129</sup> (in force 2006) regulates the standards of competence for teachers, who require a certificate from an institution of professional education or university to show they meet standards of competence. Compliance is monitored by the inspectorate. Increasingly, these standards form part of a professional career framework. In New Zealand,<sup>130</sup> the Teachers' Council, (which has predominantly teacher representation on the Council itself and responsibility for teacher standards up to registration as well as registration itself) approves teacher training programmes in partnership with quality assurance agencies. ITE providers need to be able to demonstrate that programmes will prepare students for provisional registration.

<sup>l</sup> Enforcement Regulation Number 12 of Teacher Certification Authorization Act.

<sup>m</sup> e.g. if the five-yearly evaluation is unsatisfactory, it can lead to reduced student quotas and prohibition from issuing teacher certificates (*INCA: Korea*, updated Nov 2008).

## Induction

Induction<sup>131</sup> attracts better candidates into teaching, reduces drop-out rates and increases job satisfaction and commitment to professional development. It also contributes to teaching and learning. Whether it forms part of certification/registration requirements (as in Australia) or is simply a first step before taking on the full responsibilities of a teacher (as in Ontario<sup>n</sup> or Singapore),<sup>132</sup> induction shares a range of features, including:

- a. a reduced teaching load: this generally equates to 20% fte per week – as in Singapore<sup>133</sup> and New Zealand<sup>134</sup>
- b. a mentor from among the school's teaching staff: in Slovenia, mentors are responsible for devising the trainee's programme, enabling the trainee gradually to take on full responsibility for teaching as well as carrying out at least 30 assessments of teaching sessions (validated by five assessments carried out by the headteacher in the final stage). Issues to think about include giving mentors adequate time and training to fulfil their responsibilities, adequate financial recognition and potential role conflict between support and assessment
- c. clear links between initial training and the subsequent career path: in New Zealand,<sup>135</sup> there are phase-related professional standards. In primary and secondary phases, these comprise Beginning Teacher, Fully Registered Teacher and Experienced Teacher. (The Teachers' Council has also developed a set of Graduating Teacher standards relating to requirements for the end of teacher education programmes.) New teachers are provisionally registered and expected to meet the Beginning Teacher standards by the end of their second year of teaching.<sup>o</sup> South Korea achieves the transition by having a tripartite structure for teacher induction comprising two weeks of pre-service practical training, six months of post-recruitment training led by school staff and a final phase of reflection and discussion<sup>136</sup>
- d. the chance to learn professional knowledge and skills through observing more experienced teachers (as in New Zealand)<sup>137</sup> and to undertake training in practical skills such as classroom management, effective parent communication skills,<sup>p</sup> as well as teaching strategies relating to inclusion such as special needs and cultural diversity.<sup>q</sup> Sometimes, as in Korea, a short period of induction precedes teaching and focuses on practical tasks, with more in-depth induction during employment.<sup>138</sup>

On occasions, induction helps the employer and new teacher to decide whether teaching has been the right career choice. Where it is not already in place, such as in Chile, some commentators have seen induction as a potentially valuable way of checking quality prior to finalising employment.<sup>139</sup>

Some states place additional filters between initial selection for training and employment. In South Korea<sup>140</sup> acquisition of an initial (Grade 2) teaching certificate must be followed

<sup>n</sup> <http://www.edu.gov.on.ca/eng/teacher/appraise.html>

<sup>o</sup> Assessment is carried out by the headteacher/principal (INCA, 2011a).

<sup>p</sup> Schools in New Zealand are expected to have two-year advice and guidance programmes in place for beginning teachers (INCA, 2011a).

<sup>q</sup> New Teacher Induction Programme: Ontario: <http://www.edu.gov.on.ca/eng/teacher/induction.html>

by three years' teaching and in-service training to achieve a Grade 1 teaching certificate. To be appointed to teach in a state-funded school, candidates also need to complete a two-part Teacher Employment Examination. In Slovenia, graduates with a teaching qualification can apply once a year for a 6–10 month traineeship. The candidates selected are paid 70% of the base teacher's salary and are entitled to a mentor.<sup>141</sup> During the period, trainees also prepare for an oral professional examination covering the constitution, Slovenian language (and, in the relevant areas, Italian and Hungarian).

Research shows that investment in good-quality induction will pay for itself in terms of reduced drop-out and improved learning.<sup>142</sup> Induction establishes the principle of continuity of professional development: it can make up for weaknesses in the link between theory and practice sometimes evident in ITE programmes. On the other hand, where standards in schools are weak, continuing partnership with ITE institutions can make available subject and pedagogical expertise to the host school through links with the new teacher and the mentor.

## 8 What are the options for recruiting, deploying and retaining teachers?

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In its report, *Teachers matter*, the OECD identified two models of employment: 'career-based' and 'position-based'. They each have advantages and disadvantages. The first requires entry from school or university and has demanding entry criteria, with promotion based on national grades. Though starting salaries may be low, there is the promise of a career path and a relatively generous pension. The quality of entrants is high, with few supply issues. However, there may be a poor match with the needs of a particular school, limited encouragement to undertake further professional development, difficulties for individuals who find teaching is not for them and few opportunities to bring fresh people into the profession at a later stage in their working lives. The second model has more movement in and out of the profession, with recruitment devolved to municipality or school level, and teachers achieving promotion through application for specific posts. While there is more open access to training, it can lead to inefficient use of resources, since drop-out rates can be higher. There is more evidence of difficulty in recruiting (and retaining) to challenging schools and shortage subjects, as well as wastage of experienced teachers and greater disparities between schools in terms of teachers' qualifications and experience.

In reality, the situation is not that clear-cut. South Korea and Singapore have a largely career-based approach. However, they have policies designed to encourage professional development and secure staff for areas of potential shortage. In South Korea most teachers, having successfully achieved certification and passed the very competitive Teacher Employment Examination<sup>143</sup> are appointed to a state-funded school at city or provincial level. Once appointed, they have tenure. After three years, teachers are eligible

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<sup>141</sup> In *Achieving excellence in teacher workforce and equity in learning opportunities in South Korea*, Nam-Hwa Kang and Miyoung Hong reported that in 2008, in Seoul, the probability of being hired as a maths teacher was 1 in 20.3.

for a 180-hour professional development programme to obtain an advanced certificate giving an increased salary and eligibility for promotion. After the fourth year of teaching, teachers have to do 90 hours of professional development every three years.<sup>144</sup> Teachers are moved from one school to another every five years.<sup>s</sup> Additionally, there are incentives to teach in disadvantaged urban and rural areas, including smaller class sizes, less teaching time, salary supplements, opportunities to choose a subsequent school and advantages in seeking promotion to administrative positions (which are highly regarded as an end-of-career goal). Singapore, possibly because of its size, links recruitment to training with employment even more closely:<sup>145</sup> trainee teachers receive a salary during training, together with payment of all tuition fees. This takes the form of a bond: trainees failing to graduate or to complete the initial three-year teaching period have to repay funds to the Ministry of Education. After graduation, teachers are sent by the Ministry to schools. While they may request a particular school, 'the needs of schools take precedence over all else'. After three years, teachers may request a posting to the Ministry or to another school. (Posting exercises are held annually.)

On the other hand, a number of countries separate qualification (including, sometimes, induction) from appointment.<sup>146</sup> In Australia, most teachers are recruited and employed by state or territory education authorities, Catholic diocesan or independent authorities, with principals involved to some extent. (In Victoria, appointment is carried out by schools themselves.) In New Zealand, too, teachers are free to look for appointments via the *Education gazette* or Ministry of Education-approved recruitment agencies. Finland uses a similar employment model<sup>147</sup> (as does the Netherlands),<sup>148</sup> with 94% of teachers working full time and holding permanent posts. While Slovenia enables trainees to undertake temporary employment in order to qualify, appointment on a permanent (civil service) contract is generally done by schools, which advertise vacancies once the Ministry has approved the post.<sup>149</sup> In theory, in Finland and Slovenia there is scope for the employing authorities to transfer staff to other schools. However, deployment is market-led: in Finland, for instance, subject teachers and class teachers with a qualification in a specific subject have greater opportunities to move schools and therefore those in basic schools have an incentive to achieve further qualifications.<sup>150</sup>

Context, including administrative and management capacity, is critical to selection and adaptation of practice elsewhere. For instance, in Indonesia, the World Bank concluded that decentralisation of appointment and management of teachers to local district officers and school principals had happened too soon because they were not yet equipped for the task. The problem was compounded because, since, despite planned decentralisation, many teachers remain civil servants, there is consequently little local incentive to manage staffing costs and a risk of appointing weaker teachers.<sup>151</sup>

While some countries, such as New Zealand, have opted for standards as a mechanism for defining career paths, others such as China<sup>152</sup> and Singapore have used role descriptors. Singapore developed three career tracks, designed to support retention by

<sup>s</sup> Ghana's National Action Plan: *Education for All: 2003-2015* envisaged introducing a teacher rotation system to supply remote areas with qualified teachers.

‘cater[ing] to different talents, abilities and aspirations...’ These comprise the leadership track – running from subject head via principal to, potentially, Director-General of Education, senior specialists and the teaching track. All start from work as a classroom teacher ‘to acquire the fundamental knowledge, skills and attitude’.<sup>153</sup>

### Working with the grain: asking teachers to teach what they know

Out-of-field teaching occurs when a teacher teaches outside his/her area of subject qualification or beyond his/her level of subject competence. Out-of-field teaching does not improve student achievement. Follow-up to TIMSS 2003 outcomes showed South Korean students ranked second in maths, with US students ranked 15th. A comparison of the qualifications of South Korean and US teachers of maths showed that while only 4.8% of South Korean maths teachers lacked a qualification<sup>†</sup> in mathematics, in the US, 29.7% of maths teachers lacked a qualification in the subject.<sup>154</sup>

One of the distinguishing features of high-performing education systems is the way deployment builds on a high level of subject expertise. Japan and Hong Kong also apply stringent criteria to ensure there is little out-of-field teaching.<sup>155</sup> In the Netherlands<sup>156</sup> certification and grading show standards of competence and the pupil age groups teachers are qualified to teach. A similar approach is taken in Slovenia.<sup>157</sup> Research in Australia revealed, not surprisingly, that teachers are not only more comfortable (and therefore more likely to remain in post) when they were teaching within the field of their expertise, but they were better able to develop curiosity in students, respond to their questions and experiment with different teaching approaches.<sup>158</sup> The combination of subject knowledge and flexibility is achieved by encouraging teachers to hold degrees covering more than one subject, as in Slovenia<sup>159</sup> and Singapore.<sup>160</sup> In Finland, the majority of graduating class teachers (i.e. those working in basic schools) have both class and subject qualifications, which gives them a greater choice of jobs.<sup>161</sup> As part of its drive to raise teaching standards, the Ministry of National Education in Indonesia tested the subject knowledge, pedagogical competence and general academic aptitude of a sample of teachers. In secondary education, 58% demonstrated competence in English, 36% in maths and 56% in chemistry.<sup>162</sup> In Chile, the Government is providing funding to develop pre-service training, enabling teachers of pupils in the 5th – 8th grades (i.e. 10–13 year-olds) to become subject specialists.<sup>163</sup>

Reasons for out-of-field teaching vary. They include:

- a. insufficient depth to initial training and certification
- b. the inability of the teaching force to meet the requirements of the curriculum
- c. appointment of inadequately-qualified teachers because of shortages<sup>164</sup>
- d. allocation of a teacher to teach a subject for which he/she is not adequately qualified because it is administratively convenient (e.g. where a teacher’s timetable has gaps).

<sup>†</sup> defined as a major in maths or maths education.

Out-of-field teaching may occur for a combination of these reasons, which need to be identified and tackled.

### Using working conditions to reinforce professionalism

While pay needs to be sufficient to attract and retain teachers, high-performing systems use working conditions creatively and flexibly to encourage professionalism, improve quality of life and keep experienced teachers in the classroom.

Teaching loads are demanding, but not burdensome, recognising that teachers need time to prepare thoroughly. Full-time teaching loads (i.e. contact time) appear to range from 20<sup>u</sup> to 26<sup>v</sup> periods per week, with lower teaching loads in more senior schools in some countries (e.g. Slovenia).<sup>165</sup> Some countries, such as the Netherlands,<sup>166</sup> set an overall ceiling on workload, again with a lower overall requirement of secondary teachers. South Korean teachers have relatively large class sizes (see Table 1), but their teaching commitment is just under half that of US teachers. Nam-Hwa Kang and Miyoung Hong argue that fewer classes enable more in-depth preparation and allow teachers time to fulfil other professional responsibilities.<sup>167</sup>

While there are varying degrees of prescription about working hours, days and tasks, there are also flexibilities which recognise professionalism, encourage professional development and compensate for additional work. In Finland,<sup>168</sup> for instance, there is no obligation to be on site if the teacher does not have a teaching commitment, nor to attend during the holidays without a specific reason.<sup>w</sup> In the Netherlands, from 1 August 1998,<sup>169</sup> the teachers' standard working year comprised 1,659 hours, of which 10% are available for professional development. In Slovenia,<sup>170</sup> there is a requirement that headteachers teach; there are also reductions in teaching load for other tasks, such as mentoring. Teachers can earn extra holiday rights by working more hours than the number for which they were appointed. These can be taken during the year or saved up. Primary and special teachers can use accumulated leave to take a sabbatical or, from age 52, work fewer hours.

In addition to offering career paths that recognise increasing expertise, some countries, such as Slovenia and the Netherlands have taken steps to encourage skilled, experienced older teachers to remain in the profession and in the classroom. From 1994, Slovenian teachers with long service have enjoyed a two-hour per week reduction in their teaching loads. The school year runs from September to mid-June. Teachers have 24–35 working days of annual leave. The base level depends on length of service and is increased to reflect qualifications and working obligations, with five extra days for teachers aged 50 and over.

<sup>u</sup> Slovenia: upper secondary school

<sup>v</sup> The Netherlands

<sup>w</sup> In Finland hours are based on teaching duties which range between 16 and 24 lessons weekly. The assumption is that teachers will work the same hours as public administrators (albeit with some modifications depending on collective agreements) i.e. 8am – 4.15pm. During this time they will teach, plan, carry out school development tasks, liaise/work with colleagues, pupils' families and other partners and carry out assessment. There are 185–190 days in the school year: there is no obligation to be in school when there is no teaching commitment nor to attend in the holidays without a specific reason.

## 9 How best to link performance management, improvement and reward?

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### Introduction

Levels of pay and their relationship to status are discussed in Section 5, ‘How are the best candidates attracted to training?’

Interest in accountability has led to pressure for direct links between teachers’ pay and student outcomes. This approach has frequently been part of a government policy of decentralisation of responsibilities and delegation of funding so that it is closer to the point of delivery. Performance management and reward systems need to recognise achievement and encourage improvement. High-performing systems, as well as those on an improvement trajectory, see pay policy as being closely linked to the recruitment, development and retention of good teachers.

Assessments and reward systems need to be tailored to the context, that is, the resources, capabilities and goals of the system. The need to balance individual incentives with recognition is a collegial, team activity. As standards and systems are bedding in, appraisal needs to be centrally driven in order to ensure consistency. As professional standards become more established, there is greater scope for de-centralisation and self-evaluation. Appraisal systems need to be understood by and have the confidence of the participants, since, in addition to offering rewards, these systems need to include provision to deal with failure to improve or achieve professional competence. Such provision may include sanctions, such as dismissal.

### Evaluating performance/performance management

High-performing and improving systems have introduced (or are planning to put in place) systems which bring together professional standards, performance appraisal, incentives to undertake professional development, and financial and professional rewards for improved practice. They recognise the importance of having credible appraisers and establish the idea, from the start of their careers, that teachers should review each other’s teaching.

Many (but not all) high-performing systems use a system of performance appraisal to evaluate teacher performance and set out action to be taken to achieve improvement. In the Netherlands<sup>171</sup> and Slovenia<sup>172</sup> teachers discuss their performance annually with their headteacher. Outcomes may include performance-related payments (determined and funded by the school in the case of the Netherlands) or a requirement for coaching. Slovenia is more explicit about standards and grading of performance.<sup>x</sup> In Finland,<sup>173</sup> teachers are not evaluated. However, the principal is responsible for quality of teaching as well as teaching staff. Most schools have a system for assuring quality, including annual development discussions to evaluate achievement of objectives set for the previous year and to set teaching staff’s objectives for following year.

<sup>x</sup> Eurybase: *Slovenia: teachers and educational staff*: Teachers are evaluated by the headteacher. Criteria: knowledge and professional standards, quality and attention to detail, work ethic, scope of work and work efficiency, innovation. Above-average results may receive a salary increase. Annual work performance is graded: Excellent 5 points, Very good 4 points, Good 3 points, Sufficient 2 points, Insufficient 0 points.

In order to gain acceptance and credibility, appraisal mechanisms have to be objective, and appraisers have to have the confidence of the profession. Appraisal reportedly came to a halt in Chile<sup>174</sup> because teachers lacked confidence in headteachers – many of whom had been appointed by the military regime and were inadequately trained for their professional roles. The deadlock was broken when the Ministry of Education set up a committee including representatives of municipal authorities and teachers' unions and subsequently agreed standards for evaluation (based on the ITE standards i.e. the *Framework for good teaching*). The Ministry piloted approaches<sup>y</sup> (subsequently implemented) which include classifications (outstanding, competent, basic or unsatisfactory) and where inadequate performance first leads to professional development and further evaluations prior to termination of contract. The approach combines self-assessment, peer assessment, supervisor assessment and a portfolio of evidence.<sup>175</sup>

The World Bank had concerns about the ability of Indonesian headteachers to carry out management functions. Advising on steps to strengthen teaching in Indonesia, the World Bank<sup>176</sup> identified the need to improve headteachers' management skills and establish an appraisal process linked to individual teachers' professional development and to school improvement. The World Bank advised that the appraisal process was needed to support a promotion system based on the achievement of standards with merit thresholds and salary scales. This would ensure improvement by teachers would lead to increased pay and promotion opportunities.

Effective systems use a range of ways to encourage teachers to improve; steering them to a greater or lesser degree towards desired outcomes. Participation in professional development is a condition for promotion in Slovenia. In Chile, since 2003, teachers have had the option of seeking 'voluntary accreditation of excellence'.<sup>177</sup> Assessment is via an examination of curricular knowledge and portfolio evaluation. In addition to extra salary, teachers gain professional status, joining the network of 'Teachers of Teachers' that runs professional development activities.

Effective systems also balance rights and obligations between employers and teachers. In Finland, teachers have an obligation to undertake three to five days of professional development each year, to be monitored by the maintaining authority. The state is primarily responsible for funding professional development relating to policy implementation.<sup>178</sup> In the Netherlands, where training budgets have been delegated to schools, schools have a duty to ensure staff can maintain their skills in accordance with established standards of competence<sup>z</sup> and 10% of teachers' working hours are designated for professional development. Teachers can apply once in their career for a development grant covering fees, materials, travel and supply cover.<sup>179</sup> Similarly, in Slovenia, schools must provide a minimum of five days per year (or 15 days in three years) of study leave, covering salary compensation, travel expenses, participation fee and accommodation costs. Programmes are run partly during the working week, but partly during weekends and on work-free days – i.e. during teachers' own time.

<sup>y</sup> Including preparation of evaluators, trialling of observation instruments, the preparation and assessment of teacher portfolios, teacher interview schedules, as well as rubrics governing scoring of evidence and standardisation of teacher classifications.

<sup>z</sup> Education Professions Act, in force from 2006/07.

## Linking performance to reward

High-performing and improving systems establish links between teacher performance and reward at individual, institutional and profession-wide levels. In addition to extra pay, rewards can include professional and institutional recognition.

Performance-related pay is an area of political controversy and practical difficulty. There has been a gradual move away from pay based solely on initial qualifications and years of service because this does not provide incentives for further improvement, particularly where teachers have tenure.<sup>aa</sup> Approaches differ according to context and starting point. In some systems, such as Tunisia and Pakistan, some writers see this performance-related pay as an aim.<sup>180</sup> They are also concerned to ensure that the system encourages the right behaviours and does not contain perverse incentives, such as rewarding compliance with administrative requirements rather than good pupil learning outcomes.<sup>181</sup>

While superficially attractive to politicians and some stakeholders because of its apparent simplicity, a crude link between salary and performance is unattractive to teachers. Leishman<sup>182</sup> argues from a survey of large-scale reform that the promise of bonuses does not seem to motivate teachers. However, improving systems have used incentive payments to encourage teachers to raise their skill levels. Ghana implemented the payment of a Professional Allowance equivalent to 15% of gross monthly salary to teachers achieving certification with effect from January 2010.<sup>bb</sup>

Nonetheless, in principle, there is both value and attraction in establishing a link between rewards and teacher performance. The link needs to focus not just on simple measures of student attainment, but also on encouraging wider professional behaviours, supporting improvements in professional practice and offering career progression. The governments of a number of high-performing systems have introduced a link or plan to do so; for example:

- a. There are mechanisms for public recognition (e.g. the Australian Learning and Teaching Council awards prizes to individuals and teams).<sup>183</sup>
- b. Payments are made to recognise additional responsibilities such as mentoring, in the Netherlands, Slovenia and Finland.
- c. As part of the Australian Government's strategy to improve teacher quality, ACER<sup>184</sup> has published a report on the need to introduce performance pay for teachers, drawing on a range of performance indicators and designed to keep the best teachers in the classroom.
- d. In Slovenia, as teachers gain additional qualifications, their pay is increased. Additional qualifications are also required for promotion. Promotion is available every three years, and is points-based. Points are awarded for taking specific programmes of training.

<sup>aa</sup> i.e. permanent employment.

<sup>bb</sup> 144,227 teachers qualified. Payment was held up by technical difficulties, but was re-scheduled. Joint statement by the Ghana Education Service, the Ghana National Association of Teachers and National Association of Graduate Teachers: [ghanateachers.org/news](http://ghanateachers.org/news) 15 Sept 2010.

There is evidence of a move towards a partly de-centralised model for determining teachers' pay and conditions in Europe. In order to ensure pay awards are affordable, the awarding bodies are also given responsibility for the budget.<sup>cc</sup> In some cases, this involves collective agreements with professional organisations. In other education systems, pay policy continues to be set at national level – as in Slovenia<sup>185</sup> where teachers are public servants.

Effective systems include arrangements for supporting weaker teachers. Dismissal is generally seen as rare.<sup>dd</sup>

Just as effective systems recruit high-quality trainees, such systems are also clear about the need to dispense with teachers who fail to respond to coaching, support and development activities. In addition to the introduction of professional standards and performance management structures, some countries have also established professional bodies to act as gatekeepers and upholders of professional standards (e.g. the General Teaching Council in England and the New Zealand Teachers' Council). Notwithstanding drives to put in place systems that are seen to be fair, objective and transparent, this remains an area of difficulty. It is particularly intractable where systems to recruit and retain high-quality teachers are ineffectual.

## 10 What are the purposes of professional development, and what works?

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### Introduction

While pre-service teachers represent the future, those in service represent both the present and the future – and there are many more of them. Where countries have a group of under-qualified teachers, in-service training has a crucial role to play in raising the standards of teaching and learning.

Yet there seems to be some way to go before education systems establish arrangements for professional development that bring together funding mechanisms, career paths, teacher standards and effective delivery mechanisms. Nonetheless, there is evidence of successful practice.

Since high-quality teaching is critically important in improving pupil attainment, continuing professional development will focus on what teachers need to learn in order to help students bridge the gap between learning targets and their actual performance.<sup>186</sup> This may involve improving the performance of an individual teacher or of a group of teachers within an education system. The latter may require change at school or system level.

Professional development can have an additional purpose of improving motivation and retention. Ofsted reported that professional development targeted at teachers in their early

<sup>cc</sup> In Finland, for instance employers rarely exercise their option to pay teachers bonuses based on the outcome of their work because of the 'restrictive economic situation' Eurydice (2009a).

<sup>dd</sup> In Slovenia, dismissal is for 'gross violations of working responsibilities', for instance (Eurydice, 2008).

careers enabled them to see development as ‘a lifelong process and encouraged them to set high expectations for their career prospects’. Early recognition of teachers’ abilities, for example through the assignment of specific responsibilities, was reported as being important for... encouraging them to remain in teaching’.<sup>187</sup>

## Individual professional development

In his review of best practice in professional development, Ingvarson<sup>188</sup> cited a range of evidence to show that what teachers know and can do has the greatest impact on student learning. Enhancing teachers’ knowledge is more cost effective than increasing teachers’ salaries or reducing the student/teacher ratio.

Student learning improves if there is an increase in teachers’ subject knowledge (that is, understanding of content) alongside improvements in pedagogy relating to the same content (that is, understanding how students learn that content, how to explain that content effectively and the capacity to evaluate students’ performance relative to benchmark standards). Where teachers’ subject knowledge is weak, there is a risk it will lead to narrowing of the curriculum, leading to poor pedagogy and the inability to inspire students. Teachers who are not confident in their subject knowledge are not going to invite challenge or open themselves up to areas of questioning they cannot handle.<sup>189</sup>

Successful systems focus on ensuring that teachers have sound, linked subject and pedagogical knowledge. Pre-service training provides the foundation. However, the drive for continuing improvement, alongside changes in curricula, requires continuing professional development. Features of effective continuing professional development include:

- a. Tailoring the content and delivery mechanisms to the knowledge and skill levels of the teachers. Professional development for teachers with low skill levels is likely to be highly-structured and directive. Conversely, skilled teachers in high-performing systems will be able to design their own development activities. South Korea, for instance, funds research by teachers which counts towards their targets for professional development activities.<sup>190</sup>
- b. Increasing teachers’ subject knowledge, with a particular focus on knowledge required to meet their students’ learning needs, citing research-based evidence about how students learn that particular subject matter.
- c. Designing professional development so that it is directly linked to subsequent teaching. This may take the form of showing ways of teaching new subject matter, putting the teacher in the role of learner. Alternatively, it might involve using new subject knowledge to carry out curriculum development or to assess students’ work to evaluate the impact of their teaching. In all instances, there needs to be an explicit link between the teacher’s own development and how it will translate into students’

improved learning.<sup>191</sup> For instance, Riaz<sup>192</sup> proposes that in Pakistan, in order to move towards a more interactive way of teaching, teachers should take on the role of learners, alongside their students. He argues (citing Carnell and Lodge, 2002) that this would foster collegiality, as well as improving teachers' subject knowledge and pedagogical skills.

- d. Using professional standards to map a teacher's career path, pre-service training, induction and subsequent, more advanced levels of subject and pedagogical knowledge. Standards can be used for appraisal and self-evaluation of performance, to identify development needs and inform the content and delivery of training.<sup>193</sup>
- e. Recognising and taking steps to address the potential isolation of subject specialists in schools (particularly in minority subjects).<sup>194</sup>
- f. Designing programmes that acknowledge the realities of teachers' working lives. In its National Action Plan, *Education for All: 2003-2015* Ghana responded to the need to stop the loss of expensively-trained teachers by introducing distance learning to enable untrained teachers to achieve the Diploma in Basic Education and for others to upgrade their skills. Both appear to have been successful, while demonstrating the need to understand the realities of implementation.<sup>ee</sup>

There is some evidence that teachers are able to build on their initial subject knowledge as a result of teaching subject-specific curricula.<sup>195</sup> Where teachers' subject knowledge is weak, because they are insufficiently highly qualified or are teaching out of field, topic-specific curriculum materials and textbooks can be particularly useful. Ghana, for instance, has made available syllabi for all pre-tertiary institutions on the internet; all students have textbooks for core subjects at basic, senior high and technical institutions.<sup>196</sup>

### Collegiate organisational development

Education systems aiming to improve will inevitably introduce changes. Teachers are pivotal to continuing improvement. As teachers' professional skills increase, they are in a position to take an active role in developing their teaching practices.<sup>197</sup> At this stage, operating as professional communities, they are able to work together to evaluate their practice, plan and implement improvements.

Within the school, a systematic approach to effective professional development both contributes to and relies on the establishment of the right climate so that there is a community with a shared professional focus on teaching and learning, rather than a group of individuals, some of whom may be gifted and some weaker.

Achieving better teaching requires that teachers become aware of weaknesses in their own practice, see and understand specific best practices and are motivated to make improvements, not just through extrinsic rewards (such as pay), but also through intrinsic

<sup>ee</sup> In the case of the upgrading course, participants missed Friday and Monday morning lessons because of difficulties in reaching teaching institutions in the Upper East and Upper West regions (modernghana.com/news 15 Sept 2010).

drivers (that is, shared high expectations, a collective sense of purpose and belief in the ability to make a difference). This is equally relevant to high-performing systems as to those looking to develop.

Ways of doing this include:

- a.** One-to-one coaching, support and feedback in the classroom. This tends to be most effective where the school has a culture of coaching and development, with heads taking the lead<sup>ff</sup> and where it is accepted that senior staff and other teachers will see colleagues teach. In some systems, professionals are given responsibility for coaching. In China, for instance, promotion through the teacher career grades (which are linked at district, provincial and national level) carries increasing responsibility for curriculum and professional development.<sup>198</sup> In Tunisia, the Government uses inspectors not just to monitor, but also, apparently, to carry out ‘supervision visits’ for ‘formative’ purposes. (This follows the graduation of the first group of inspectors from the National Centre for Training Trainers in Education in 2007/2008.)<sup>199</sup>
- b.** Making ‘instructional leadership’<sup>200</sup> a key part of the responsibilities of senior and middle managers in schools. This includes leadership by example, extending beyond demonstrations of good practice to taking part themselves in schools’ programmes of lesson observation, monitoring and feedback.<sup>201</sup>
- c.** Timetabling that guarantees time for teachers to learn from each other and work in teams. This gives opportunities for discussions about pedagogy, joint planning, peer tutoring and demonstrations. For instance in Japan, study groups of teachers improve individual lessons and evaluate teaching strategies; Boston teachers are timetabled so they have free time together for joint planning with teachers teaching the same subject at the same grade level; and in Finland one afternoon a week is earmarked for joint planning and curriculum development. The greatest improvements appear to be in practices that can be applied immediately, including setting learning objectives, planning lessons, developing resources and classroom management.<sup>202</sup>

## 11 What about non-teaching staff?

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In some states, including Victoria (Australia), the Netherlands and England, part of the drive to emphasise the professional status of teachers has included separating out tasks to be carried out by teachers themselves and work to be carried out by paraprofessionals and support staff.<sup>203</sup> Delegation of some tasks has been designed to enable teachers to focus on areas where they have ‘unique skills’ and, as a retention measure, to reduce teacher workload.<sup>99</sup>

<sup>ff</sup> In Slovenia, for example, the headteacher is the pedagogical leader, providing advice, participating in pedagogical activities, evaluating teachers and making proposals regarding their promotion. (Eurydice, 2008)

<sup>99</sup> Cf. the Netherlands’ 2007 Commission on Teacher Retention and Recruitment Action Plan.

These non-teachers are used for a range of tasks. In Slovenia<sup>204</sup> non-teaching staff include laboratory assistants, instructors and organisers of practical experience. Victoria (Australia) has four types: educational, administrative, technical and professional.<sup>205</sup>

Deployed with care and judgement, support staff have a useful role to play:

- a. Evidence from studies in England<sup>206</sup> and in Victoria<sup>207</sup> shows they can take on a range of administrative and technician tasks formerly carried out by teachers, including processing examination results, analysing attendance figures, entering data and providing IT support.
- b. The presence of another adult in the classroom, with a particular focus on potentially disruptive pupils, contributes to classroom control. However, the less formal relationships do not create the 'conditions for advancing learning'.

Support staff generally have fewer and lower levels of qualification<sup>h</sup> than teachers.<sup>208</sup> In particular, they tend to have lower levels of subject and pedagogical knowledge. There is some evidence that, where they are used to support pupils, they can hold back pupils' attainment. This is particularly marked for students with higher levels of special needs who may become cut off from other students in the classroom and not receive their curriculum entitlement because they are more focused on the support staff than on the teacher.

While the evidence is limited, it appears that:

- a. greater clarity is required about the roles of teachers and support staff, taking account of their respective training and expertise. Investment in recruiting and training highly professional teachers can be wasted if the more needy students do not have equal access to their skills
- b. support and ancillary staff are best used for administrative and technical roles where teachers' subject knowledge and pedagogical skills are not appropriate
- c. teachers need training in the management of classroom-based support staff, and in planning for curriculum delivery for all students, including those who are assigned support staff.

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<sup>h</sup> Some systems do offer specific training and qualifications. In Finland, the training lasts for the equivalent of a year, including 12 weeks' practical training. In the Netherlands from 2008/09, an associate degree programme has been available (Eurydice, 2009b).

## 12 Conclusions

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Infrastructure and resources are significant, but evidence shows that teachers are the most critical parts of effective education systems. Governments aiming to raise standards need to ensure that all students have access to good-quality teachers, whatever their socio-economic status and wherever they live.

Whether embodied in the criteria for certification and employment, or in a framework of professional standards, there is a recognisable, common core of skills and attributes required of teachers. These include subject and pedagogical knowledge, a commitment to their students and to continuing development and innovation. There is also evidence of a link between the progressive development of professional knowledge and skills and career paths – whether in the classroom, in mentoring or in management roles. In some systems, this is already formalised. In others, it is a target.

High-performing systems recruit entrants from the top of their age group. In order to do so successfully, they need to bring together an understanding of the dynamics of the particular labour market and the incentives that will motivate the right people to want to become teachers (as well as the disincentives that will deter them or lead to later drop-out). Salaries are broadly in line with those of other occupations competing for the same people. Conditions encourage and support professionalism, whether in terms of hours of work, professional development opportunities, control over membership of the profession or having a real voice in the development of education policy.

High-performing systems demonstrate that there is no substitute for deep subject and pedagogical knowledge. They invest in lengthy periods of pre-service training designed to ensure that new teachers are equipped to challenge and stimulate their students. Increased subject knowledge – even for teachers of students in elementary/basic classes – is encouraged, either by dual/multiple subject specialism in pre-service training or post-qualification professional development. Whether through schools attached to pre-service training institutions or periods of work in schools more generally, there is a drive to give trainees longer periods of practical experience, and better links between theory and practice. The result is better career opportunities for teachers, greater flexibility of teacher deployment and improved levels of in-field teaching.

These systems ensure quality through various measures including direct control over the content of pre-service courses, accreditation of pre-service courses, post-training examination/evaluation of prospective teachers and certification of new teachers.

Some systems have formal induction and others arrangements for structured support for new teachers. Many offer reduced timetables in the first or second year of employment. The common thread is the care with which entry to the profession is managed, enhancing the effectiveness of new teachers and reducing attrition.

Systems with a plentiful supply of high-quality teachers and teacher candidates have been able to reduce the risk of shortages of teacher supply in hard-to-fill subjects or locations through central deployment where the short-term disincentives of a compulsory posting are offset by the prospect of a long-term and rewarding career. Systems with a decentralised approach, where teachers apply for vacancies with consequent implications for hard-to-fill subjects or locations, have developed alternatives, including incentive payments, study support, subsidised housing, entry to the profession from other careers and overseas recruitment. All appear to monitor data about teacher supply requirements and plan ahead.

The simple linking of appraisal and pay does not seem to work. In countries seeking to raise the skill levels of an entire cohort of teachers, payments linked to certification do appear to be attractive to candidates (though there are risks that standards will not be applied sufficiently rigorously and, therefore, cost-effectively). Some systems have chosen to recognise and reward team effort – by giving awards or even funding – but evidence of effectiveness is mixed. More sophisticated and long-term arrangements, bringing together evaluation of performance (collectively and individually), professional development and career progression seem better matched to the characteristics required of effective teachers.

The use of highly-trained teachers to carry out lower-level tasks or tasks for which they are not equipped is clearly a waste of resources and a threat to student performance. Conversely, classroom-based support staff cannot be used as substitutes for teachers without damaging educational quality and equality of access by students. There is a role for non-teachers in schools, whether working in support roles managed by teachers or in collaborative technical and professional roles. However, clarity is needed about the respective roles of teaching and other staff; teachers and their managers need to be skilled in their deployment and supervision.

These features – teacher skills and standards, recruitment, pre-service training, induction and certification, deployment/employment, career, pay, performance management and professional development arrangements – are evident in all high-performing and improving systems. Whether by choice or force of circumstance, different systems have given priority to different issues, or chosen to tackle them in particular ways. Some systems have adopted arrangements from others<sup>i</sup> and had to adapt them in the light of experience. Others have started from an identified need and built up a system piecemeal.<sup>ii</sup> While superficially messy, this reflects the reality of developing and implementing policy.

<sup>i</sup> Ghana, for instance, introduced bonds to be repaid by teachers who failed to take up posts. While this worked in Singapore, it had to be re-launched in Ghana alongside a better management information system.

<sup>ii</sup> Chile developed its standards for headteachers (*the Good School Leadership Framework*) in the context of decentralisation, to shift the headship model from an 'administrative role, in the most classic and restrictive sense of the word'. (*Improving school leadership: country background report for Chile*). The *Good Teaching Framework* was then developed as a basis for performance management and incorporated into the criteria for accreditation of pre-service courses. ('Teachers and accountability: the case of Chile', Beatrice Avalos in M.T. Tatto (ed.) (2007) *Reforming teaching globally*)

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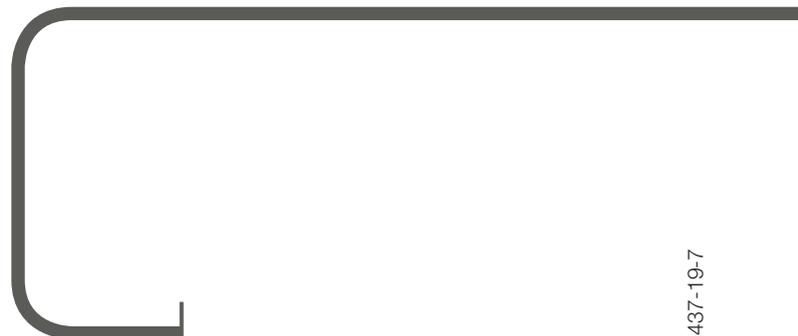
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CfBT Education Trust  
60 Queens Road  
Reading  
Berkshire  
RG1 4BS

+44 (0)118 902 1000

[www.cfbt.com](http://www.cfbt.com)