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Exploring the impact of career models on teacher motivation

Management of teachers

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List of abbreviations

AITSL	Australian Institute for Teaching and School Leadership
ASPIRE	Accelerating Student Progress Increasing Results and Expectations
AST	Advanced Skills Teacher
BCA	Business Council of Australia
CEPPE	Centre of Study for Policies and Practices in Education
CET	Cognitive evaluation theory
EFA	Education for All
EPD	Estatuto de Profesionalización Docente
EURYDICE	Organization of the education system in Estonia
ICFES	Instituto Colombiano para la Evaluación de la Educación
INEE	Inter-Agency Network for Education in Emergencies
INSTAC	Interstate New Teacher Assessment and Support Consortium
KITA	Kick in the ass
LIDC	Low-income developing country
MAP	Merit Award Program
MET	Measures of effective teaching
NBPTS	National Board for Professional Teaching Standards
OECD	Organisation for Economic Co-operation and Development
OECS	Organisation of Eastern Caribbean States
PBR	Payment by results
PBTE	Performance-based teacher evaluation instrument
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
TALIS	Teaching and Learning International Survey
TAP	Teacher Advancement Program
TIMMS	Third International Mathematics and Science Study
TTISSA	Teacher training initiative for sub-Saharan Africa
UIS	UNESCO Institute for Statistics
VSO	Voluntary Service Overseas

Executive summary

The Education for All movement has resulted in a rapid expansion in primary school places across the developing world. However, this expansion has not been accompanied by an equally rapid increase in the number of qualified teachers. It has led, instead, to the recruitment of increasing numbers of unqualified teachers, lowering the status and worsening the working conditions of teachers in many countries. Some authors have been prompted to talk of a crisis in teacher motivation.

This literature review explores the contribution of teacher career models to this motivational crisis, and asks whether a change in their administration could improve the quality of teaching in schools by motivating teachers to improve, and increasing the appeal of the profession. This is in line with the suggested post-2015 education goal that 'By 2030, all governments ensure that all learners are taught by qualified, professionally-trained, motivated and well-supported teachers'.

The most common career structure in both developed and developing countries is the single salary structure, in which teachers' pay increases yearly, irrespective of teaching quality. The only other factors taken into account in calculating pay are additional qualifications, and promotions to administrative positions. Problems with this structure include: a lack of correlation between the factors used for promotion (certificates and experience) and teacher effectiveness; a lack of accountability for quality of teaching; the demotivating effect on colleagues of less-dedicated teachers receiving automatic promotion; a flat salary structure that makes the profession less attractive to the most able; a lack of career progression opportunities for teachers who do not wish to leave the classroom; and the limited sense of self-determination among teachers.

In a search for alternative structures, this report addresses the following research questions by reviewing psychological research on motivation, and examining the models of teacher career structure used in different countries:

1. How are motivation and the organization of careers linked?

2. What are the specific problems linked to the organization of teacher careers in developing countries?
3. What are the different models of teacher career organization around the world?
4. Which are the most successful, according to the available research?
5. What are the lessons for the design and implementation of career ladder systems?

Herzberg's dual factor theory of motivation suggests that the factors which cause dissatisfaction in a job differ from the factors that motivate us and cause satisfaction. The former tend to be related to the job environment (including salary), while the latter are things related to the job itself, such as recognition, responsibility, and growth. This theory implies that improving salary and working conditions is important in that it reduces job dissatisfaction, but beyond a certain point it is not money but job-related factors which motivate. This is tentatively borne out by research in developing countries, though it requires further research.

Deci and Ryan's self-determination theory contends that motivation can be classified along a scale, from controlled (where actions result from external pressure) to autonomous (where actions are the result of an intrinsic desire for a certain outcome). Extrinsic incentives, such as monetary bonuses for specific behaviours or outcomes, can undermine autonomous motivation when perceived as controlling. This should be avoided since autonomous motivation can have positive effects on problem solving, persistence, and creativity. The task for any career structure, therefore, is to support autonomous motivation through the creation of an environment that encourages competence, autonomy, and good interpersonal relations, while, at the same time, holding teachers accountable for the quality of their teaching. This can be achieved by including extrinsic incentives and disincentives for those that remain unmotivated in a way that is not perceived as controlling by those who are already autonomously motivated.

Despite psychological research suggesting that extrinsic incentives undermine autonomous motivation, performance-related pay for teachers has received a lot of attention as an alternative to the single salary schedule. Some simple programmes reward teachers for

certain behaviours, such as attendance, but most use student results as a proxy for teacher quality. The evidence on performance-related pay is mixed, with some programmes finding an improvement in exam results, but many identifying no positive change. Payment based on student results has also been roundly criticized for being unfair to teachers in challenging schools and being an unreliable way to judge teacher quality, as well as for disincentivizing collaboration between teachers and incentivizing 'teaching to the test' and cheating.

An approach that avoids the problems associated with using student results as a proxy for teacher quality is summative teacher appraisal. Summative appraisal seeks to determine the current level or standard of a teacher for the purposes of bonuses or promotions, and can be contrasted with formative appraisal, which exists solely for the purpose of helping teachers improve. Methods used to summatively appraise teachers include lesson observations, interviews, tests of subject knowledge and pedagogy, portfolios of evidence, and parent and student surveys. As each method has its strengths and limitations, the most sensible approach is to use a combination of approaches to appraise teachers.

The selection of personnel responsible for summative appraisal varies from country to country. In most cases, the school principal is involved, but assessors can include peers and external experts. The possibility of unreliability or collusion when only one, school-based assessor is involved means that appraisal decisions should be made by at least two people, or made by one and approved by another. For high-stakes appraisals, such as those used to decide on appointments to senior positions, an assessor external to the school should ideally be involved.

The design of summative teacher appraisal also varies across countries, in two main ways. Some countries allocate a certain weighting or point score to different elements of the appraisal process, for example a lesson observation and a test, and combine these to reach a final score (cumulative approach). Other countries use teacher standards, descriptions of what teachers are expected to be able to do or know at different stages of their career. Decisions as to whether or not a teacher has met these standards are based on evidence from the different elements of the appraisal process (holistic approach). The other main point of difference concerns whether teachers are judged

relative to each other (norm referenced), or relative to an independent benchmark (criterion referenced). The former approach has been found to reduce collaboration between teachers, while, with the latter, there is less central control over how many teachers get a bonus or are promoted.

There are three types of response to summative appraisal: bonuses, pay rises, and promotions. In practice, most programmes that use bonuses are based on student results rather than broader appraisal; those that do base bonuses on appraisal do so as part of a broader career structure that includes pay rises and promotions. Another model is a variation on the single salary structure, with staged salary rises (every three years, for example) dependent on passing an appraisal. Sometimes the standards teachers are appraised against become more challenging, the longer they've been in the profession. The final model is that of the career ladder. In this model, rather than simply rising up the pay scale when they pass an appraisal, teachers take on a new status or role, such as 'lead teacher', having met the required standards, and their pay increases to reflect their new position. There are, of course, variations within these three models, concerning who evaluates the teachers, the nature of the standards, whether professional development is mandatory, and whether new positions come with additional responsibilities.

According to the literature, the career ladder model is the most promising in that it allows the possibility of linking pay to performance indirectly, and offers teachers a pathway for professional growth. This means that it has the potential to overcome the many problems of the single salary schedule – such as the lack of recognition and lack of accountability for poor teaching – without introducing new problems of reduced collaboration or perceived control, which are inherent in the performance-related pay model.

However, this depends on careful design, and there are significant variations within the career ladder structure used in different countries, leading to different outcomes. Moreover, it is likely that this model requires strong administration to be effectively managed, though more evidence is necessary. Only three career ladder programmes have been quantitatively evaluated. Arizona's model was standards-based, criterion-referenced, and had multiple, external evaluators involved in promotion decisions. It was successful in reducing the drop-out

rate, improving the graduation rate, and improving student scores, compared to districts that did not take part.

Missouri's model included teacher standards, but did not apply different standards at different levels of promotion, while teachers were assessed only by administrators in their own school. Results in maths improved only marginally, and in reading not at all, which evaluators put down to a lack of rigour in the application of the evaluation procedure, due to collusion between administrators and teachers.

Portugal introduced a nation-wide career structure in which teachers had to pass an evaluation to move from a lower pay scale to a higher pay scale. This evaluation was cumulative (points-based), and norm-referenced, putting the teachers in competition with one another. Student scores actually decreased after the introduction of the programme.

Based on the available evidence and countries' experiences of implementing career structures to date, it seems that holistic (standards-based), criterion-referenced designs lead to happier staff and better results. The issue of not knowing how many staff will reach the standards can be overcome through careful design of their difficulty, and initial piloting of the scheme. If further budgetary caution is needed, specific pay increases related to promotion could be set to vary depending on the numbers promoted. Norm-referenced promotion can also be brought in at the highest levels where teachers will be competing with teachers from other schools, rather than their own colleagues.

It is important that teachers 'buy in' to the reform. Without the support of unions, new career structures may never be implemented. Teacher representatives should be involved in the design of the career structure, and, in particular, the design of the teacher standards. However, they should not be solely responsible, and experts in evaluation design should be included in the design team. Other potential obstacles to reform include a lack of financing. Even though the long-term costs of implementing a career ladder need not be greater than a single salary structure, initial funds will be needed for design, training, and implementation. These need to be budgeted for by the appropriate ministry.

Countries considering a change to the administration of their teacher careers would benefit from further evaluation of the career structure models already in existence, as well as reports on the progress made and problems faced by countries in the process of implementing new structures. These evaluations could include quantitative comparisons of key metrics with former structures or similar regions, as well as qualitative comparisons regarding teacher motivation and individual country case studies.

Introduction

Why it is important to look at teacher careers in today's development context

The pursuit of universal access to primary education, the second of the Millennium Development Goals, has enabled many more children to attend school across the developing world. However, this gain has come at a cost. The rapid expansion of primary school places has led to greater demand for qualified teachers, and, as demand outstrips supply, untrained and less-educated teachers are being recruited to fill the gap. More recently, the world has rightly turned its attention to the quality of the education these children are receiving, and it has been suggested that the massive recruitment of less qualified teachers may have led to poorer teaching and learning outcomes (Orr *et al.*, 2013).

The recruitment of increasing numbers of undertrained and less-educated teachers has also had an effect on the status and motivation of teachers. Whereas, previously, teachers were respected as having attained a certain level of education or having undergone teacher training, this no longer applies to teachers as a group, and, as a consequence, they feel that their status is in decline (VSO, 2002). In addition, despite recruiting more teachers than in previous years, many developing countries still struggle to recruit enough personnel to maintain previous student/teacher ratios, as the number of students accessing education has increased.[1] This means that class sizes have grown, and, in the absence of sufficient additional funding, working conditions have worsened (VSO, 2002).

This combination of factors has led to what has been described as a 'teacher motivation crisis' (Bennell and Akyeampong, 2007), with teaching in many countries characterized by high attrition rates and 'varying levels of professional commitment' (VSO, 2002). It is very important that this lack of teacher motivation is addressed, as motivation plays a key role in teacher quality, and, consequently,

1. The UNESCO Institute for Statistics estimates that without renewed action, teacher shortages will continue to deny millions of children the right to primary education. Seventy-four countries face an acute shortage of teachers (UIS Factsheet, October 2015, n°33).

student achievement (Michaelowa, 2002; VSO, 2002). This IIEP literature review explores several different factors that affect teacher motivation, but focuses on the administration of teacher careers as a promising area for research.

The administration of teacher careers includes teacher recognition, teacher evaluation, and career progression. Not only do changes in these areas have the potential to improve the motivation of current teachers; they might also play a role in raising the status of the profession in general, therefore making teaching more appealing and increasing the numbers and quality of applicants. Several countries have experimented with changes to teacher career structures, some more successfully than others. Looking at and learning from the experiences of these countries could provide helpful insights for other countries seeking to motivate their teachers and re-professionalize their teaching force. In fact, one of the suggested post-2015 education goals relates to teacher motivation and qualifications: 'By 2030, all governments ensure that all learners are taught by qualified, professionally-trained, motivated and well-supported teachers' (Target 6).

Research questions, assumptions, and hypotheses

As an institute for educational planning, IIEP has identified the organization and management of teacher careers as a specific research area. The underlying interrogation seeks to answer the following questions:

1. What are the specific problems linked to the organization of teacher careers in developing countries?
2. How are motivation and the organization of careers linked?
3. What are the different models of teacher career organization around the world?
4. Which are the most successful models, according to the available research?
5. What are the lessons for the design and implementation of career ladder systems?

The overall goal of the proposed research is to generate knowledge, provide policy options, and document promotion modalities and organizational management of teacher careers for primary and secondary teachers in a diverse range of countries.

The assumptions and hypotheses underlying this review are:

1. Where teacher salaries are sufficient to meet their basic needs, specific models of teacher career organization can play a role in improving the motivation of teachers in their daily work. In the long run, this could help to improve the quality of education.
2. Where teacher salaries are sufficient to meet their basic needs, specific models of teacher career organization can play a role in making the profession more attractive. In the long run, this can help improve both the recruitment and retention of new teachers.

Scope and limitations

As noted above, the characteristics of the people taking on the role of 'teacher' in developing contexts have become more varied. For the purposes of this literature review, 'teacher' refers to anyone employed on a permanent or short-term basis to teach children in primary or secondary schools. This includes a range of people, from highly qualified civil service professionals to volunteers, some of whom have little or no training. Career structure considerations are, in all likelihood, different for primary and secondary teachers. However, the distinction was not elaborated in the literature, so this review usually refers to teachers as a whole. Furthermore, although most of the career structures explored are designed for civil servants rather than contract or community teachers, the findings could be relevant for countries that are looking to include contract teachers in their career structures.

The *Oxford English Dictionary* defines a career as 'an occupation undertaken for a significant period of a person's life and with opportunities for progress' (Oxford Dictionaries, 2015). It differs from a 'job', which is defined as 'a paid position of regular employment'. While a career includes opportunities for progress, a job need not offer such opportunities.[2] The administration of teacher careers

2. Similarly, the OECD report (2005) on recruiting, preparing, and retaining teachers distinguishes two models of teacher recruitment: career-based employment and position-based employment. Under the career-based model, teachers usually stay in public service throughout their working life; entry is based on academic qualifications or examinations, and promotion modalities follow seniority and clearly laid-out requirements. Under the position-based employment, teachers are not hired as civil servants, being instead recruited into teaching positions with an unpredictable career-long progression of assignments and uncertain career prospects. In developing countries, the need to hire large numbers of teachers has led to hybrid systems where some teachers are designated civil servants while others are recruited under contract, the latter representing in some cases a significant proportion of the teacher workforce (Schwille and Dembélé, 2007: 39–41).

therefore encompasses policies concerning how people progress from their first teaching role to becoming an experienced teacher. This includes progression in the areas of pay, skills, qualifications, and responsibilities, and how these things relate to one another. This review does not cover the areas of initial teacher training, or go into detail about methods of professional development. Although both are very important, they are reviewed at length elsewhere.[3] It also does not consider group-level incentives for teachers, which, while relevant to teacher motivation, are not directly relevant to individual teachers' careers.

This literature review is ambitious in its scope with regards to the countries considered. The literature search was carried out using key terms that were not country specific, and all search results which reported an atypical[4] career structure design were included, regardless of the country of origin. As a result, the review includes a wide range of career structures from developed and developing contexts. However, career structures for teachers in countries in crisis situations were not included, as this would complicate matters considerably. Where countries were identified in the literature searches as having atypical career structures, but detail was missing from the reports, the author made contact with policy-makers in those countries and asked questions, either by email or phone.

While the review is broad in terms of the countries considered, particular care should be taken to consider the socio-cultural and socio-economic contexts of developing countries. Although examples from developing countries are included, a more in-depth analysis of how these aspects influence the functioning of teacher careers, especially under the career ladder model, requires further research and goes beyond the scope of this literature review. A related limitation is that of teacher compensation. In order to narrow the focus, the issue of the starting or medium teacher salary is deliberately not considered in detail, even though it constitutes an important aspect of teacher

3. See, for example, Caena (2011) on continuing professional development and (McKenzie *et al.* (2005) on initial teacher training.
4. 'Atypical' here refers to any career structure that does not follow the common single salary schedule of automatic progression based on years in the job. This is described in ***Chapter 1***.

motivation.[5] The review thus presumes that in the different contexts considered, teacher salaries are sufficient to meet their basic needs.

Structure of the study

Chapter 1 examines the current 'typical' career administration and its associated problems, while *Chapter 2* introduces some relevant psychological theories regarding motivation, and sets out the evidence as to what motivates teachers and in what way. Some common approaches to motivating teachers that attempt to incentivize particular behaviours are considered in *Chapter 3*, while *Chapter 4* examines different methods, approaches, and uses of summative teacher appraisal. *Chapter 5* focuses on career ladder programmes, outlining various approaches in different countries and the different considerations that need to be taken into account in their design. *Chapter 6* reflects on lessons for design and implementation and is followed by some general conclusions.

5. For more information on teacher salaries, refer to the 2014 UNESCO EFA Global Monitoring Report.

Chapter 1
Problems with the administration of teacher careers

The teacher motivation crisis

Researchers have argued that the changes in teacher status and working conditions described above have resulted in a crisis in the teaching profession in many developing countries. The teaching workforce is demoralized and demotivated. As early as 2002, a Voluntary Service Overseas (VSO) study, based on interviews with teachers in Malawi, Papua New Guinea, and Zambia, warned:

> Education in developing countries is at a critical juncture: a potential crisis in the teaching profession threatens the ability of national governments to reach internationally agreed targets to expand and improve education. In many developing countries, the teaching force is demoralised and fractured ... As a result, the teaching profession in developing countries is characterised by high attrition rates, constant turnover, lack of confidence and varying levels of professional commitment (VSO, 2002: 1).

In 2007, another study, based on the experience of 12 countries in sub-Saharan Africa and South Asia, used similarly strong language to describe the state of teacher motivation:

> The unavoidable conclusion is that most schooling systems are faced with what amounts to a teacher motivation crisis, which has far reaching implications for the education Millennium Development Goals for basic education and for development as a whole (Bennell and Akyeampong, 2007: 8).

This crisis in teacher motivation has been described as a 'colossal problem' in Pakistan (Pakistan, 2000: 61) and as 'a major contributory factor to the abysmally poor learning environments of primary and secondary students' in 'most low-income developing countries' (Bennell and Mukyanuzi, 2005: 34). What is more, this problem appears to be getting worse rather than better: 'The evidence on motivation trends is more mixed ... However, sizeable proportions

of teacher respondents indicated that teachers at their schools are increasingly de-motivated' (Bennell and Akyeampong, 2007: viii).

There is cause to be concerned by this demotivation of the teaching workforce, if only for the sake of the teachers and their well-being. But there is also further cause for concern. A body of literature shows that teacher motivation is critical for student learning outcomes (Bennell and Akyeampong, 2007; Michaelowa, 2002; VSO, 2002). Based on their 12 case studies of African and South Asian countries, Bennell and Akyeampong (2007) conclude that the commitment of teachers is one of the most important determinants of learning outcomes, while low motivation results in absenteeism, under-utilization of class time, professional misconduct, and poor preparation. Michaelowa (2002) carried out a regression analysis on standardized data for student achievement in Burkina Faso, Cameroon, Côte d'Ivoire, Madagascar, and Senegal, and found that teacher job satisfaction (based on self-reporting and days absent) exerts a positive and significant influence on student learning. In addition, a VSO (2002) study concludes, similarly to Bennell and Akyeampong (2007), that low teacher motivation in Malawi, Papua New Guinea, and Zambia results in high attrition rates, varying levels of professional commitment, and feelings of helplessness.

This literature review examines the role of the current administration of teacher careers in contributing to this crisis of teacher motivation, and the possibility that a change in this administration might play a role in mitigating the problem.

Limitations of the most common career structure

By far the most common way of organizing teacher careers, in developing and developed countries alike, is through the single schedule salary structure. Selection into the profession, where there are enough applicants for selection to take place, requires the completion of pre-service training, and starting pay depends on level of education and formal certificates acquired. Beyond this, pay increases steadily year on year, irrespective of a teacher's duties and responsibilities, being instead based on years of service. The only way for teachers to increase their pay beyond the fixed salary schedule is to attain further education and certification (Bennell and Akyeampong, 2007; Bruns, Filmer, and Patrinos, 2011), or to take on additional administrative

responsibilities, which often means leaving the classroom altogether (Vegas, 2005).

There are a number of problems with the single schedule salary structure, frequently described in the literature on teacher effectiveness, teacher careers, and teacher motivation (Bruns and Luque, 2014; Heneman III *et al.*, 2006; OECD, 2013). These are: a lack of correlation between the factors used for promotion (certificates and experience) and teacher effectiveness; a lack of accountability for quality of teaching; the demotivating effect on the colleagues of less dedicated teachers who are automatically promoted; a flat salary structure that makes the profession less attractive to the most able; a lack of opportunities for career progression without leaving the classroom; and a limited sense of self-determination among teachers.

Academic qualifications and experience are limited as predictors of quality

This research matters for the design of teacher career structures, because if teachers are incentivized by the single salary schedule to undertake further university study which is not effective in improving their teaching, they are using time, effort, and resources that could be better directed to help students.

Although further degrees and years teaching are the most commonly used criteria to determine teacher pay, these factors do not always correlate with teacher effectiveness, as measured by their ability to produce learning achievements among their students (Bruns *et al.*, 2011).

In their review of this relationship, Wilson, Floden, and Ferrini-Mundy (2002) concluded that there is a threshold level of subject knowledge necessary for good teaching, but beyond a certain point, further academic qualifications do not improve teaching effectiveness.[6] This would also explain Rivkin and colleagues' (2005)

6. Woessmann (2001) analysed data from the Third International Mathematics and Science Study (TIMMS) on 13-year-olds' achievement in 39 countries, and found that teachers' level of education to be positively related to student performance in both of these subjects. Goldhaber and Brewer's (2000) study of American teachers found a positive relationship between student results and teachers having a bachelor's degree in maths, though not in science. The same study found that having a teacher with a bachelor's degree in education actually correlated negatively with students' achievements in maths.

conclusion that there is no evidence that holding a master's degree improves teaching skills.

Years spent teaching is also a poor predictor of student results. In the first three or four years, experience has a positive impact on student outcomes, but beyond that, years in the classroom have little effect (OECD, 2009). The Latin America Laboratory study by Casassus and colleagues (2002) found no significant impact of teacher experience on student results in Latin America. This means that the highest paid teachers are not necessarily any more effective than teachers at the lower end of the salary schedule.

Lack of accountability for teaching quality

As promotion up the salary scale – and, in many cases, into leadership positions – is based on number of years teaching rather than teacher effectiveness, bad or idle teachers are promoted along with their harder working colleagues. As a result, there is often no accountability built into teacher career structures or procedures for salary progression. Teachers can be late, and regularly absent (Akyeampong and Asante, 2005), and still receive a salary increase. In addition to the obvious harm these behaviours cause to students' education, it can be very demotivating for skilled and committed teachers to see colleagues who teach very poorly, or very little, promoted ahead of them (Bennell and Akyeampong, 2007).

Even assuming that all teachers were present and on time, variations in teacher quality have an enormous impact on individual student achievement, more so than any other educational factor (Bruns and Luque, 2014). Hanushek and Rivkin (2012) measured the 'value added' by different teachers in American schools using student test data, and found that students with certain teachers mastered less than 50 per cent of the curriculum for that grade, while students with other teachers advanced by 1.5 grade levels or more. Sanders and Rivers (1996) analysed the Tennessee student database and found that this effect was additive and cumulative. For example, if a student in Grade 2 was taught by three teachers with high 'value added', while a similarly performing student was taught by three teachers with low 'value added', their performance three years later could differ by as much as 54 per cent. In their summary of the research on teacher quality, Bruns and Luque concluded that

'no other attribute of schools comes close to this impact on student achievement' (2014:6). Lack of attention to teacher quality in teacher career structures therefore constitutes a missed opportunity.

Lack of attraction to the teaching profession

For school or university leavers with grades good enough to provide a variety of job options, teaching is not an attractive prospect compared to other professions, as the salary increases only slowly over time without the possibility of increased earnings linked to hard work or talent. Podgursky and Springer (2007) found that graduates tend not to join the profession for this reason, and, if they do, soon leave. In countries where applicants are in short supply, this phenomenon could be contributing to the recruitment of teachers from among the weakest students in secondary and higher education (Bruns *et al.*, 2011), and the perception of teaching as an 'employment of last resort' by school leavers and university graduates (Bennell and Akyeampong, 2007: ix; Gannicott, 2009).

Lack of professional status

A lack of promotion opportunities also means that very able school leavers or graduates have no way of distinguishing themselves from those who joined the teaching profession because they had no other option, and therefore no way of gaining the 'professional exclusivity' that comes with other professions such as doctors, engineers, and lawyers (Bennell and Akyeampong, 2007). This consideration may also discourage prospective teachers from joining the profession in the first place. Experienced teachers have noted a decrease in the status of their profession since the increase in underqualified contract teachers, for similar reasons (Ramachandran *et al.*, 2006).

Lack of objective criteria for career progression

With very few opportunities for promotion into different roles other than senior management (which means leaving the classroom), and years spent teaching in school the sole means to attain these posts, teachers in many countries often lack a sense of self-determination and control over their own careers (Bennell and Akyeampong, 2007). If promotion was instead based on meeting objective, quality-based criteria, teachers might be motivated to work towards these criteria.

Bruns and colleagues (2011) sum up the problems with the single salary schedule thus: 'The clear implication of available research is that most school systems are recruiting and rewarding teachers for the wrong things, failing to encourage the capacities and behaviours that contribute most directly to student learning results, and unable to sanction ineffective performance' (Bruns *et al.*: 261).

In addition to the problems inherent in the single salary schedule, in some countries, particularly those in South Asia, the administration of teacher careers is highly politicized. Local politicians interfere with recruitment, deployment to different schools, and promotion (Bennell and Akyeampong, 2007). Accordingly, promotion prospects depend not on a teacher's ability, performance, and experience, but rather on who they know. In Nigeria, there is no standardized salary structure, so teachers can be paid different amounts even at the same level of promotion. Here, too, the crucial factor is who you know, and this infuriates teachers who lack the requisite connections (Sherry, 2008).

Bennell and Akyeampong (2007) have also reported the difficulties plaguing other methods of promotion. In Malawi, promotion is based on interviews, which have been criticized for their lack of transparency. Clear guidelines for promotion exist in Nepal, but are 'rarely applied'. In Kenya, promotion is made difficult for teachers in remote areas, as inspectors rarely visit. These issues and some solutions to them are discussed further in *Chapter 4*.

One must in any case be careful of making unwarranted assumptions about what can or will motivate teachers. The next chapter looks at key theories in psychological literature which explicate human motivation, and reviews research into what teachers themselves think motivates them.

Chapter 2
The psychology underlying teacher motivation

It is clear that there is a crisis of motivation among teachers in the developing world and that the conventional way of organizing teacher careers is contributing to this crisis. This chapter looks at psychological theories of job satisfaction and motivation, and examines whether they are borne out by research into the job satisfaction and motivation of teachers in the developing world.[7]

Theories of job satisfaction

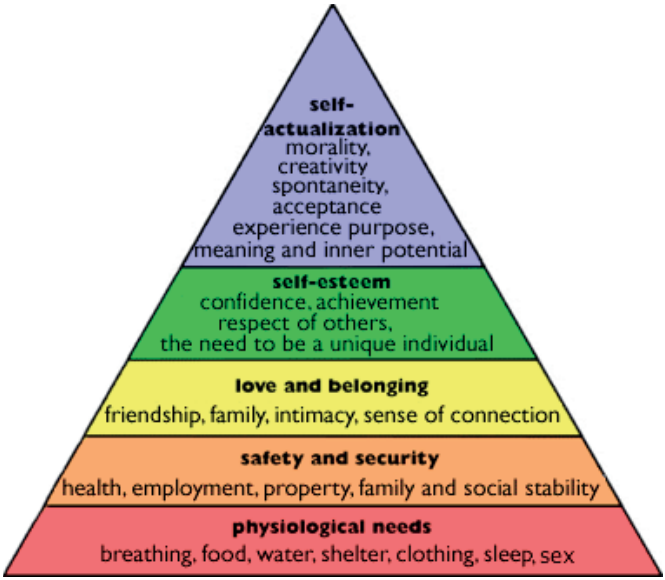
Research into human motivation in the area of work is closely linked to research into job satisfaction. This is because the concepts of satisfaction and motivation are distinct, but closely related, and sometimes used interchangeably. For the purposes of this review, satisfaction refers to the fulfilment of one's wishes, expectations, or needs, and motivation to a desire or willingness to do something. The close relation between the concepts comes from the commonly held idea that the reason one is motivated to do something is because one has a need, the fulfilment of which brings satisfaction.

However, it is important to emphasize that motivation cannot be readily measured. While recognizing the difference between satisfaction and motivation, a number of research reports (Bennell, 2007; Michaelowa, 2002) therefore choose to refer to both motivation and satisfaction, arguing that satisfaction helps to account for motivation, and that satisfaction is more easily interpreted by respondents because it relates to recent events. Motivation, on the other hand, is future-related and remains a broad concept open to interpretation. This is why many organizations choose to use the term

7. The theoretical framework on which this review is constructed uses theories of job satisfaction and motivation. Other strands of work in psychology draw on the concepts of work and organizational commitment. These concepts could also be usefully examined for further work on teacher careers but could not be included within the scope of this review.

'satisfaction' rather than 'motivation', arguing that the former is easier to measure.[8]

Figure 1. Maslow's hierarchy of needs



Source: 3D Eye, 2012.

Maslow's hierarchy of needs

Abraham Maslow articulated this idea about the relation between motivation and satisfaction in 'A Theory of Human Motivation': 'Any motivated behaviour… must be understood to be a channel through which many basic needs may be simultaneously expressed or satisfied. Typically an act has more than one motivation' (Maslow, 1943: 370). Maslow distinguished between different types of need, ranging from basic physiological needs such as the need for food and sleep, to the need for creativity, respect, and meaning. He suggested that 'human needs arrange themselves in hierarchies of pre-potency. That is to say, the appearance of one need usually rests on the prior satisfaction

8. A good example of this is the OECD Teaching and Learning International Survey (TALIS), conducted in 34 countries and representative of over 5 million teachers. Questions are deliberately framed in terms of teacher satisfaction.

of another, more pre-potent need' (Maslow: 370). In other words, humans are not motivated to satisfy their 'higher-order' needs until they have first met their more basic needs. Maslow arranged the various needs he identified into groups, which he then organized into a hierarchy based on the order in which the needs would be pursued. The most basic needs at the bottom of this hierarchy were physiological (breathing, food, water, shelter, sleep), followed by safety and security (health, employment, property, family, social stability), love and belonging (friendship, family, intimacy, sense of connection), self-esteem (confidence, achievement, the respect of others), and self-actualization (morality, creativity, acceptance, experience of purpose, meaning, and inner potential).

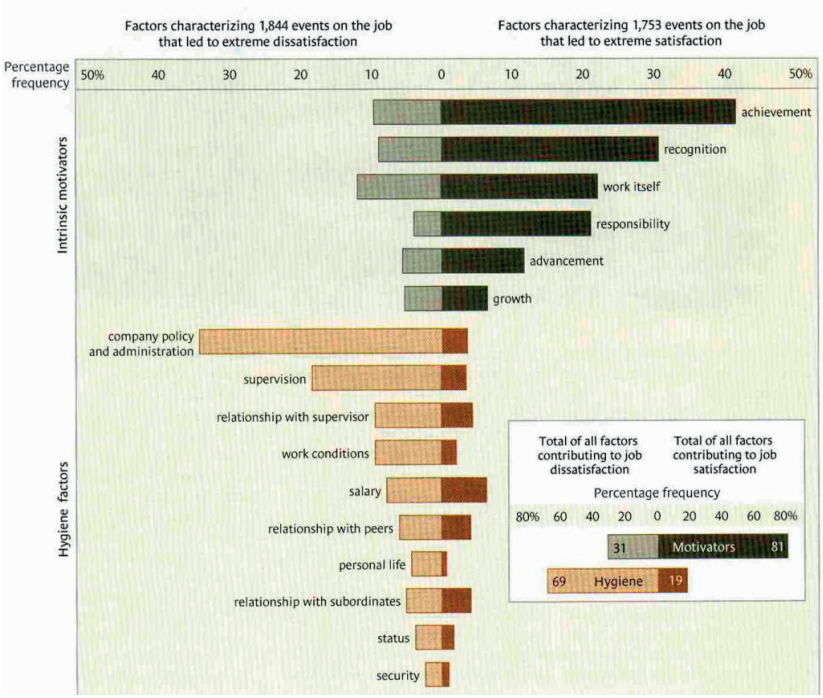
Dual-factor theory

Herzberg's (1968) dual-factor theory of job satisfaction also makes use of the idea of differing types of human need. In his original research, Herzberg asked an initial sample of engineers and accountants to describe events that had occurred at work which led to satisfaction, and events that led to dissatisfaction. He discovered that the factors most often referred to as producing job satisfaction were distinct from those most often reported as producing job dissatisfaction. Factors that dissatisfied people related to the job environment, including company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security. However, these factors did not appear as often in descriptions of what made people most satisfied. On the contrary, these factors were related mostly to the nature of the job: achievement, recognition of achievement, the work itself, responsibility, and growth and advancement. In other words, it appeared that satisfaction was not the opposite of dissatisfaction; rather, the two states existed on separate scales altogether. Put another way, the things which made people dissatisfied were not simply the opposite of what made them satisfied. His findings were replicated on numerous occasions with different populations in America and Europe (Herzberg, 1968).

Herzberg described the factors relating to working conditions and dissatisfaction avoidance as 'hygiene factors'. Just as hygiene, while necessary for the prevention of disease, does not guarantee good health, so satisfactory working conditions, while necessary for the prevention of dissatisfaction, do not bring about true satisfaction. It is helpful

here to distinguish between something being satisfactory (which working conditions can be) and satisfying (which Herzberg claims they cannot). Those factors which do bring about truly 'satisfying' job satisfaction Herzberg called 'motivators'. By motivators, Herzberg intended a specific meaning: rather than encompassing everything which leads to motivation (a desire to do something), the term meant only those things which were satisfying because they fulfilled higher needs, like opportunities for responsibility.

Figure 2. Factors affecting job attitudes as reported in 12 investigations



Source: Herzberg, 1968: 90.

Based on Herzberg's dual-factor theory, hygiene factors and motivation factors are independent of each other. Accordingly, employees can experience four possible combinations at their workplace. These are shown in *Table 1*.

Table 1. Herzberg's dual-factor theory

4 conditions	**Low hygiene** (poor working conditions and pay)	**High hygiene** (good working conditions and pay)
Low motivation (work does not fulfil 'higher needs')	This is the worst situation where employees are not motivated and have many complaints.	Employees have few complaints but are not highly motivated. The job is viewed as a pay cheque.
High motivation (work fulfils 'higher needs')	Employees are motivated but have a lot of complaints. A situation where the job is exciting and challenging but salaries and work conditions are poor.	The ideal situation where employees are highly motivated and have few complaints.

Job satisfaction of teachers

Judging by the motivation crisis described in the first chapter of this review, it seems that in many developing countries teachers fall into the fourth of Herzberg's categories of employee experience, with poor working conditions and few 'motivator' factors (achievement, recognition, responsibility, growth and advancement) present as part of the job.[9] Dual-factor theory implies that there are two ways governments can go about improving this situation, corresponding to the two 'factors'. On the one hand, they can improve working conditions, which should lead to less dissatisfaction, but no extra motivation. On the other hand, they can change the nature of the job to improve 'motivator' factors such as opportunities for growth, responsibility, and recognition, which should improve teachers' motivation to do the job, but would not address the causes of dissatisfaction among teachers. To achieve a state of high hygiene and high motivation, governments need to implement both changes.

Although this is the implication of Herzberg's theory, Herzberg himself didn't test his theory on teacher populations, and most of his research was carried out in the developed world (although he did test his

9. In terms of the nature of the work itself, it is generally assumed that observing their pupils learn intrinsically motivates teachers.

theory in the then developing communist countries). There is reason to believe workers in poor contexts may respond differently compared to workers in richer settings due to the extreme levels of need in some developing contexts, even though teachers in both contexts can have strong intrinsic motivation. For example, it may be that certain hygiene conditions, such as decent salary levels, need to be met before teachers can gain any satisfaction or motivation from the fulfilment of 'higher-order' needs such as recognition and responsibility (Garrett, 1999), as suggested by Maslow's theory. If this is the case, changing career structure to allow fulfilment of higher-order needs will not have an effect on motivation where pay is very poor. This section examines the evidence regarding which factors most affect teacher satisfaction and motivation, as reported by teachers, and using other sources of evidence where available.

Remuneration

In some developing countries, such as Ghana, Sierra Leone, and Zambia, teacher pay is so low that basic needs are not met, and this seriously undermines teacher motivation. Teachers in many low-income countries earn poverty wages of between $2 and $4 a day. As teachers in Africa typically have at least five direct dependents, their wages do not cover their basic subsistence needs. Bennell and Akyeampong (2007) came to this conclusion based on their case studies of teacher motivation in 12 countries.

> The broad consensus among occupational psychologists in developed country contexts is that pay on its own does not increase motivation. However, pecuniary motives are likely to be dominant among teachers in those low-income developing countries (LIDCs) where pay and other material benefits are too low for individual and household survival needs to be met. Only when these basic needs have been met is it possible for 'higher-order' needs, which are the basis of true job satisfaction, to be realized (14).

In all but two of their case study countries (India and Nepal), the 'overwhelming consensus' from teacher and stakeholder interviews was that teachers were underpaid, and that this was the main factor undermining teacher morale and motivation. Particularly stark was the finding that over a third of teacher respondents in Ghana, Sierra Leone, and Zambia agreed with the statement that 'teachers in this

school come to work hungry'. Davidson (2007) found that Tanzanian teachers in both rural and urban areas thought that their salaries were too low and, for some of them, below the minimum required to live a basic existence. Alam and Farid (2011) gave a questionnaire to 80 teachers from 10 schools in Pakistan, and found that only 23 per cent thought their income sufficient to meet their basic financial requirements; 64 per cent also thought that the low income affected their work.

Low teacher pay can affect the quality of education students receive, both when teachers are present at school (due to hunger, stress, or general demotivation) but also when teachers are absent. In Malawi, low pay results in teachers being absent from school in order to search for food, and there is a widespread acceptance across countries that the 'labour process' has to be organized so that teachers can generate additional income (Bennell and Akyeampong, 2007). In other words, teachers can be absent from school because they are working at other jobs to supplement their salary, which lowers their commitment to teaching.

It is clear then that low pay is a major cause of job dissatisfaction in many developing countries. The question then follows, would improving pay increase teacher motivation? The research available suggests that the answer is yes, but only up to a certain point.

Bennell and Akyeampong (2007) suggest that significant pay awards stemmed plummeting motivation levels among teachers in Kenya, Nigeria, and Zambia. They give the example of Kenya, where 'there was a major motivation crisis among teachers in the 1990s, but with improvements in pay and other conditions of service during the last five years, it is probably the case that this crisis no longer exists' (26). As these are low-income countries, this effect tallies well with Herzberg's (1968) theory that improving hygiene factors reduces dissatisfaction, and Maslow's (1943) theory that basic needs must be met before higher-order needs can be pursued. Both theories would also predict that salary increases beyond the amount required to meet the basic needs of food, accommodation, and health (and the needs of one's dependents) may reduce dissatisfaction, but will not improve motivation on the job. This seems to be borne out by the evidence, as, in relatively richer countries, further pay increases do not seem to motivate teachers.

In South Asia, for example, teaching is a relatively well-paid job, and competition for teaching posts can be quite intense. However, many teachers invest very little professional energy into public schools (Bennell and Akyeampong, 2007). In Egypt, Abd-El-Fattah (2010) found that a pay-increase schema for primary teachers did not have a significant effect on job satisfaction. In Brazil, Delannoy and Sedlacek (2001) noted that across-the-board salary increases were ineffective in increasing teacher performance. Michaelowa (2002) analysed data from teachers in Francophone Africa – who are relatively well paid compared to their colleagues in most other African countries – and concluded that salary variables showed no noticeable impact on teacher job satisfaction.

In conclusion, the limited evidence available suggests that raising teacher pay has a positive effect in those countries where pay is initially too low to meet basic needs, in that it reduces dissatisfaction and demotivation. Raising pay in countries which pay teachers better does not seem to increase job satisfaction or motivation. Of course, dissatisfaction is not the result solely of lack of money; there are other areas of dissatisfaction that affect teachers' motivation.

Working conditions

Workloads and class sizes have increased significantly in many countries as a direct result of universal primary education policy, as the recruitment of teachers has not kept up with the increasing numbers of children attending school. From their 12 case studies of teacher motivation, Bennell and Akyeampong (2007) report that:

> increasing hours of work, larger class sizes, more subjects, and constantly changing curricula are cited as major de-motivators in many countries. What is expected from teachers (the 'social contract') is not pitched at a realistic level in many countries given material rewards, workloads, and work and living environments. Large class sizes and heavy workloads in relation to pay (the effort-price of work) also make teachers resistant to the introduction of new teaching methodologies and other innovations (12).

Large class sizes also caused dissatisfaction among teachers in Ghana, as reported by Salifu (2014), and in Malawi and Papua New Guinea (VSO, 2002). Another problem mentioned often by teachers in both of these reports was the lack of teaching and learning resources,

such as textbooks. However, VSO lists a number of factors not often mentioned as sources of dissatisfaction or satisfaction by way of contrast: well-constructed classrooms, furniture, teacher resource centres, libraries, uniforms, and sports equipment. VSO also includes class size on their list, although, as noted above, this is a source of dissatisfaction for teachers elsewhere.

Lack of teacher responsibility/autonomy

A number of studies into causes of teacher dissatisfaction report complaints relating to a lack of autonomy and involvement in decision-making. Salifu (2014) focused specifically on what teachers perceived as de-motivators in their professional practice in Ghana, and found abuse of authority by some principals, non-responsiveness to teachers' needs, and lack of teacher involvement in decision-making to be among the factors participants perceived as de-motivators in their professional practice.

Teachers in Malawi, Papua New Guinea, and Zambia were similarly concerned by poor teacher management and insufficient involvement of teachers' representatives in policy-making (VSO). Similarly, one of the main complaints made by teachers in Cyprus, reported by Zembylas and Papanastasiou (2006), who describe Cyprus as essentially a developing country, concerns their lack of professional autonomy. One teacher complained that 'The educational system is so centralized and conservative that a teacher does not have any power to change anything. Even if inspectors and ministry officials ask for our suggestions they never implement those' (Zembylas and Papanastasiou, 2006: 241).

This finding is consistent with the results presented in the OECD 2013 TALIS report: 'teachers who report that they are provided with opportunities to participate in decision making at a school level have higher reported levels of job satisfaction in all TALIS countries (…). The relationship between job satisfaction and teacher participation in school decision making is particularly strong for all countries.' (TALIS, 2013: 182)

Occupational status

An important factor contributing to poor teacher motivation in all of Bennell and Akyeampong's (2007) country case study reports

is the low and declining status of the primary school teacher. The general understanding of teachers and stakeholders across the African and South Asian countries was that teaching was an undervalued profession, partly due to the increasing numbers of under-qualified teachers employed, which is changing perceptions of the selectivity of the job.

Teachers interviewed for the VSO (2002) case study gave an additional cause for low teacher status. The lack of career progression opportunities for teachers who wish to remain in the classroom means that those who do progress move into administrative roles, which leaves those still teaching feeling their status and recognition is limited. Changes to career structure could have an impact on occupational status if teachers required certification, or were able to progress to different roles or levels based on evaluations, for example.

Lack of career development opportunities

The single salary schedule is not only a problem for policy-makers. In all the surveys hitherto reported, teachers cite a lack of career development opportunities as a cause of dissatisfaction.

Teachers in Ghana complain of promotions based on long service (Salifu, 2014), while teachers in Cyprus cite poor teacher evaluation and promotion prospects (Zembylas and Papanastasiou, 2006). Teachers in Malawi, Papua New Guinea, and Zambia, highlight the problem of insufficient upgrading opportunities, and show a 'real hunger for promotion' (VSO, 2002: 29). Bennell and Akyeampong (2007) report that, in most of their 12 case studies countries, 'being able to upgrade one's qualifications is a critically important incentive since it is the only way to improve significantly incomes' (41) and 'despite some improvement in recent years, teacher respondents at the survey schools are generally very unhappy with the available opportunities for qualification upgrading' (41).

As the only route to promotion in many countries is through improved qualifications, the prohibitive costs of these qualifications in some of these countries (VSO, 2002) is a barrier to teachers bettering themselves.

Conclusion

Increasing pay across the board seems to have stemmed plummeting motivation in some countries, yet in other countries it has made no difference to reported job satisfaction. This seemingly contradictory result could be explained by Herzberg's (1968) dual-factor theory, which says that an improvement in 'hygiene' factors such as pay can reduce dissatisfaction, but cannot contribute to genuine satisfaction or motivation. As the countries in which increasing pay across the board had the most effect (Kenya, Nigeria, and Zambia) had lower initial salaries than those in which it had no effect (Brazil and Egypt), it could also be said that, in the former countries, the increase in salary allowed for the meeting of basic needs (the lowest rung on Maslow's hierarchy of needs), while, in the latter, basic needs were already met and an increase in pay did not help meet the remaining 'higher-order' needs of achievement or self-esteem, and hence did not lead to increased satisfaction.

There is no empirical evidence that basic needs have to be met before teachers can be satisfied or motivated by higher-order factors, such as the need for achievement, responsibility, and personal growth, though, based on their case studies, Bennell and Akyeampong (2007) suggest that this may be the case. The dissatisfaction among teachers with current possibilities for promotion might call this into question, as this could be understood as a need for achievement, responsibility, and personal growth. However, teachers could also be motivated by promotion purely as a way to improve their financial situation. Nevertheless, some of the teachers' complaints – loss of status, lack of career progression, and lack of responsibility – could potentially be addressed by changes to career structure.

The chapter began by outlining the relationship between motivation and satisfaction. This section has examined the effects of increased pay on job satisfaction, but has not considered pay or other conditions as incentives. The following section examines this point and explores different types of motivation.

Theories of motivation

As explained in the previous section, there is more to motivation than the removal of dissatisfaction. Herzberg (1968) claimed that

only things which satisfied higher-order needs (what he termed 'motivators') could motivate people beyond this point. But he also acknowledged that another way of getting employees to do things was to use incentives, though he preferred not to term this 'motivation'. Herzberg derogatively described incentives such as material rewards and punishments as KITA (kick in the ass) factors (Herzberg, 1968), and believed they were ineffective in truly motivating employees, based on his own research into job satisfaction.

Cognitive evaluation theory

Deci and Ryan's (1985) cognitive evaluation theory (CET) has some similarities to Herzberg's (1968) theory in this respect, but focuses entirely on motivation, rather than satisfaction and dissatisfaction, and uses different terminology. The theory similarly distinguishes between different types of motivation based on the different goals and reasons that give rise to an action. The most fundamental distinction is between intrinsic and extrinsic motivation, which corresponds to the distinction between Herzberg's 'motivator' factors and KITA factors. According to Deci and Ryan, intrinsic motivation refers to doing something because it is inherently interesting or enjoyable, whereas extrinsic motivation refers to doing something because it leads to a separable outcome, such as a reward.

Early theories on intrinsic and extrinsic motivation (e.g. Porter and Lawler, 1968) suggested that intrinsic and extrinsic motivation were additive, and suggested structuring the work environment to lead to intrinsic satisfaction as well as external rewards. However, research by Deci (1971) found that tangible extrinsic rewards could actually decrease intrinsic motivation rather than adding to it, a result known as the 'undermining effect'. While the promise of rewards increased motivation for a short period, when the rewards stopped, people were less intrinsically motivated to perform the task than they were before rewards were offered (Deci, 1971). This mattered, because the type of motivation which leads to an action has an effect on the quality and performance of that action, and early research suggested that intrinsic motivation was more associated with creativity, cognitive flexibility, and problem-solving (Amabile, Goldfarb, and Brackfield, 1990; McGraw, 1978) than extrinsic motivation.

The 'undermining effect' was hugely controversial at the time, as the implication was that external rewards and incentives, which were a common method of motivating employees, were actually detrimental to employee motivation. As a result of this controversy, many more studies were carried out on the topic, and, eventually, Deci, Koestner, and Ryan (1999) carried out a meta-analysis of 128 laboratory studies, confirming that tangible rewards significantly undermined intrinsic motivation.

Table 2. Deci and Ryan's original theory (1985): Cognitive evaluation theory

Type of motivation	Definition	Associated with
Intrinsic motivation	Acting because the action is inherently interesting or enjoyable.	Creativity, problem solving, cognitive flexibility, persistence.
Extrinsic motivation	Acting because the action leads to a separate desirable outcome, such as a reward.	Initial increase in frequency of action, but leads to decrease in intrinsic motivation.

If the matter were to be left here, it would seem that the implication for teacher careers is that extrinsic rewards should never be used to motivate teachers, due to their detrimental effect on intrinsic motivation and, consequently, on creativity, cognitive flexibility, and problem-solving, which are essential for teaching. However, two further findings, both involving Deci, who discovered the 'undermining effect', add nuance to this debate. First, Deci, Koestner, and Ryan's (1999) meta-analysis showed that there were limiting conditions to the undermining effect: when rewards were given independently of specific task engagement (as might be the case with a salary as opposed to a bonus) or when rewards were not anticipated (such as with unexpected bonuses), they did not undermine intrinsic motivation. This hinged on the extent to which rewards were seen as controlling behaviour rather than affirming competence, since the latter did not undermine intrinsic motivation, but could even increase it. Second, Ryan and Deci (2000) have continued to carry out research into intrinsic and extrinsic motivation, and have subsequently further developed their theory to the extent that they have given it another name.

Self-determination theory

Although extrinsic motivation was initially found to be a 'pale and impoverished' form of motivation compared to intrinsic motivation, Ryan and Deci (2000) have refined the theory over several decades of research, and have more recently posited that there are different types of extrinsic motivation, some of which are indeed 'impoverished' forms of motivation, but some of which represent 'active, agentic states'. The difference between these types of extrinsic motivation depends on the extent to which the individual feels the 'locus of control' is internal, in other words, whether they feel they are autonomously choosing that action. For example, a student who does her homework in order to gain rewards from her parents is extrinsically motivated, as is a student who does her homework because she knows it will help with her grades, and, subsequently, her preferred career as a doctor. Both are extrinsically motivated as neither is performing the activity because they enjoy it in itself. However, the first student is complying with her parents' requests in order to obtain a reward, whereas the second student has made the choice herself, thereby making a more autonomous decision. The reason the second student has made the choice herself is that she has internalized certain values (desiring a career as a doctor) and behavioural regulations (I need to do my homework to get good grades).

Ryan and Deci (2000) describe a taxonomy of motivation based on the degree of autonomy of actions, ranging from amotivation (no motivation), through different types of extrinsic motivation in which the goals are more or less internalized, to intrinsic motivation.

External regulation is the type of extrinsic motivation previously described where a person only carries out an action for a reward (I plan my lessons because I get paid to). Introjection is a more self-determined type of extrinsic motivation, which stems from a desire to be approved of by yourself or others (I plan my lessons because that's what teachers are expected to do). Identification and internalization are the most autonomous types of extrinsic motivation where people recognize the value of (identification) or completely assimilate (internalization) the goals that their activity is contributing to (I plan my lessons because I care about the children's learning and that is part of my identity as a teacher).

Table 3. Ryan and Deci's (2000) updated theory: Self-determination theory

Type of motivation		Reason for action	Source of motivation
Intrinsic motivation		The action is inherently interesting or enjoyable.	Internal (autonomous)
Extrinsic motivation	Integration	The goals of action are the same as individual's goals.	Internal (autonomous)
	Identification	The individual consciously self-endorses goals of action.	Somewhat internal (somewhat autonomous)
	Introjection	Desire for approval from others.	Somewhat external (somewhat controlled)
	External regulation	Compliance with external rewards or punishments.	External (controlled)
Amotivation		Non-compliance	No motivation present

As extrinsic motivation is now understood to encompass different types of motivation with different effects on behaviour, Ryan and Deci (2000) now use new terminology to refer to the types of motivation at either end of the diagram. Motivations that are externally controlled are known as 'controlled motivation', while those motivations that come from an internal locus of control are known as 'autonomous motivation'.

Why does it matter what motivates people, as long as they carry out the required behaviours? Research in laboratory settings and field research in various organizations suggest that organizations which enhance their employees' intrinsic motivation and promote full internalization of extrinsic motivation will bring about various positive effects:

1. persistence and maintained behaviour change;
2. effective performance, particularly on tasks requiring creativity, cognitive flexibility, and conceptual understanding;
3. job satisfaction;

4. positive work-related attitudes;
5. organizational citizenship behaviours;
6. psychological adjustment and well-being (Gagné and Deci, 2005).

The key to enhancing intrinsic motivation and 'internalized' extrinsic motivation – which together can be termed 'autonomous motivation' – is creating conditions that allow for the fulfilment of three human needs: the need for competence, the need for autonomy, and the need for relatedness (Gagné and Deci, 2005). Self-determination theory would therefore predict that situations where teachers feel good at their jobs, in control of their careers, and involved in the school community are those in which they are most likely to internalize or identify with school goals, and therefore be motivated to work hard in pursuit of those goals. It would also predict that because these are human needs, teachers may be motivated to meet these needs by working to be good at their jobs, in control of their careers, and involved in the school community.

Motivation of teachers

Existing autonomous motivation

It certainly seems the case that, in developed contexts, many teachers have (or describe themselves as having) internalized the broader goals of the school, and are therefore motivated to pursue these goals. The OECD (McKenzie *et al.*, 2005) examined policy responses from 25 countries in the areas of attracting, developing, and retaining effective teachers, and found that:

> A strong conclusion from the work is that teachers are highly motivated by the intrinsic benefits of teaching – working with children and young people, helping them to develop, and making a contribution to society – and that system structures and school workplaces need to ensure that teachers are able to focus on these tasks (9).

An example of this type of motivation comes from Tin, Hean, and Leng (1996), who interviewed 27 highly motivated primary and secondary school teachers in Singapore to find out what made them that way, finding that:

> the relationship between teachers' motivation and students' academic performance deserves special attention. The data gathered in this study reveal that students' academic progress or achievement is the prime motivator. The teachers felt very satisfied and were encouraged to give more to their students when they saw progress in their work (4).

In VSO's (2002) surveys of Malawi, Papua New Guinea, and Zambia, teachers reported that their primary motivation for becoming a teacher in the first place was a desire to communicate with young people.

Does this autonomous motivation apply to teachers in poor contexts once they start teaching, and are they motivated to fulfil the 'higher-order' needs of competence, autonomy, and relatedness which lead to intrinsic motivation? Or are the working conditions and pay so unsatisfactory that they cannot be motivated by these higher needs until their basic needs are met? There is not one simple answer to this question, as conditions differ in each country, and individual teachers differ in their motivations. However, the limited evidence available suggests that many teachers in developing contexts are motivated to fulfil the needs for competence, autonomy, and relatedness, based on what they report themselves.

The need for competence

Research carried out by Keitheile and Mokubung (2005) for the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) found that opportunities for professional development were rated among the top concerns for teachers in many countries. Nearly 96 per cent of teachers in Botswana responded that opportunities for professional development were 'very important' (86). As professional development often does not lead to increased pay in developing countries in the absence of formal certification, this finding suggests that teachers are motivated to improve their own skills.

VSO (2002) findings in Malawi support the view that interest in professional development derives at least in part from a motivation to improve at teaching. Across all three countries surveyed, there was a very strong desire for opportunities for teacher development, and when Malawian teachers were asked their reasons for this, they

responded that they had not received sufficient preparation or training to implement the new curriculum (rather than citing opportunities for pay or promotion). The Inter-Agency Network for Education in Emergencies' guidance notes on teacher compensation in fragile states (INEE, 2008) similarly concluded that professional development was an important motivator across states.

The INEE study found student success to be a common motivating factor across countries. As students improve or change their behaviours, even gradually, teachers are motivated to continue the process and a 'success cycle' is established, benefiting both students and teachers. In such situations, the need for competence is met, and the fulfilment of this need overlaps with the goal of education, that is, to enable students to be successful in their learning. In the VSO (2002) countries too, the good performance of pupils was cited as a source of positive teacher motivation, and, for female teachers in particular, student achievement appeared to affect their self-worth.

However, teachers do not always care about student learning, and are not always motivated to be competent at their jobs. In South Asia, for example, where there are few repercussions for poor teaching, Devcota (2005) says of Nepal that 'primary school teachers at government schools seem to care little about the effect of their performance on student achievement … Whether they teach or not, they are paid' (Devcota, 2005: 13). The challenge of any teacher career structure is to motivate these teachers to put in more effort, without undermining the autonomous motivation of teachers who already do.

The need for autonomy

As noted in the previous section, a common cause of dissatisfaction among teachers is lack of teacher involvement in school-level decision-making (VSO, 2002; Salifu, 2014) and lack of professional autonomy (Zembylas and Papanastasiou, 2006), indicating that teachers do value and would like to have more autonomy. In all three case studies carried out by the VSO(2002), teachers reported the educational authorities' disregard for teachers' views and voices as a source of dissatisfaction.

This perceived lack of autonomy occurs at school level, where teachers are unable to influence decisions. Teachers in developing contexts actually do have a significant degree of autonomy over how they teach in their own classrooms, as most countries do not have

regular or meaningful teacher evaluation. This autonomy allows for situations such as that in Nepal, described above, where some teachers care little about their performance and poor teaching goes unchallenged. A key challenge in the design of any teacher appraisal system or career structure is how to encourage teachers to improve their teaching without making them feel controlled or lacking in autonomy. An innovative example of this is the small grants programme in Guinea, where teachers bid for grants to fund professional development needs that they themselves identify (Dembele and Schwille, 2006). Teachers formed themselves into teams, including experienced and novice teachers, and were visited by trained ministry personnel who provided regular school-based support for the professional development activities.

The need for relatedness

The need for relatedness is the need to feel connected to others, and is satisfied when people develop close and intimate relationships. In the case of teachers, this could be with students, colleagues, or the community.

Three studies carried out by Klassen, Perry, and Frenzel (2012) on 1,049 teachers in the United States suggested that, for teachers, satisfaction of the need for relatedness with students leads to higher levels of engagement and positive emotions, and lower levels of negative emotions, than does satisfaction of the need for relatedness with peers. In fact, the TALIS 2013 results show that relationships between teachers and students are very strongly related to teachers' job satisfaction. Similarly, relationships and collaboration with peers also appear to be an important motivating aspect as 'teachers who report participating in collaborative professional learning five times a year or more also report significantly enhanced levels of self-efficacy in almost all countries and higher job satisfaction in two-thirds of the countries'. (TALIS, 2013: 182). It is worth keeping this factor in mind as some reforms designed to improve teacher motivation can lead to competition and discord among staff (Murnane and Cohen, 1986; Martins, 2009).

Interviews and focus groups carried out by VSO (2002) suggested that teachers derive a sense of worth and value from their status in, and contribution to, the communities around them and

society at large. However, teachers in all three of the countries studied (Malawi, Papua New Guinea, and Zambia) felt that communities did not value them as they had done in the past, for the reasons discussed in *Chapter 1*. Bennell and Akyeampong (2007) note that teachers who work at schools in their home areas tend to have higher levels of job satisfaction than colleagues who are posted to the locality. They suggest that this is because local teachers are more likely to have extended social and family networks, know the community, and be more committed to promoting education and development activities in the area.

The effect of types of motivation on student outcomes

This theory and research would be of limited relevance if autonomous and controlled motivation both had the same effects on teachers' behaviour and student outcomes. There is, however, some research that suggests that autonomous motivation (often still referred to as intrinsic in the literature) leads to more positive teacher behaviours and more positive effects on student behaviours, compared to controlled motivation.

Roth and colleagues (Roth *et al.*, 2007) found that teachers who were autonomously motivated to teach reported a greater sense of personal achievement and reduced emotional exhaustion. In addition to improving teacher well-being, cross-cultural research in five European countries suggests that having autonomous motivation is associated with a student-centred teaching style, whereas non-autonomous motivation is associated with a more teacher-centred style (Hein *et al.*, 2012). Lam and colleagues (Lam, Cheng, and Choy, 2010) similarly found that school environments which support competence, autonomy, and collegial support (which suggest autonomous motivation) predict teacher motivation towards innovative teaching.

This change of teaching style is likely to affect students' learning. In addition, intrinsically motivated teachers are more likely than extrinsically motivated teachers to support students' own autonomy in learning, which leads to increased intrinsic motivation among students (Pelletier, Séguin-Lévesque, and Legault, 2002; Reeve, Bolt, and Cai, 1999; Roth *et al.*, 2007).

Finally, autonomous motivation is important for engagement and follow-up in teacher training, particularly when it comes to learning about innovations in teaching (Gorozidis and Papaioannou, 2014; Van Eekelen, Vermunt, and Boshuizen, 2006). It is no surprise that autonomous motivation to learn something leads to better learning and performance, greater creativity, and greater persistence in the face of difficulty than being externally motivated to learn (Gagné and Deci, 2005), as in the earlier example of girls doing their homework for different reasons. The same applies to teachers' learning (Shulman and Shulman, 2004).

Individual differences

Of course, the factors which motivate individual teachers may vary between countries, within countries, and among different types of teachers. Some of the differences in teacher motivation between countries have been discussed above, although current data are insufficient to draw any firm conclusions. Within countries, teacher motivation depends on the school context (Lam *et al.*, 2010) and may also depend on the role of the teacher. For example, volunteer or contract teachers may be motivated to become qualified teachers, whereas qualified teachers are more likely to be motivated by money and/or altruism (INEE, 2008).

In their self-determination theory, Deci and Ryan (1985) argue that, even in the same situation, people have tendencies to be motivated in different ways. They describe 'autonomy-oriented' people, who are more likely to see themselves as being in control of their situation, and therefore more likely to be autonomously motivated, and contrast them with 'control-oriented people', who tend to experience social contexts as controlling and, therefore, be driven by 'controlled' motivation. Motivation therefore depends on both the environment (and the extent to which it supports competence, autonomy, and relatedness) and individual traits.

Some parallels might be drawn between these traits and Jessop and Penny's (1998) 'frames of understanding', based on an analysis of the perceptions of primary school teachers in the Gambia and South Africa. They found that some teachers were more likely to lean towards understanding teaching as a technical process, and be more concerned about extrinsic incentives, while others tended to see education as a

moral activity and were motivated mainly by a nurturing relationship with the pupils. The former 'frame of understanding' they called 'instrumental'; the latter 'relational'.

Conclusion

In surveys of teacher motivation in developing countries, teachers rate opportunities for professional development as among their top concerns. At least some of them do so from a desire to develop their talents and become better at their job rather than just to earn more money. Teachers are also motivated by student learning, with many joining the profession because of a desire to work with young people. However, as recounted in the previous chapter, many teachers are demotivated, and a lack of accountability means that this demotivation can lead to a lack of effort. It remains unclear from the research whether teachers can be autonomously motivated by having needs for competence, autonomy, and relatedness fulfilled, without first having their basic living needs met. If autonomous motivation is achievable, despite poor living conditions, states with financial constraints could take steps towards better motivating teachers without having to invest heavily in salaries. If not, no change to career structure will help improve the situation until salaries have risen to meet basic needs. This is an area that would benefit from further research.

It is important for teachers' well-being, persistence, job satisfaction, and quality of teaching (problem solving and creativity) that they are, as far as possible, autonomously motivated rather than motivated by extrinsic incentives. This would suggest that careers for teachers should be structured in a way that allows teachers to work towards competence, to have autonomy over the direction of their careers, and to work in an environment of relatedness where they work with and are supported by their colleagues. The latter, for example, would not be supported by a career structure that put teachers in direct competition with one another, but by one in which teachers shared resources and where mentoring was the norm. Research by Deci, Koestner, and Ryan (1999) also suggests that introducing extrinsic incentives, such as performance-related pay, might undermine whatever autonomous motivation that teachers already have.

However, research into individual differences (and common sense) suggests that some teachers will never be autonomously

motivated, particularly where teaching is a career of last resort. Consequently, a well-designed teacher career structure would encourage autonomous motivation where possible, but incorporate extrinsic incentives in such a way that they motivated the remaining 'control-orientated' teachers without undermining the autonomous motivation of everyone else. A balance needs to be struck between encouraging autonomous motivation in teachers, and holding them accountable for the quality of their teaching. A range of programmes have been implemented in different countries to improve the motivation of teachers. Some strike this balance, while others do not. The following chapters review different types of career organization, and, where data are available, their success.

The psychology of motivation also has implications for recruitment into teaching. Herzberg's research suggested that people are motivated by higher-order needs such as the need for responsibility, personal growth, and recognition. At the moment, the career structure in countries with a single salary structure does not suggest to potential recruits that they would have these needs fulfilled. A career structure with required improvement accompanied by recognition, possibly through several career stages, might improve the appeal of the profession.

The next chapter considers approaches that attempt to motivate teachers using extrinsic incentives for particular behaviours.

Chapter 3
Approaches using incentives

External incentives for teacher input

In order to overcome common problems in the areas of teacher recruitment, attraction to hard-to-staff areas, and teacher attendance, some states and researchers have implemented programmes designed to reward teachers for specific behaviours, such as working in rural areas, gaining qualifications, and becoming a teacher in the first place.

Incentives to become a teacher

A few countries offer to pay for teaching degrees in order to encourage more students to become teachers. This is the approach taken in Victoria, Australia, but it is limited to the extent that a substantial number of students take the degree without subsequently becoming teachers (Sclafani, 2009). Other countries such as Chile, and states such as Mississippi, Oklahoma, and the sovereign state of Singapore have overcome this problem by requiring graduates who have taken advantage of free or reduced tuition to teach for a certain number of years. If graduates choose not to teach, they are typically required to pay back the cost of the tuition.

Incentives to work in rural areas

According to Bennell (2004), 'The low proportion of qualified and experienced teachers working in rural schools is one of the most serious problems preventing the attainment of EFA with reasonable learning outcomes in most LIDCs' (16). This was also the conclusion of Bennell and Akyeampong's (2007) case studies: all of their case study regions cited 'better incentives for rural teachers' as a top priority for addressing teachers' poor motivation. Teachers are reluctant to teach in rural areas, in part because of the living conditions. In Ghana for example, rural areas typically lack paved roads, electricity facilities, clean drinking water, health care facilities, decent accommodation, and food for purchase (Cobbold, 2006).

Most countries pay various kinds of allowances to teachers working in rural locations, but in some countries, such as Nigeria, these incentives exist on paper only, as the money is rarely paid (Adelabu, 2005). In Kenya, the hardship allowance of an additional 20 per cent of teachers' salary does not begin to make up for the difficulties faced in these regions (Hyde, Muito, and Muito, 2005). In Bolivia, teachers are also paid an additional 20 per cent for working in inaccessible areas, but, despite this, rural teachers are twice as likely as urban teachers to lack full teacher preparation (Vegas, 2005).

Incentives to attend school

Programmes that incentivize teachers to attend school have been designed and trialled by researchers and NGOs, rather than instigated by states at national level. However, evidence of their success is mixed.

Kremer, Glewwe, Chen, and Moulin (2001, reported in Bruns *et al.*, 2011) evaluated an intervention programme in Kenyan pre-schools which rewarded teachers with as much as 85 per cent of their salary as a bonus, based on attendance. However, they found that the programme had no effect on teacher attendance, test scores, or pedagogy. Head teachers were given the task of awarding bonuses based on teacher attendance, but the evaluation found that they regularly paid the whole bonus to teachers, even though absence rates did not decline.

Conversely, Duflo, Hanna, and Ryan (2007, reported in Bruns *et al.*, 2011) evaluated a programme in Rajasthan (India), that left the attendance monitoring to cameras with tamper-proof time and date functions, monitored by distant NGO workers. The teachers' salaries were a function of their attendance. They received a bonus for each day they attended above the required minimum of 20 days a month, and were fined for each day they failed to attend below this minimum. As a result, teacher absence decreased by half and student scores improved compared to scores in control schools.

Incentivizing qualifications

The main issue with incentivizing qualifications for teachers was outlined in *Chapter 1*, as a key problem with the single salary schedule. Qualifications do not always lead to improved performance, so incentivizing teachers to pursue them by rewarding qualifications

with higher salaries can be an ineffective use of scarce funds. However, this is not necessarily the case, as it depends on the quality of the qualification, and whether passing it involves a suitable evaluation that can be failed.

Many governments, including in England and Wales, the Republic of Korea, Israel, Switzerland, Northern Ireland, and parts of the United States of America, require the completion of professional development courses for re-certification[10] or promotion (processes discussed below) (OECD, 2013). In Ontario (Canada), teachers can take additional qualifications in order to move to a higher 'certification rating statement', on which their salary is based. These qualifications only count if they come from a provider accredited by the Ontario College of Teachers, which has strict guidelines for how the courses must be run, based on evidence of what constitutes effective professional development.

Since qualifications do not always lead to better teacher performance and student outcomes, some states and countries have attempted to improve teacher performance by offering bonuses based on student results.

External incentives for teacher output – payment by results

The most common type of reform implemented with the intention of improving teacher motivation is often referred to as 'merit pay' or 'performance-related pay' (PRP). These terms have been used to describe a wide range of approaches, including any programme in which evaluation can affect pay, however indirectly. For the purposes of clarity, in this review 'performance-related pay' refers to programmes that award teachers one-off financial rewards for desired performance, either as measured by student grades in standardized tests, or by broader teacher evaluation. 'Payment by results' (PBR) is used to describe programmes that base bonuses on student results only. Most PBR reforms have been implemented in developed countries, and, in particular, in the United States. However, the evidence base supporting this kind of reform is mixed, with only some reforms having an effect on student results, and those that do having questionable effects on

10. Re-certification is a process whereby teachers have to undergo an evaluation to verify that they are still working at the standard required to be a certified teacher.

teacher behaviour. This section begins with reviews of research into PRP across the public sector, before reviewing the research into PRP for teachers.

Performance-related pay across the public sector

As this is an area of great interest and some controversy, a number of empirical reviews have been carried out into the effectiveness of 'performance by results' programmes across the public sector.

As far back as 1986, Perry reviewed the research on contingent pay for public managers and failed to find a single study that showed positive effects of the approach. The National Research Council was commissioned by the US government to review research on pay for performance in both public and private sectors, and concluded overall that there was a gap between the promise and the reality of pay-for-performance programmes (Milkovich and Wigdor, 1991). Individual incentive programmes could motivate employees, the researchers found, but they were most likely to succeed for simple, structured jobs in contexts where fair performance goals could be set.

In 1993, Kellough and Lu carried out a major synthetic review of 14 empirical studies of merit pay, covering public sector managers, public school administrators, and local government employees. They concluded: 'Generally, merit pay systems have had little positive impact on employee and organization performance' (48). More recently, Perry (2009) and colleagues developed a comprehensive database of research on PRP including 57 studies, to see whether research carried out post-1993 showed more promising effects of these types of reforms. They concluded, in line with research prior to 1993, that PRP in the public sector 'consistently fails to deliver on its promise' (Perry, Engbers, and Jun, 2009: 7).

Payment by results for teachers

Other research has investigated the effects of payment by results with a specific focus on teachers. The most up-to-date and thorough research, evaluating US programmes which give teachers bonuses based on student results, is being carried out by the National Centre on Performance Incentives (NCPI). The centre evaluates programmes that financially reward individual teachers or groups of teachers, and

consistently finds little or no difference between the scores of students in those schools that implement PBR and those that do not.

For example, a three-year long pilot in Nashville offered large bonuses (up to 400 per cent of a monthly wage) to individual maths teachers on the basis of student test scores. At the end of the trial, they found no difference between the scores of students whose teachers were eligible for the bonus and those in control schools that were not (Springer *et al.*, 2010). The authors of another of the NCPI's reports on a PBR programme (this time rewarding groups of teachers) suggest that the project may have failed for similar reasons:

> The financial awards were an add-on to standard pay, performance was measured separately from the districts' standard evaluations of teachers (except in one of the programs evaluated), and there was no professional development specifically connected to these programs (Springer *et al.*, 2012: 21).

Yuan and colleagues (Yuan *et al.*, 2013) examined teacher surveys from three of the NCPI evaluated studies, and concluded that most teachers involved did not find the incentive programmes motivating, nor did it affect their instruction, stress level, or the number of hours they worked.

Conversely, an evaluation of an individual teacher bonus programme by Lavy (2004) in Israel found that the test scores of students with teachers taking part in the programme increased, compared to the control group. In this programme, teachers were ranked according to the value-added scores[11] of their students, and the top-performing teachers were awarded with large bonuses: up to 30 per cent of a teacher's base salary. Lavy investigated the behaviour of the teachers by carrying out a telephone survey with the teachers themselves. Teachers in the programme reported spending more time on student instruction out of school hours and running after-school classes, and were more likely to track their students by ability. Participating English teachers were more likely to focus their efforts on weaker students than non-participating English teachers, while maths teachers were more likely to focus on average and strong students.

11. Value-added is a measure that takes into account the students' previous scores, and calculates the impact the teacher has had on their final scores, relative to the initial scores.

Only one 'payment by results' programme for individual teachers in developing contexts has been implemented and evaluated, though this is the case for other programmes that reward whole schools (e.g. Glewwe, Ilias, and Kremer, 2003). Muralidharan and Sundararaman (2009) evaluated a programme involving 100 schools in Andhra Pradesh, where bonuses were given to any teacher who raised the average maths and language test scores of their class by 5 per cent or more, compared to a baseline. Any further improvement on this was rewarded incrementally, with the average bonus being 35 per cent of a teacher's monthly salary. Scores increased significantly in schools which operated the programme, compared to control schools. However, investigations into teachers' behaviour change produced mixed results. The researchers assessed changes through classroom observations and teacher interviews, but found that while teachers reported having given more homework and classwork, extra classes, practice tests, and more attention to weaker children, the classroom observations reported no difference in these areas. The authors suggested that this was because many of the behaviours took place outside of class time.

Glewwe, Holla, and Kremer (2009) suggest that there are two types of effort teachers can exert: 'genuine teaching effort' which promotes long-term learning, and 'signalling effort' which improves scores in the short term but has little effect on long-term learning. It is not too great a stretch to marry these different types of effort to the concepts of autonomous and controlled motivation from the psychological literature (Gagné and Deci, 2005). Glewwe, Holla, and Kremer suggest there are three ways to distinguish between these two types of effort in evaluations of incentive programmes. First, direct observation of teacher behaviour can provide clues, as some activities, such as greater teacher attendance and changing teaching styles, are more likely to lead to long-term learning, whereas others, such as extra exam preparation, suggest 'signalling' behaviour. Second, the length of time the effects on learning last once a programme has ended provides a clue as to the kind of effort made previously by teachers. Third, the ways in which test scores increase can offer an indication: if subjects that are easier to memorize or test types which are easier to 'game' increase more than others, it suggests signalling effort; similarly if only the subjects directly involved in the incentive programme improve, this too suggests signalling effort.

Evidence of changes in teacher behaviour in the Andhra Pradesh programme is muddied by the contrasting findings of observations and self-reporting interviews. Muralidharan and Sundararaman (2009) suggest that the observers may have missed changes in the teachers' behaviour on their visits, as they found that the students of teachers who reported giving extra classes, extra classwork, and practice tests had higher test scores. Glewwe, Holla, and Kremer (2009), however, urge caution. In a similar evaluation of PRP for groups of teachers in Kenya (2003), they found that teachers in the programme schools reported giving more homework, but that interviews with students suggested an increase in preparation sessions but no additional homework. More preparation classes and more practise tests, if they did take place as reported by the teachers, are indicators of a 'signalling approach' to effort. Lavy's (2004) report of behaviour changes among teachers in Israel must also be interpreted cautiously given the possibility of teachers exaggerating their behaviour changes.

The results of the Andhra Pradesh programme on long-term learning were not followed up, so it is not possible to ascertain whether the programme led to a permanent increase in learning or just a short-term gain. Scores in subjects not involved in the programme did increase (but to a lesser degree), which could mean that there was a positive spill-over effect from maths and language (Muralidharan and Sundararaman, 2009), or that students had improved their exam technique, with an impact on all subjects.

Criticisms of payment-by-results programmes

Although 29 states in America had initiated some sort of merit pay programme by 1986, most were diluted or discontinued over the course of the next 20 years (Dee and Keys, 2005). It would appear that there are problems inherent in this approach, a number of which have been raised in the literature on performance-related pay for teachers (Clotfelter *et al.*, 2008; Cullen and Reback, 2006; Deere and Strayer, 2001; Figlio and Getzler, 2002; Glewwe *et al.*, 2009; Jacob, 2002; Koretz, 2002; Murnane and Cohen, 1986; Podgursky and Springer, 2007).

The most obvious criticism of payment or bonuses based on student results is that teachers with less able students are disadvantaged, as the relatively low scores of these students preclude

teachers from receiving rewards for any improvements they have brought about. Most systems have attempted to avoid this problem by linking pay to improvement in scores rather than absolute scores, and through measures that purport to take into account background characteristics that might make students harder to teach (Podgursky and Springer, 2007). Nevertheless, this approach does not always take sufficient account of the relative difficulties encountered in improving some students' results. Since the introduction of a school-level bonus programme in North Carolina, there has been an increase in teachers transferring out of schools that serve disadvantaged students (Clotfelter *et al.*, 2008). There are concerns too about the statistical reliability and robustness of these value-added estimates (Podgursky and Springer, 2007).

Student scores are also affected by multiple additional factors, which are difficult to control for. Home environment, parenting, and individual student characteristics all have an effect on test scores, and remain out of the control of teachers. For individual performance-related pay, another difficulty is that students often have more than one teacher across different subjects, which can influence how they perform in other subjects (through personal motivation or improved English affecting history scores, for example). Finally, even if scores at the beginning of the year are taken into account, previous teachers may have an effect on children's performance (Koretz, 2002). All of these additional factors affect the validity of using student results as a measure of teacher performance.

Beyond the difficulties associated with using test scores as a measure of teacher quality or effort, performance-related pay has been criticized for its effects on teacher behaviour. Murnane and Cohen (1986) argue that performance-related pay is particularly damaging in the education sector, as it encourages competition among teachers, thereby disincentivizing cooperation and collaboration. Murnane and Cohen (1986) suggest that group-level bonuses may avoid this problem, but others (e.g. Prendergast, 1999) have criticized this approach, as it can lead to some teachers enjoying a 'free ride' and receiving bonuses based on the effort of others.

Another concern regarding teachers' behavioural response to PBR is the criticism alluded to above by Glewwe and colleagues (2009), who distinguished between different types of effort.

Otherwise known as 'multi-tasking' (Podgursky and Springer, 2007), this criticism of PBR concerns the fact that the desired outcomes of teachers' work are broader than merely increasing test results. When test results are used as the sole measure on which bonuses are based, teachers may shift their attention to improving this outcome to the detriment of other outcomes. This narrowing of focus can be seen in the practice of 'teaching to the test', where teachers focus excessively on practice exams or the content of specific tests, as suggested by the increase in after-school classes in PBR programmes in Kenya (Glewwe *et al.*, 2003), Israel (Lavy, 2004), and India (Muralidharan and Sundararaman, 2009). It can also incentivize teachers to cheat by altering test scores, helping the students during tests (Jacob and Levitt, 2003; Koretz *et al.*, 1996), and strategically excluding weaker students from taking tests (Deere and Strayer, 2001; Figlio and Getzler, 2002; Cullen and Reback, 2006).

More fundamentally, payment-by-results programmes rely solely on extrinsic incentives, which psychologists (and, more recently, economists, such as Bénabou and Tirole, 2003) believe encourages extrinsic or 'controlled' motivation, at the expense of intrinsic or 'autonomous' motivation. This is the case because such incentives typically treat teachers as workers who must be managed into producing particular outcomes for the organization, rather than as professionals who are willing partners in achieving organizational goals. The result of undermining this intrinsic or autonomous motivation in other fields has been a reduction in persistence, well-being, problem-solving, and creativity at work (Gagné and Deci, 2005). However, there is some nuance in the psychological theory – Ryan, Mims, and Koestner (1983) found that when rewards are contingent on high performance, they can be seen as affirmation of competence, which contributes to intrinsic motivation and so can offset some of the negative effects of feeling controlled. The balance between these two depends on the interpersonal relationships in that context: whether the teacher feels controlled in their daily work. Unfortunately, none of the performance-related pay programmes that have been evaluated look at their long-term effects on teacher motivation or behaviour, or examine their problem-solving or creativity in lessons, so it is not possible to establish whether this effect plays out with teachers.

Those PBR reforms which have led to an increase in student results have offered significant bonuses: an average of 35 per cent of base salary in the Indian programme (Muralidharan and Sundararaman, 2009) and 30 per cent in Israel (not that large bonuses are a guarantee of improvement as was shown in the case of Nashville's 400 per cent bonus offer). If staff can be motivated by the provision of an environment supporting autonomy, competence, and relatedness (as suggested by Ryan and Deci, 2000), this money can be spent in a way that does more than simply bring about an increase in teacher effort (whether this takes the form of signalling effort or genuine effort) and results in better teacher quality too, for example, by paying for high-quality professional development.

Bennell and Akyeampong (2007) make a distinction between 'will-do' and 'can-do' motivation. PBR initiatives seem, in some contexts, to have the effect of increasing teacher effort, but this may not lead to substantial improvement in student outcomes if the teacher does not know how to improve their teaching methods. In this context, they may possess the 'will do' attitude, but not the 'can do' capabilities.

PBR initiatives use only student results to judge how well a teacher is doing, and to decide how they should be paid. The next chapter outlines the possible use of broader measures of teacher performance, including programmes that continue to incentivize higher performance using bonuses, and programmes that move beyond the direct linking of pay with performance.

Chapter 4
Design of summative teacher appraisal

Methods of teacher appraisal

Some of the problems with payment-by-results programmes outlined in the last chapter concerned the use of student results as a proxy measure for teacher quality. Another problem concerned the potential lack of guidance in PBR programmes on how to improve teaching, leaving teachers willing but unable to better themselves. This chapter outlines approaches that overcome these problems by attempting to evaluate teaching quality directly, and by offering frameworks within which teachers can identify their development needs.

In addition to evaluation by student results, as discussed in *Chapter 3*, teachers can be evaluated through the use of lesson observations, interviews, tests, portfolios, peer or administrator judgement, and parent and pupil surveys.

Lesson observations

A common method of teacher evaluation is lesson observation. Senior teachers or external assessors observe a teacher's lesson, often with some rubric against which the lesson can be judged, and consider the strengths and weaknesses of the teaching. This is one of the most common methods of evaluation used across countries (OECD, 2013). Sometimes these observations are carried out by principals, and sometimes by external assessors, as is the case in Zurich where a specially trained team of school committee representatives assesses a teacher's suitability for promotion.

Teacher interviews

In most cases, teacher interviews are carried out by a member of the senior leadership team. As part of the appraisal process, the teacher may have previously carried out a self-evaluation and identified development goals. The discussion in the interview then centres around the progress the teacher has made towards meeting those goals. Teacher interviews form a part of the appraisal process in

Australia, Belgium, Canada, Chile, the Czech Republic, Finland, France, Germany, Ghana, Israel, Japan, Luxembourg, New Zealand, Singapore, the Slovak Republic, the United Kingdom, and the United States (OECD, 2013).

However, if teacher interviews are used as the sole method of teacher appraisal, or the criteria for success are not clear and transparent, this method can lead to staff distrust of the process. Under Australia's Advanced Skills Teacher (AST) scheme, decisions about promotion criteria were devolved to local authorities, which lacked the expertise or resources to develop appraisal standards and systems that were reliable. Ingvarson (2013) reports that promotion decisions were based on an interview by a panel including the school principal, a colleague, a local government representative, and a teacher from another school. As this was the sole method of appraisal, and evaluations of teaching were not considered, it was difficult for panels to grant AST status without seeming biased. As a result, they approved almost everyone who applied who was eligible, leading to a loss of credibility in the process and in AST status (Ingvarson, 2013).

Teacher tests

As part of Chile's Pedagogical Excellence Award, teachers have to take a written test to assess their pedagogical and subject knowledge (Vegas, 2005). This approach to teacher appraisal is more common in Latin American countries than elsewhere, although passing a test is a common requirement for entering the profession across the world. Brazil, Colombia, Equador, Mexico, and Peru use teacher tests for regular appraisal (Vegas, 2005), while Luxembourg, Slovenia, and Sweden use tests as part of their teacher probation or registration processes (OECD, 2005). In Japan, teachers have to take a pedagogical knowledge test in order to be considered for a principal position. As noted in *Chapter 1*, Wilson and colleagues (2002) concluded that there is a threshold level of subject matter knowledge necessary for good teaching, while Goldhaber (2007) found that some teacher licensure tests correlated with student achievement. However, this should not be the sole method for determining the quality of teachers, as Goldhaber (2007) also found that some less effective teachers did well on such tests, and some more effective teachers performed poorly.

Portfolios or reports

The second part of the evaluation for Chile's Pedagogical Excellence award consists of a teacher portfolio (Vegas, 2005). Portfolios are commonly used across countries for the purposes of evaluation, and can include lesson plans and teaching resources designed by the teacher, self-reported questionnaires, samples of students' work, sample commentaries on that work, and reflection sheets. The particular items in the portfolio will be selected based on the criteria a teacher is being evaluated against, for example, teacher standards for newly qualified teachers. Portfolios form a key part of the teacher appraisal process in Arizona (Driscoll, 2015).

One drawback of using portfolios for teacher evaluation purposes is that they can take a long time to compile. The OECD's *Teachers for the 21st Century* report suggests that systems should encourage teachers to design portfolios that make use of work already in the process of completion. One alternative, employed in Zurich, is to have teachers write a report on their pedagogical practices, which they submit to the review board as part of their evaluation (OECD, 2013).

Parent or student surveys

Parent and student surveys are rarely used systematically as part of teacher appraisal within OECD countries. There are a small number of exceptions, however. Mexico uses student surveys, while Canada, New Zealand, Poland, and Slovenia use parental surveys.

Jacob and Lefgren (2005) report that parents are more likely to rate highly teachers who promote student satisfaction, than they are those who simply generate high test scores. Including this dimension could, therefore, present an interesting addition to approaches that seek to capture a more holistic teacher output than high student scores. However, some parents have very little involvement with the school, a consideration which led Tekleselassie (2005) to question the validity of the use of parental surveys.

Approaches to summative teacher appraisal

As well as choosing which methods to use to evaluate teachers, designers of teacher accountability reforms[12] must also decide how to use the outputs of those individual methods to derive an overall outcome. Some countries use a cumulative approach, allocating points to the outcomes of different methods and other factors; others use the outputs of each method to reach an overall judgement about whether the teacher has met a set of specified standards. Another decision concerns the allocation of bonuses, salary increases, or promotions on the basis of appraisal, and whether to offer these rewards to every teacher that satisfies certain criteria, or to compare teachers with one another, and only offer these rewards to the best among them. These decisions may have an impact on the success of the reforms, as they have differential effects on teacher behaviours.

Cumulative appraisal

Mexico's Carrera Magisterial Programme is an example of a cumulative appraisal system that uses points (Vegas, 2005). Teachers can attain higher levels of pay on the basis of their total point score, which derives from their educational qualifications, their professional development, their years of experience, their students' performance, and peer review. A formula combines points from these areas to produce a total score of up to 100, with student performance accounting for one-fifth of the available points. Teachers receive a salary premium depending on their score.

Another cumulative system was introduced in Portugal in 2007 (Martins, 2009). In an effort to move away from the single salary schedule, the government introduced a reform whereby teachers could progress from one salary scale to a higher one on the basis of an appraisal. This appraisal comprised a number of factors, each weighted differently, including feedback from parents, the academic performance of students, teacher attendance, completion of professional development courses, fulfilment of managerial duties, and involvement in research practices.

12. Accountability reforms are those which hold teachers accountable in some way for the quality of their teaching.

One strength of this approach is that the overall outcome is objective and transparent, as it consists simply of adding up points (though it may still depend on individual subjective methods). There is therefore less risk of favouritism or corruption in the allocation of teacher bonuses, salaries, or promotion. However, the downside to using a cumulative approach is that teachers do not have to perform well in all desired areas to receive a good appraisal. For example, a teacher may be given a reasonable score in a peer evaluation, with the only criticism being their lack of attention to the weakest students in the class. The same teacher may also receive a reasonable score from a parent evaluation, highlighting the same area of weakness. These two reasonable scores, combined with the teacher's participation in professional development and the number of years spent teaching, may lead to promotion without any effort being made to address this area of weakness.

Another problem with this approach is that it encourages teachers to try to gain the highest point score in ways that may be incompatible with improved educational outcomes. For example, in the case of the Portuguese reform, student results actually deteriorated after its introduction. One reason given for this by Martins (2009), who evaluated the policy, was that teachers awarded higher internal marks to students than were fair, in order to increase their own point scores. This is an example of the 'signalling' behaviour identified by Glewwe and colleagues (2009), and suggests that teachers were motivated extrinsically rather than by a desire to improve their practice for the sake of their own development or the good of the students.

Holistic appraisal

A more common approach to determining appraisal outcomes involves taking a more holistic view of the appraisal process, with a principal, for example, considering all the evidence before deciding whether a teacher is good enough to receive a salary increase and be promoted. In Chicago, Jacob and Walsh (2011) found that evaluations by principals based on lesson observations constituted an accurate reflection of teacher quality and a good proxy for student performance. Additionally, the OECD found that 83 per cent of teachers in their

TALIS survey felt this kind of appraisal to be a fair assessment of their work (OECD, 2013). This approach is open to abuse, however, and depends hugely on the quality of the principal.

Some countries try to make principals' evaluations more reliable by training them in assessment procedures. Many others, though, take a more sophisticated approach, devising a framework or description of what is expected of teachers, against which teachers can be evaluated for the purposes of registration, professional development, pay, or promotion. Indeed, Dinham, Ingvarson, and Kleinhenz (2008) argue that it is essential to link appraisal systems to teaching standards in order for them to have a positive effect on the education system.

This is a common approach, with teachers in Australia, Belgium, Brazil, Canada, Chile, China, France, Germany (everywhere except Berlin), Israel, Japan, the Netherlands, New Zealand, Portugal (for classroom observations only), Slovak Republic, the United Kingdom (except Northern Ireland), and the United States all evaluated against national or regional teacher standards, sometimes in addition to school-level frameworks and personal development goals (OECD, 2013). In the Czech Republic and Hungary, teachers are assessed against internal school regulations, while in Estonia and Slovenia there are national regulations for promotion. In Finland, teachers are evaluated against the content and goals of the national curriculum and school-level goals. In the Republic of Korea, Luxembourg, Mexico, Poland, and Singapore they are assessed against a description of the general and professional duties of teachers (OECD, 2013).

Teacher standards in different countries vary in terms of their quality, and also in terms of their definition of good teaching, as this varies across different cultural contexts. Nevertheless, they do share key features, and most include standards that fall under the three domains of disciplinary knowledge, teaching practice, and teaching values (CEPPE, 2013). *Table 4* is taken from the Centre of Study for Policies and Practices in Education's review of teaching standards in 14 countries and regions.

Table 4. Contents considered and emphasized by teaching standards in different educational systems

	Au	Qn*	Vc *	BC	Ch	US NBTPS	US INSTAC	Cl	Tx	En	Mx *	NZ
Disciplinary knowledge												
- Knowledge and understanding of the subject (expressed in general terms)	x	x	x	x	x		x	x		x	x	x
- Knowledge and understanding of the subject (specified for each particular subject and stages of schooling)					x[a]	x			x			
Pedagogical practice												
- Know, value, and teach according to student characteristics (different cultures, past experience, educational needs, etc.)	x	x	x		x	x	x	x	x	x	x	x
- Understand and use knowledge about how students learn (theories of learning and development)	x	x	x	x	x[a]	x	x	x	x	x		x
- Hold high expectations about all students	x		x	x	x	x	x	x	x	x		x
- Know how to teach disciplinary content	x		x	x	x	x	x	x	x	x		x
- Develop higher order critical thinking and skills	x	x	x	x	x	x	x	x	x	x	x	x
- Plan, implement, and assess teaching and learning	x	x	x	x	x	x	x	x	x	x	x	x
- Create and sustain an environment that encourages learning	x	x	x	x	x	x	x	x	x	x	x	x
- Value the families' role in student learning and development	x	x	x	x	x	x	x	x	x			x
- Promote social values and ethics among students		x		x		x			x			
- Know how to use ICT for learning	x	x	x		x[a]	x	x	x	x	x		x
- Incorporate democratic values in classroom teaching practice						x						

	Au	Qn*	Vc *	BC	Ch	US NBTPS	US INSTAC	Cl	Tx	En	Mx *	NZ
Values and professional teaching practice												
- Be committed to students' learning and development			x	x	x[a]	x						
- Reflect on his or her teaching practice	x	x	x	x	x	x	x	x	x	x	x	x
- Know the rationale for and implementation of current educational policies				x					x			x
				x					x			x
- Commitment to professional learning (continuous learning)	x	x	x	x	x	x	x	x	x			x
- Contribute and be committed to the school community	x	x	x		x	x		x	x	x		x
- Contribute to the development of the teaching profession	x	x	x	x			x	x				
- Know and apply guidelines for ethical behaviour		x	x	x				x	x	x		x
- Be capable of performing administrative tasks (e.g. registration, etc.)	x		x						x			

Au=Australia, Qn=Queensland, Vc=Victoria Au, BC=British Colombia, Ch=Chile, US=United States, Cl=California, Tx=Texas, En=England, Mx=Mexico, NZ=New Zealand

NBPTS: National Board for Professional Teaching Standards
INSTAC: Interstate New Teacher Assessment and Support Consortium

Teacher standards also vary depending on whether they are general or specific. General teaching standards describe good teaching practices in terms that are supposed to apply to all teachers, without specifying what these might look like for different subjects and at different levels (e.g. primary and secondary). Specific teaching standards are more detailed and describe what good teaching entails for specific subjects, at specific grade levels, and at specific stages of a teacher's career (CEPPE, 2013). Examples of standards that differentiate between subjects and grade levels are found in Chile, Texas, and in those developed by the National Board for Professional Teaching Standards in the United States. Examples of standards that differentiate between career stages can be found in Australia. However, teaching standards that specify across all three dimensions (subject, grade level, and career stage) are rare. More often, national teaching standards are general, and are interpreted for teachers of different subjects and grades at a more local level. The CEPPE (2013) review suggests that one reason many countries have adopted generic rather than specific standards is that teachers with different approaches and strategies can achieve the same results. Teaching style should not, therefore, be over-prescribed.

Overall, the available evidence suggests that the most sensible approach to teacher evaluation is to use multiple methods, and match the outcomes against some variation of teacher standards or criteria. This aligns with the recommendations of Ingvarson and Chadbourne (1994), who also acknowledge that regardless of whether the final judgment is valid, the use of this approach depends on the authenticity of the individual methods. The Measures of Effective Teaching project run by the Gates Foundation (Kane *et al.*, 2013) also supported the use of multiple measures to evaluate teacher performance, as it found that relying too heavily on one single measure makes it more likely that other valued behaviours will be overlooked. The project also found that a balanced approach, combining student ratings and classroom observation, has two advantages: it increases the likelihood that teachers with better outcomes on assessments other than state tests will be identified, and ensures that teacher ratings are less likely to fluctuate from year to year.

Norm-referenced appraisal

The other significant consideration in the design of teacher appraisal systems for awards or promotions is whether to reward any teacher that meets the specified criteria (criterion-referenced), or to compare teachers with one another and only reward the best (norm-referenced). The former approach sits more naturally within a holistic approach to appraisal, as a holistic judgement can be made about whether a teacher meets the criteria, while the latter sits more naturally with a cumulative system, as it is easy to compare the points of different teachers (*Table* 5). However, these pairings are not essential. Cumulative systems can be used with a criterion-referenced approach if all teachers that achieve a certain point score receive a reward or promotion, while some systems that appraise holistically using standards impose a quota on how many teachers get a reward or promotion, introducing a norm-referenced element to the procedure for promotion.

Table 5. Cumulative versus holistic appraisal

	Cumulative judgement	Holistic judgement
Definition	Each individual component of the appraisal process is given a weighting or allocated points. A teacher's overall outcome is calculated by adding up their score for each component.	Teachers' overall outcome is based on whether or not they have shown the necessary skills/competencies required. Evidence for the meeting of these competencies can be drawn from different components of the appraisal process.
Advantages	The overall outcome is objective and transparent (though individual components may be subjective), so there is less scope for corruption.	Teachers have to meet all selected competencies to progress, so are motivated to improve their teaching.
Disadvantages	Teachers don't have to meet all competencies to progress. Teachers may seek to achieve a high score in an underhand way, rather than seeking to improve teaching.	As the overall outcome relies on the judgement of a superior (such as a principal) there is the risk of corruption. This can be overcome with clear statements of teacher standards, and with the involvement of external assessors.

Norm-referenced procedures commonly form part of systems that use payment by results. The system evaluated by Lavy (2004) in Israel ranked teachers based on their students' value-added scores, and only offered rewards to the top-performing teachers. Norm-referenced comparison between teachers can also present itself in a less obvious way; for example, in the early stages of Houston's teacher pay reform, teachers received extra pay if their students' value-added scores were in the top two quartiles (*Behrstock* and *Akerstrom, 2008*).

A strength of this approach to deciding who receives awards or promotions is lower information costs. As the system defines in advance the number or proportion of teachers that will receive an award, it is clear from the start how much the programme will cost and this allows for accurate budgeting. In contrast, systems taking a criterion-based approach do not know in advance exactly how many teachers will reach the given standard, so run the financial risk that more teachers will do so than the budget can accommodate. Chile has an interesting solution to this problem – it uses a holistic and norm-referenced system (Vegas, 2005). To gain a 'pedagogical excellence award', teachers have to submit a portfolio of their work and take a test, and are judged against performance standards laid out by the Ministry of Education. However, there is also a quota for the number of teachers that can receive this award, which results in a measure of comparison between eligible teachers to decide who shall receive one. This quota fluctuates from year to year, based on budget restraints. As the number is not usually large (approximately 50 around the country) there is less likely to be competition between teachers at the same school.

Competition between teachers is the most often discussed weakness of norm-referenced appraisal. Although competition *per se* is not necessarily a bad thing, successful schools require teamwork and collaboration between colleagues (Bryk and Schneider, 2002), and autonomous motivation requires strong interpersonal relationships, both of which are less likely in a competitive environment.

For example, in Houston's reforms, the initial programme of rewarding individual teachers with students with value-added scores in the top two quartiles resulted in a fall in teacher morale, as teachers became angry and upset with what they saw as being a divisive and unfair policy (Behrstock and Akerstrom, 2008). This was replaced by

the Accelerating Student Progress Increasing Results and Expectations (ASPIRE) award programme, which placed greater emphasis on teamwork and less on individual teachers' results. In the Republic of Korea, the proposed master teacher status is supported by 68 per cent of teachers, with the Korean Federation of Teachers' Associations supporting the proposal, with the proviso that there is no limit on the number of teachers that can be promoted to this position (10 per cent of teachers is suggested as the upper limit) (Coolahan *et al.,* 2004). In Portugal, the introduction of a quota for the number of teachers that could move to the upper pay scale encouraged competition and reduced cooperation among teachers, which lowered teachers' job satisfaction and had a detrimental effect on student learning (Martins, 2009).

Another complaint of teachers in Houston was that the system was not transparent (Behrstock and Akerstrom, 2008). While standards-based programmes are more transparent than value-added programmes in that teachers know the exact standards they are expected to meet, if these programmes are then norm-referenced at the point of reward or promotion (with only a certain quota of eligible teachers receiving one), the lack of transparency returns, and teachers will demand an explanation as to why their colleague was promoted over them, when both have met the standards. Allowing only some teachers, rather than all those who met a certain standard, to achieve a bonus was thought responsible for the collapse of many performance-related pay programmes in the 1980s (Sclafani, 2009). This was also a criticism of the teacher career structure in Ethiopia, where budget restraints meant that further screening of teachers who had met the standards was introduced, and resulted in increased competition among teachers (Tekleselassie, 2005). Sclafani even reports suggestions that high-stakes comparisons among teachers can incentivize them to sabotage one another's chances, by spreading damaging rumours about a colleague's abilities as a teacher (Sclafani, 2009).

Criterion-referenced appraisal

Criterion-referenced approaches that reward or promote any teacher that meets a certain standard or point score avoid these problems of competition and lack of transparency, and allow teachers to set goals for themselves, which are within their control to achieve, rather than

being dependent on the poor performance of their colleagues. Locke and colleagues (Locke *et al.*, 1981) suggest that this goal-setting approach helps to direct action and attention. However, this approach is less easy to manage from a budget perspective, and the lack of a quota can actually cause teachers to become sceptical about the viability of the programmes, as was the case for teachers in England and Wales when a new pay scale was introduced (Adnett, 2003).

One potential solution or compromise, which would allow for budget planning but avoid harmful competition, would be to link the salary rise with promotion contingent on the fixed amount of budget available. So, rather than competing with colleagues for promotions or bonuses worth a fixed amount, anyone who met the standards would be promoted and gain the associated status and recognition, while the salary rise would be smaller if many teachers met the standards in the same year (or larger if fewer did). The pot of money would have to be located at the national or regional level rather than at the school level, so that the promotion of colleagues in the same school would have only a negligible effect on other teachers' pay rises.

Table 6. Norm-referenced versus criterion-referenced appraisal

	Norm-referenced appraisal	Criterion-referenced appraisal
Definition	Teachers are compared with each other. Only the top proportion of teachers receive a reward or promotion, which could be based on who has the most points or other criteria.	Teachers' skills are judged against criteria or standards. Any teachers who meet the set standards required for a promotion receive the promotion, irrespective of the performance of their peers.
Advantages	Lower information costs; the cost of the programme in terms of rewards or promotions is known from the start.	Teachers are in control of their own progression, as they know that if they meet certain criteria, they will receive a promotion. Teachers can help one another without jeopardizing their own prospects.
Disadvantages	The competition generated by this approach discourages collaboration and teamwork between teachers. It can also lead to bad feeling between colleagues.	Higher information costs; it is not known in advance how many teachers will meet the standards. This can be managed by initially piloting the programme to approximate numbers, and setting standards accordingly.

Responsibility for summative appraisal decisions

This section concerns the responsibility for appraisal decisions for accountability purposes, such as decisions about eligibility for bonuses, salary raises, or promotions. In systems that use payment by results or take a cumulative approach, no such decision is necessary, because a points formula and pre-determined cut-off score decide such matters. In systems that take a holistic approach, though, someone has to make the decision as to whether the teacher has passed, or met the set criteria. Different systems take different approaches to selecting the personnel to be involved in this decision.

School principals

Most commonly, the school principal or a leader in the senior management team is involved in deciding whether or not a member of staff meets promotion/bonus criteria or not. Schools principals are involved (though not necessarily solely responsible) in countries including the Czech Republic, Israel, the Republic of Korea, and Poland. Jacob and Lefgren (2008) investigated how well principals could distinguish between the effectiveness of teachers (as measured by their value-added scores). They found that principals could generally identify teachers who produced the largest and smallest standardized achievement gains, but had far less ability to distinguish between teachers in the middle of this distribution. French, Melo, and Rakow (1988) argue that principals should not be the primary evaluators in career ladder programmes, as research from across the United States has found that, in practice, principals give consistently high ratings to their staff and exercise little discrimination, even though they are able to do so. Similarly, Kremer and colleagues (2001, reported in Bruns *et al.*, 2011) note that Kenyan head teachers gave all their staff bonuses for attendance, even though attendance did not improve, while Bruns and Luque (2014) report that school directors in Colombia give universally high scores to teachers as a way to avoid conflict.

There is, therefore, a danger that the subjective nature of the judgement means it can be affected by the personal relationship between principal and teacher (for better or for worse), or be open to corruption. This could be a particular concern in some developing countries, where the infrastructure to stop these practices is lacking, and many teachers already complain of unfair treatment by head

teachers. For example, in its interviews, VSO (2002) found that teachers in Papua New Guinea and Zambia were particularly concerned with the relationship between head teachers and their staff, giving examples of unsatisfactory interactions including unfair promotions.

One way to overcome this problem is to involve others in the decision, either in terms of joint responsibility for the process or to verify the decision.

Multiple evaluators

Involving more than one evaluator also has the benefit of making the judgment more reliable. The Measures of Effective Teaching (MET) project (Kane *et al.,* 2013) analysed videotaped lessons of 3,000 teachers across six states in the United States, and collected student improvement data over two years for 1,600 of them. They concluded that having a second observer of classroom practice increases its reliability. In the Republic of Korea, the principal shares the responsibility for teacher appraisal for promotion purposes with peer evaluators (Coolahan *et al.,* 2004), while in Australia, panels interviewing teachers for appointment to AST status included a fellow teacher (Ingvarson, 2013).

The Tennessee Career Ladder included peer evaluation by a teacher from outside the appraised teacher's own district. These teachers were carefully selected and received three to four weeks' training in their appraisal responsibilities. Teachers evaluated by their peers as part of the Tennessee programme rated this feature as one of the most positive (French, Malo, and Rakow, 1988). Conversely, peer evaluation in Ethiopia is carried out by colleagues from the same school, which has led to bad feeling where teachers feel they have been judged unfairly (Tekleselassie, 2005). In other countries, the principal shares responsibility with other personnel external to the school.

External assessors

One possible way to overcome the issue of subjectivity would be to have external assessors verify principals' judgments, as is the case in England for teachers applying to move to another pay scale, and in Chile, where principals share the responsibility of appraisal with external accredited evaluators, a local assessment centre, and peer

evaluators (OECD, 2013). However, some countries, such as Austria and Poland, only require the judgement of external assessors in cases of complaint or appeal (OECD, 2013). In addition to overcoming issues of subjectivity, input from external assessors is also advantageous where there is not sufficient expertise to make such a judgement in school, as might be the case when senior promotion is being considered.

Another approach is to leave evaluation for accountability purposes completely up to external, trained assessors. This is the case in the United States for those states that use the Praxis III test for evaluation purposes (Milanowski, 2003). For this certification process, trained assessors interview teachers and monitor in-class teaching and other professional duties. The assessors judge teachers against 19 criteria that fit into the categories of classroom environment, lesson plans, instruction, and professionalism.

Different personnel at different levels

Involving external assessors can be quite resource-heavy, so some systems use internal staff to make appraisal decisions at the lower levels of a career structure, such as for teachers attaining qualified teacher status, and only use external personnel to make decisions concerning promotion to higher levels. The New Australian Professional Standards for teachers, which are in the process of implementation, and include four different teacher roles: graduate, proficient, highly accomplished, and lead (Ingvarson, 2013). The idea is that while universities will decide who graduates, as they do now, and state teacher registration bodies will retain responsibility for certifying teachers as proficient after their induction period, the Australian Institute for Teaching and School Leadership will have responsibility for establishing a nationally consistent evaluation system for the roles of 'highly accomplished' and 'lead' teachers. New Zealand's politicians have suggested a similar approach for their new teacher and head teacher roles: executive principals and 'change principals' will be appointed by an external panel, and then these principals will be responsible for appointing 'expert' teachers (Key, 2014).

Such a practice is already in place in Estonia, where the process of verifying that a teacher has met standards for a new grade is called 'attestation' (EURYDICE, 2010). Teachers and junior teachers have their grade granted by the head of the institution, senior teachers have

their grade granted by an attestation commission established by the head of the institution, and teacher methodologists have it granted by a commission established by the minister of education.

Different personnel for different appraisal purposes

Although most of this review has concerned summative appraisal, as it relates to career structures, important considerations also arise from the practice of formative appraisal, not least in terms of deciding who carries out the two different types of appraisal. Formative appraisal is undertaken for the purpose of improving a teacher's teaching methods, and might result in support or advice from whoever is doing the appraising regarding potential areas for improvement. It is an essential part of a good education system, as it provides teachers with ways to improve their teaching once the necessary motivation has been put in place through career structures.

Carlson (2009) points out that due to differences in the outcomes of these two types of teacher appraisal, linking them together is problematic. In formative appraisal for development, teachers are encouraged to self-reflect and identify and discuss their own shortcomings, so that the appraiser can help them overcome them. In summative assessment for promotion or performance pay, the teacher is more likely to conceal rather than confront shortcomings, for fear of them affecting their promotion prospects (Mosoge and Pilane, 2014). For this reason, if the two are combined, teachers are less likely to benefit from the formative opportunity to improve.

South Africa experienced this problem first-hand in its Integrated Quality Management System. The Teacher Development Summit recommended delinking teacher appraisal for purposes of development from appraisal for purposes of remuneration and salary progression (South Africa, 2011). One way of delinking the two is to ensure that different personnel are involved in different types of appraisal.

Appraisal for professional development purposes does not face some of the challenges related to summative assessment discussed above. As there is no high-stakes consequence to this type of appraisal, the subjectivity of the assessor is less likely to be a problem, and there is less need for the appraisal to be reliable as no high-stakes outcome is being decided upon. For these reasons, as well as for more practical

ones concerning cost and travel, formative appraisal can be carried out by colleagues and head teachers in the school. To avoid a situation where teachers hide their shortcomings, one solution would be to have different personnel responsible for summative assessment – either other members of staff within the school, or external assessors. In Shanghai, mentors and peers within the school offer feedback to teachers on how they can improve their lessons, but, for promotion purposes, the teachers are assessed by external experts. The district of Cincinnati, Ohio, took this one step further, by outsourcing most of its summative appraisal to the PRAXIS exam and paying teachers on the basis of this (Odden and Wallace, 2007).

Consequences of summative appraisal

Bonuses

Performance-related pay encompasses more than just payment by results – it also includes programmes that offer bonuses to teachers in recognition of positive teacher evaluations, which encompass more than just student results. In practice, however, such programmes are rare. Most countries that use broad evaluations of teachers for accountability purposes employ them to determine the eligibility for certification or re-certification of teacher status, which, if it is linked to pay, leads to a permanent increase in salary along with the new status, rather than a one-off payment.

Two systems that do offer financial bonuses based on evaluation, the approach used in Singapore and the Teacher Advancement Program (TAP) in the United States, do so in addition to providing a career structure with certification at different levels. Teachers in schools that use TAP are eligible for an annual performance bonus, which is based on students' value-added scores and observed performance in the classroom (Glazerman and Seifullah, 2012). Singapore's bonuses are also annual, and are based on an extensive evaluation which includes three meetings, a portfolio, and input from senior teachers (Sclafani, 2009). As both systems also incorporate a more sophisticated career structure, it is not possible to evaluate separately the impact of these performance bonuses on student results or teacher motivation.

One programme that does offer standalone bonuses based on evaluations is the Merit Award Program (MAP) in Florida. Each

district in the state is required to allocate performance-based pay to a minimum of 25 per cent of its teachers, worth 5 per cent or more of their base salary (Buddin *et al.*, 2007). Performance ratings are based on student results and a principal's evaluation, with fairly even weighting between these two methods. Unfortunately, this programme has not been evaluated for its impact on teacher behaviour or student results, although, based on an analysis of the statistical methods involved, Buddin and colleagues suggest that there are 'serious challenges to using standardized test scores to measure teacher performance as part of a merit pay system' (Buddin *et al.*, 2007: 49). The question of whether bonuses for broader performance appraisals, which do not include student results, have a positive effect on teacher motivation or student results remain open.

Performance-related pay programmes based on broader teacher evaluations overcome some of the criticisms of merit pay programmes discussed in *Chapter 3*. By including another measure alongside student results, or excluding them from consideration, the questionable validity of the bonus allocation mechanism is diluted or removed. It also goes some way to overcoming the problem of 'multi-tasking', where teachers focus only on narrow exam results, as teachers' classroom practice is also being evaluated, giving them an incentive to work towards improvement in this area as well.

There are still drawbacks to this approach, however. As with payment by results, this method can cause competition between teachers and discourage collaboration if the bonuses are only for 'top-ranked' teachers, as is the case in Singapore and the Teacher Advancement Program. An additional issue in this area is the potentially negative effect on the relationship between teachers and principal, if the evaluation relies heavily on the principal's judgement. As with payment by results, this approach is likely to lead to 'controlled' motivation, potentially with the impact of undermining intrinsic or autonomous motivation (Deci, 1971), as the point of the bonus is to incentivize teachers to work harder to receive the money, rather than to work harder or differently for their own personal growth or for the good of the students.

Salary progression

Another approach is to base salary progression on teacher appraisal. While this method is similar to awarding bonuses, it is usually arrived at in a different way. Rather than being implemented as an incentive to get teachers to improve performance, linking salary progression to appraisal usually arises out of a change to the single salary schedule. Whereas in the single salary schedule, salary automatically increases to the next level after a certain amount of time, with this approach, either an appraisal must be passed at the designated time, or the regularity with which a teacher can move up a level depends on their appraisal outcomes.

For example, in Germany, the state of North-Rhine Westphalia is evaluating a system whereby automatic step increases have been replaced by step increases that occur based on the quality of teachers' work (OECD, 2013). The Netherlands has a similar system. In another German state, Baden-Wuertemberg, 10 per cent of teachers each year can progress an extra step on the salary schedule if they show outstanding performance, while, at the other end of the spectrum, poor evaluations can delay progression to the next step. St Gallen in Switzerland combines automatic progression within salary grades with an evaluation-dependent jump to the next grade. In Zurich, teachers successful in their appraisal receive a 1 per cent to 3 per cent salary increase for each of the next four years.

A different type of salary progression is in place in Mexico and in England and Wales. In Mexico, the programme Carrera Magisterial also pays teachers a higher salary on the basis of an evaluation; however, unlike the European system where this constitutes a regular part of a pay system which increases gradually, the increase in pay starts at 27 per cent higher than the base wage for those who are promoted to 'level A' and can reach 217 per cent of the base wage for those who score the highest level, E (Vegas, 2005). Teachers continue to receive this higher wage indefinitely. Similarly, in England and Wales, most teachers follow the single salary schedule (although reforms to this system are underway), but after a certain amount of time, teachers can apply to move onto a higher salary scale dependent on them passing an appraisal.

These approaches overcome the problems inherent in the single salary schedule, and while the appraisals result in the speeding up or slowing down of a salary schedule, which would have occurred regardless, they may be less divisive than programmes that award bonuses to some staff but not to others. Another advantage to this approach over the awarding of bonuses relates to the psychology of motivation. Offering an increase in salary is more likely to be seen as affirming competence, rather than controlling behaviour, which means it is less likely to undermine autonomous motivation (Deci, Koestner, and Ryan, 1999). Salary increases as the result of appraisal still introduce a direct link between appraisal and pay though. However, there is another approach that has more advantages in terms of overcoming problems inherent in both the single salary schedule and performance-related pay schemes. This is the establishment of teacher career structures where appraisals against standards are followed by promotions in status, which lead to increases in salary, thereby providing an indirect link between appraisal and pay. The following section explores this approach.

Promotion

Promoting teachers to new positions or statuses as a result of successful appraisal is common, to at least some degree, across many countries. It is recommended, by education researchers and economists alike, as a way to marry accountability with professionalism (Benveniste, Marshall, and Araujo, 2008; Delannoy and Sedlacek, 2001; Fanfani, 2004; Ingvarson, 2012; Johnson and Paypay, 2009). Almost all countries have some form of promotion, as all have school principals, but the recommendations call for a different kind of promotion based on meeting certain standards (not always the case with promotion to principal), and which allows the teacher to remain teaching in the classroom. This is sometimes called 'horizontal promotion' (Vegas, 2005), as the teacher is moving sideways rather than upwards, but is referred to here as 'classroom-based' promotion.

Such an approach is based on the idea that there are certain standards or criteria that a teacher has to meet to become a certified teacher, or a more senior teacher. If a teacher is found to meet all of those criteria as part of their appraisal, they are promoted to the certified teacher or senior teacher role, and their salary increases according to their new status. Different models of this approach have

different criteria for promotion, and different responsibilities can come with new roles – these are discussed in *Chapter 5*, with examples of implementation in different countries. This section demonstrates the widespread support for this approach, and outlines why it has the potential to overcome the problems inherent in the single salary scale approach, while, at the same time, avoiding the problems associated with the performance-related pay approach.

In his position paper on the future of the teaching profession in Victoria, Australia, Ingvarson (2012) states: 'There are two ways to go about building stronger links between pay and performance: one is through merit pay schemes, the other is by introducing a rigorous professional certification system. Each is based on quite different assumptions about how incentives work and how they link to improved student achievement' (7). He draws out the familiar criticisms of competitive, one-off bonus payments, which were being proposed for Victorian schools in 2012, and suggests that teachers are more likely to benefit from professional feedback when they are in an environment of trust and support, which is facilitated by a standards-based professional certification system (where teachers are promoted once they've achieved certain standards), but undermined by bonus pay schemes.

Delannoy and Sedlacek (2001) look at the complex set of issues surrounding the effectiveness of Brazil's teachers, and conclude their study with an overall strategy similar to Ingvarson's suggestions for Victoria. They suggest setting teacher standards, and using them as a basis to establish a certification system around which teacher careers would be structured. Another World Bank study on Cambodia (Benveniste, Marshall, and Araujo, 2008) suggests that

> The existing compression of the salary wage and lack of promotion opportunities call attention to the imperative need for laying out within the teaching profession long-term sustainable career pathways supported by an appropriate salary structure that links skills, professional development opportunities and performance outcomes with financial incentives (ix).

Both Johnson and Papay (2009), of the Economics Policy Institute, and Fanfani (2004), of the International Institute for Education Planning (IIEP Buenos Aires), develop this idea further. Johnson and Papay (2009) propose a 'Tiered Pay-and-Career

Structure' which would consist of four tiers through which teachers could progress: Tier 1 – probationary teachers; Tier II – professional teachers with tenure; Tier III – master teachers and school-based leaders; and Tier IV – school and district leaders. Each of these tiers would be associated with different levels of remuneration, with additional stipends available for teachers in Tiers III or IV who take on specialist roles such as staff developers or analysts of student data. Fanfani (2004) also suggests establishing a hierarchy of levels based on skills, and carving out roles for specialists within this framework that would allow teachers to progress in their careers without having to leave the classroom.

Why is this career structure approach so popular? It seems to provide a way to recognize effort and talent in teachers, by ensuring that promotion to higher tiers and, therefore, to increased salary is based on thorough, standards-based evaluation. This overcomes the problem inherent in the single salary schedule of automatic salary increases being independent of effort; instead, the career structure model provides an incentive for the teacher to keep improving. If a teacher has not put in the effort or has not yet met the required standard for certification, they are not promoted. However, the incentive to improve is not purely financial. Promotion is intimately linked with improvement as a teacher, and gaining promotion is a recognition of competence, so teachers may be motivated by their desire to improve their teaching for the sake of the students, or by the desire to raise their status. Working towards certification or promotion need not therefore undermine autonomous motivation, so long as the environment in which they work is felt to be supportive (let us help you achieve this certification) rather than controlling (you must tick these boxes in order to get a pay rise).

It is worth re-emphasizing at this stage that such autonomous motivation to improve one's skills or the outcome for one's students may be unlikely to manifest itself in a situation where teachers' salaries do not cover their basic needs (Maslow, 1943). Even with a well-designed, standards-based certification system, and an environment of interpersonal support, teachers may not be motivated to improve if the initial salary is so low that they are struggling to feed their family. In such a system, these teachers may still be motivated to meet the certification requirements due to the salary that comes

attached to promotion (giving it an advantage over single schedule salary systems), but, as they would perceive this as controlling, it may have detrimental effects on their persistence, creativity (Deci, 1987), and teaching style (Hein *et al.*, 2012; Lam *et al.*, 2010).

Another potential advantage of this career structure system is dependent on how it is structured. If promotion is criterion-referenced (i.e. you are promoted if you meet the standards), then this system does not increase competition between teachers, and may even increase collaboration if a responsibility of more 'senior' teachers is mentoring more junior ones. If, on the other hand, promotion is norm-referenced (i.e. only granted to a limited number of teachers depending on how they do relative to their peers), this then is open to the same criticism as bonus pay programmes in that it creates competition and a non-supportive environment.

There are many other variations to how 'career structure' programmes can be run. The next chapter looks at various models and types of career structure programmes, and gives examples of these from countries in which they have been implemented.

Table 7. Consequences of summative appraisal

Consequences of summative appraisal	Description	Evaluation
Bonuses	Teachers receive a one-off payment if they receive a good evaluation. Rarely used without a career structure.	These can act as an extrinsic incentive for teachers, but encourage controlled motivation and discourage collaboration.
Salary progression	Teachers move through the existing salary structure at different rates, based on their evaluation.	This prevents bad/idle teachers from progressing automatically through the salary scale.
Promotion	Teachers are promoted to new roles and titles based on their evaluation, with a salary rise attached.	This makes the link between performance and pay indirect, reducing the likelihood of proportion encouraging controlled motivation.

Chapter 5
Career ladder programmes

Most career structures that have been proposed, and many that have been implemented, utilize a similar basic career ladder format. Teacher trainees typically have to gain certification or licensing of some kind to pass their initial teacher training and become a qualified teacher. Some systems just have one position of 'qualified teacher' and revert to the single salary schedule, but others conceptualize this as merely the first step on a career ladder. Teachers can then progress through a series of increasingly senior statuses or job roles by qualifying for each one sequentially (with promotion criteria varying by country). Pay may increase incrementally each year in between these career steps, but the awarding of the next level is usually accompanied by a more substantial leap in salary.

Types of career ladder

The National Association of State Boards of Education in the United States published a policy update on state-wide teacher career structures in 2002, and suggested that most career ladder initiatives could be placed in one of three categories (as reported by Plucker, Zapf, and McNabb, 2005):

- Performance-based ladders: As teachers demonstrate increased competence, they progress to different or more complex levels of work. Teachers may progress through a series of levels that may include novice teacher, career teacher, and master teacher.
- Professional development ladders: Advancement is determined based on the amount of additional knowledge and skills teachers develop over the course of their career. Skills may be obtained through university coursework, professional development activities, advanced degrees, or NBPTS certification.
- Job enlargement ladders: Teachers are allowed to take increased responsibility for non-classroom-related activities. Activities may include curriculum development, supervising and mentoring beginning teachers, and serving as a professional development trainer or lead teacher.

These categories correspond closely to Conley and Odden's (1995) descriptions of performance-based pay, knowledge- and skills-based pay, and jobs-based pay. In both descriptions, there is some ambiguity in terms of the distinction between performance-based ladders and professional development-based ladders. Performance-based ladders do not require promotion to be based on student results (although it can be), but rather on any teacher appraisal that measures a teacher's effectiveness. Professional development ladders, meanwhile, require participation in training or the obtaining of qualifications, without the impact of these on teaching quality necessarily being assessed.

This literature review found that although these types describe common features of career ladders in different countries, it is rare for career ladders to fall into just one category; most systems draw on elements of at least two of these categories. It might, therefore, be best to think of these descriptions as idealized 'types' of career structure with which systems can have features in common, rather than being mutually exclusive categories.

All of the career ladders discussed in this chapter have performance-based elements, though many of them also have professional development elements and job enlargement elements. This is because career ladders *without* performance-based elements contribute to the issues discussed in *Chapter 1*, as they constitute the key features of the single salary schedule. This is the most common type of career structure, in which the only way to progress is to gain further qualifications, or to take on non-teaching tasks and be promoted out of the classroom into managerial positions.

Systems with some form of established career ladder involving a performance element are found in the Czech Republic, England and Wales, Estonia, the Republic of Korea, New Zealand, Poland, Portugal, Shanghai (China), Singapore, the Slovak Republic, Spain, Sweden, Switzerland, and Arizona, Illinois, and Missouri in the United States.

Table 8. Types of career ladder

Types of career ladder	Definition	Advantages	Disadvantages
Performance-based features	Career ladders with this feature include some kind of teacher evaluation, on which promotion or salary progression is based.	Links performance to pay, which can be motivating for good teachers and attract people to the profession.	- It can be a struggle to get this implemented if teachers are on an existing contract that guarantees regular pay rises. - If designed badly, this feature can lead to controlled motivation and bad feeling among staff.
Professional development features	Career ladders with this feature require staff to undertake certain training or professional development in order to be promoted.	This ensures staff are continually learning throughout their career, and allows the system to require certain knowledge or skills for certain roles	- The usefulness of this approach depends on the quality of the training, and whether the learning is evaluated. - Without follow up, teachers can see attendance as a box-ticking exercise. - Training by itself is not enough to ensure quality. Some courses predict higher student results, some have no effect.
Job enlargement features	Career ladders with this feature attach new roles or responsibilities to teachers' promotions, such as mentoring less experienced teachers or leading a planning team.	This encourages better teachers to take responsibility for the improvement of weaker teachers, or for the improvement of the school.	Depending on the type of responsibilities given, there might not be enough of these roles available for all the teachers that have met the criteria for promotion.

Performance-based requirements for promotion

Chapter 4 showed that appraisal outcomes can be based on a number of methods, such as teacher observation, parent reviews, and student results. It also highlighted different approaches to how these methods were used to derive a final appraisal outcome, be that using a cumulative approach where results from different methods were added up, or a holistic approach where an overall judgement is made based on the outcomes from different methods. Most career ladder systems use a holistic, standards-based approach to appraisal, where a decision is made as to whether each teacher has met certain standards necessary for that level of promotion. Dinham, Ingvarson, and Kleinhenz (2008) claim that this is an essential feature of an appraisal system if it is to have a positive effect on education.

Because all career ladders, by definition, include at least one promotion possibility beyond being a certified teacher, they usually have different criteria for different levels of promotion. In career structures with a performance element, the criteria include increasing the skill and knowledge levels that teachers have to meet in order to move to the next promotion level. Some countries have, therefore, come up with different standards that apply to each stage, which teachers are appraised against when applying for promotion. For example, the Australian Professional Standards for Teachers (AITSL, 2013) include different standards for the four career stages (graduate, proficient, highly accomplished, and lead). The state of Ohio's Standards for the Teaching Profession (Ohio, 2015) contain indicators that differentiate between 'standard', 'accomplished', and 'distinguished' teacher levels. This not only ensures that teachers at higher levels have better knowledge and skills than teachers at lower levels, but also provides a framework that enables teachers to see what they are aiming for, and around which professional development can be based.

Professional development-based requirements for promotion

Some systems require teachers to have completed a certain amount of professional development in addition to passing an appraisal, in order to be eligible for a promotion. The Czech Republic, Estonia, Ghana, the Republic of Korea, and Portugal all require participation in some form of professional development, while other countries,

such as Poland, describe in-service teacher training as indispensable for teachers' promotion, although not compulsory (OECD, 2013).

Some systems do things slightly differently, and use professional development certificates as the sole requirement for higher salary or promotion, while still having a 'performance-based' element due to required professional development courses, including an evaluation of teaching. The National Board for Professional Teaching Standards in the United States is used by several states for such a purpose. To become a board-certified teacher, teachers have to take a test of content knowledge, and create three portfolios including student work, teacher reflections, and video recordings of their lessons (NBPTS, 2015*a*). If they are successful, they may receive a pay rise or a promotion, although legislation in this area varies by state. In Ohio, gaining national board certification counts as part of the requirements for attaining the lead professional educator licence. This type of scheme provides recognition of teaching quality for those that want it, and where it leads to a promotion or salary increase may incentivize teachers to reach that standard. However, this only applies to a small proportion of teachers as these certificates are voluntary, and in most states, salary raises do not depend on having one.

Job enlargement-based consequences of promotion

Most career ladders also include some job-enlargement element. This review did not come across any career ladders where teachers gained a new status without also gaining some additional responsibility, perhaps because those countries that increase salary as a result of appraisal without expecting the teacher to take on any new responsibilities do not accord these teachers a new status, they just link salary directly to appraisal and move them up a salary grade. Such systems are described in *Chapter 4* under the sub-heading 'Salary progression'.

In some systems, teachers are required to take on extra responsibilities after their promotion, which is based on passing a standards-based appraisal. Such responsibilities might include mentoring other teachers, running professional development in school, curriculum development, and appraising other teachers. In Colombia, Cuba, and Singapore, the responsibilities of high-grade

teachers include working with teachers in other schools in the area. In the Czech Republic, it works slightly differently. If a teacher performs certain activities that are typically carried out by teachers of a higher grade, this can lead to a promotion.

In most countries, there is also a traditional, management-based career ladder, where promotion to new roles requires applying for advertised vacancies, and competing with colleagues. This ensures that only as many teachers are promoted as are needed to fulfil certain roles, such as head of department or school principal. A variant of this approach was taken in many of the career structures in America during the 1980s (Conley and Odden, 1995), where new non-teaching roles (e.g. head of curriculum) were added to the more traditional managerial positions, and teachers competed to apply for them. Conley and Odden (1995) point out that in education, job-based pay (where you are paid more because of new responsibilities) is most evident in those positions requiring administrative tasks, and suggest that this can have a number of detrimental outcomes. First, it implies that teaching is less important or difficult than the administrative positions to which teachers are promoted. Second, job-based pay removes teachers from classrooms and therefore introduces quotas for these roles (as not everyone can do this). Third, there is a disjuncture in skills if teachers are promoted on the basis of outstanding teaching skills, and moved into a position that requires different skills, such as management.

Singapore[13] has a sensible solution to these problems, while still incorporating job-based pay into its career structure. In Singapore, there are three ladders, including one for teachers that want to stay in the classroom, and one for leadership. In the teaching track, as the extra responsibilities teachers take on are pedagogical in nature (such as coaching other teachers) they continue as a classroom teacher, except at the highest rung on this ladder (master teachers). On the leadership track and specialist track, teachers are promoted for different skills, while head teachers and ministry officials look out for those with leadership potential or specialist skills and nurture these through training programmes.

13. Singapore's career structure is explained in more detail in *Factsheet 5*.

Box 1. Cuba's pedagogical promotions

In Cuba, there is a promotion track based on pedagogical expertise.

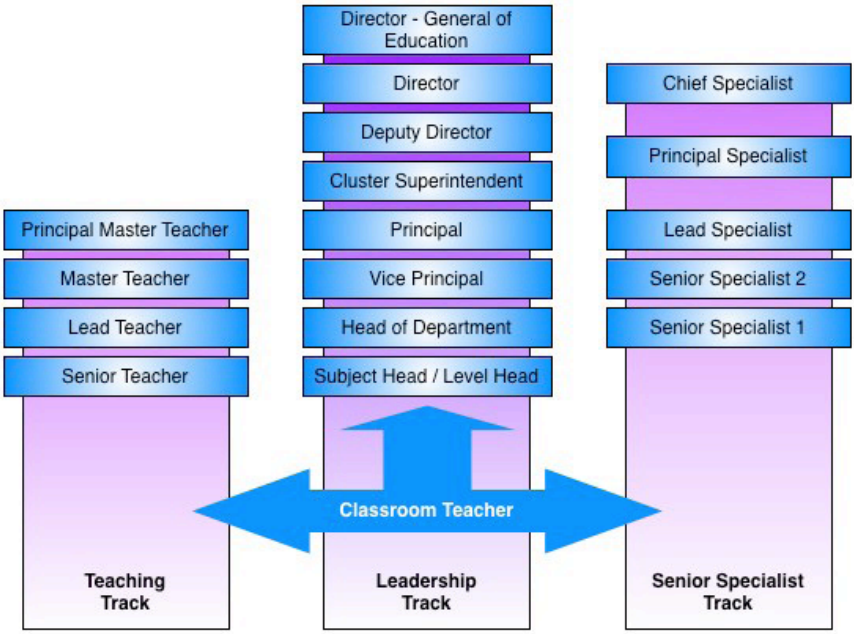
- Pedagogical leaders *(jefe de circulo pedagógico)* are based at the school level, and lead teachers' teamwork and exchange of practice in school.
- Methodological leaders (*metodologo*) are based at the municipal level, and work with schools within their districts to develop strategies for improved student learning.

(Bruns and Luque, 2014)

Steps and streams

Singapore has the most sophisticated structure in terms of the numbers of steps or roles, and the number of ladders or streams. A diagram of the structure is provided in *Figure 3*.

Figure 3. Singapore's career structure



Source: Ministry of Education, Singapore: www.moe.gov.sg/careers/teach/career-information

The three streams – the teaching track, the leadership track, and the senior specialist track – allow teachers a choice as to how their career develops. The number of steps is also impressive, with at least four in each stream, and the leadership track potentially allows for progression all the way up to the post of Director-General of Education. The Republic of Korea also has three streams, but only at the higher administrative levels (all teachers must progress through Grade 2 and Grade 1 teacher status before choosing a senior stream of vice principal and principal, researcher and senior researcher, or supervisor and school inspector).

Most other career ladders have only two streams – the traditional stream that leads to senior management positions and becoming a principal, and the usually newer stream that leads up through more advanced teacher levels, with teaching remaining central to the job. Systems and proposed systems in Arizona and Illinois (United States), Australia, the Czech Republic, England and Wales, Estonia, Ghana, the Republic of Korea, New Zealand, Poland, Portugal, Shanghai (China), the Slovak Republic, Spain, Sweden, and parts of Switzerland are structured like this.

Four steps seems to be a popular choice, with Australia, Estonia and Poland opting to have four steps in their career ladder. New Zealand's prime minister introduced four new roles in a speech in January 2014 (Key, 2014), though it is not yet clear how they will fit together in a career ladder. Jordan's proposed teachers' career charter has seven steps in its teaching stream, and a further six steps in the educational management stream (Ghazleh, n.d).

Other innovative career ladders not included in the table are those that mainly follow a traditional jobs-based structure, which requires teachers to move into management positions, but has just one step or position that allows teachers to be promoted without moving out of the classroom. Colombia has 'master teachers', who are carefully selected and then observed by other teachers, as well as being responsible for outreach and support visits to nearby schools (Bruns and Luque, 2014). This appears to have been successful, with Colombia the only country in the Latin America region where students in rural schools outperform their peers in cities (Bruns and Luque, 2014).

Table 9. Teacher career ladders by selected country

System	Teacher career ladders*
Australia (proposed)	Graduate teacher Proficient teacher Highly accomplished teacher Lead teacher
Cuba	Teacher Pedagogical leader Methodological leader
Estonia	Junior teacher Teacher Senior teacher Teacher-methodologist
Ethiopia	Teacher Senior teacher Associate leader teacher Lead teacher
Jordan (proposed)	Novice teacher Junior teacher Senior teacher Expert teacher Mentor teacher Master teacher Reference teacher
New Zealand (proposed)	Teacher Lead teacher Expert teacher
Poland	Trainee teacher Contract teacher Appointed teacher Chartered teacher
Republic of Korea	Grade 2 teacher Grade 1 teacher Master teacher
Singapore	Classroom teacher Senior teacher Lead teacher Master teacher Principal master teacher

*Ladders that involve promotion without leaving the classroom completely. These countries also have traditional management career structures, which lead up to principal level and sometimes beyond.

Box 2. The danger of just one step in the career ladder in Mexico

The Carrera Magisterial in Mexico introduced a single step up for teachers identified as 'excellent', which, while more of a salary increase than a new position, highlights an issue with ladders of just one step. The EFA Global Monitoring Report (EFA, 2014) suggests that Carrera Magisterial is unlikely to have contributed much to the improvement in learning outcomes in Mexico over the past few years, as, once teachers had qualified for this promotion, they had no incentive to continue to improve.

Duration of promotion

One way around this problem is to give the promotion an expiry date, and require teachers to re-apply for or verify their status after a certain number of years. For example, the National Board for Professional Teaching Standards certificate in America lasts for 10 years, at which point teachers have to re-certify if they want to retain NBPTS status (NBPTS, 2015*b*). This re-certification requirement is designed with the assumption that teachers' practice can deteriorate, meaning that the same qualities and skills that earned the certification initially need to be reassessed after a period of time. Teachers can apply for re-certification with the board, which restores their certified status if they pass the evaluation.

Ecuador's teacher career reform overcomes the issue of skill deterioration by requiring that teachers either achieve further promotion to the next career stage, or re-certify at the same level every four years. If they do not successfully re-certify, they are downgraded to the stage below (Bruns and Luque, 2014). New Zealand's teachers gain provisional registration once they have completed teacher training and gain a job, and then work towards full registration. Once they are fully registered, they have to renew their practising certificate every three years, which involves appraisal against the registered teacher criteria by a professional leader, who then attests to the teachers' council that the teachers' practising certificate can be renewed (Haig, 2015). Similarly, in the Catholic sector of the Northern Territory in Australia, teachers are now required to re-register with the NTTRB (teacher registration board) every five years, which involves putting together a portfolio of professional development and study undertaken during

that time, related to their role and performance as a teacher (Marshall, Cole and Zbar, 2012).

Jordan's proposed career structure takes a slightly different approach to addressing the same problem. Their teachers will be able to choose whether to take an accelerated path, which would see them meeting the requirements for each promotion in three years, or a normal path which gives them five years between promotions to meet the requirements. If teachers are unable to meet these requirements, they are given an additional two years (which puts them on the slow path), but if they are not able to meet them within this time, they lose their teaching position (Ghazleh, n.d.).

Voluntary appraisal for promotion

Some systems have decided to make elements of new career ladders voluntary. In Australia, the first two roles of 'graduate' and 'proficient' are compulsory, but teachers can choose whether to apply for the 'highly accomplished' or 'lead teacher' positions (Ingvarson, 2013).

Other systems have retained the single salary schedule in full, with teachers' pay increasing yearly irrespective of evaluation, but have added on a voluntary 'career structure' element. Teachers still progress up the salary scale based on years of teaching, but there is also a voluntary process of certification which teachers can undergo, sometimes with several levels. Passing this certification (which involves evaluation of teaching) can lead to teachers being moved onto a higher salary scale. This is the case in many American states for teachers who have passed the National Board for Professional Teaching Standards. This system does provide incentives for some teachers to improve their practice, but it is an expensive option, and it does not stop unmotivated teachers from progressing up the salary scale regardless.

Another programme that uses 'add-on' certification is Chile's Excellence in Teaching programme. Teachers can volunteer to be evaluated for 'excellent teacher' status, which involves taking a test and producing a portfolio, including video recordings of lessons. The teachers are judged against teacher standards, but there is a quota which determines how many teachers can receive the award each year. Successful teachers receive a salary supplement for four years, at which stage their pay returns to its previous level (Vegas, 2005).

Evidence of effectiveness

The body of research evidence on teacher career ladders is small and mainly consists of evaluations of state-level policies in the United States. In their report on teacher policy in Latin America, Bruns and Luque (2014) claim that there is no experimental evidence on career path reforms, either in Latin America or globally. Although several countries have implemented teacher career structures, some of which are well established (e.g. Singapore), this review was able to find only one publically available quantitative evaluation of a national career structure programme, in Portugal. One difficulty with drawing any conclusions about the effectiveness or otherwise of teacher career ladder programmes in general is that there are so many internal and external variables which may contribute to their success or failure. Rather than looking to prove or disprove career ladders as a concept, a better approach is therefore to look at the individual features of career structures that are successful, and those that are unsuccessful, in order to learn about their design.

Arizona teacher career programme

Arizona's teacher career programme consists of central legislation which applies to all districts taking part in the programme. This legislation commits these districts to running career structures based on the following principles (Arizona, 2015):

- Levels and steps must come with specific criteria for placement.
- More than one person should be involved in the placement decision.
- Placement should be based on increasingly high levels of pupil attainment.
- Placement should be based on increasingly high levels of teaching skills.
- Placement should be based on increasingly high levels of responsibility.
- The programme should provide adequate professional development opportunities.

Each participating district is then left to design their own career programme around these principles, but has to submit their plans intermittently to the state authorities to ensure they meet the requirements of the legislation. As can be seen from the legislation, the Arizona teacher career programme is holistic (standards-based) and criterion-referenced (with no competition for promotions), and has features of job-enlargement and performance-based pay. The latter is specified in two ways: pupil attainment and teaching skills. In practice, most districts do not use high-stakes tests to measure pupil attainment, but instead use internal school level assessments. Teaching skills are usually evaluated by classroom observations and portfolios, which are submitted to a board external to the school.

As only 28 of the state's districts took part in the programme due to funding issues, a number of researchers have taken advantage of the fact that this allows for experimental comparisons between those that took part and those that did not. In 1994, Sloat compared student performance in the original 14 districts that took part and non-career ladder districts. He found that career ladder districts out-performed non-career ladder districts in four areas:

1. Drop-out rate: From 0.04 per cent to 1.86 per cent lower dropout rates in career ladder districts between 1985/86 and 1991/92.
2. Graduation rate: 5 per cent higher graduation rates for career ladder districts in 1991 and 8 per cent higher in 1992.
3. ITBS composite NCE scores: 7.95 per cent higher composite NCE scores in career ladder districts in 1988, 8.14 per cent higher in 1990, and 9.10 per cent higher in 1991.
4. 1993 ASAP average scores: Ranges from 4.67 per cent to 5.81 per cent higher Grade 8 average ASAP scores in 1993 reading, mathematics, and writing assessments (Sloat, 1994).

As participation in the career ladder programme was voluntary for existing teachers in career ladder districts, Sloat (1994) was also able to compare the performance of students in the classrooms of career ladder teachers with those of non-career ladder teachers. He found that, in 12 of the 14 career ladder districts, the students receiving instruction from teachers participating in career ladder programmes had higher achievement at K-6 than students receiving instruction from non-career ladder teachers. Across all districts, the NCE scores for students receiving instruction from career ladder

teachers were 1.7 per cent higher than the NCE scores for students in non-CL classrooms (Sloat, 1994).

In 2002, Sloat conducted another comparison, this time including all 28 participating districts and comparing them to other districts. This time he found that career ladder districts out-performed non-career ladder districts at every grade level (2–8), in reading, language, and mathematics, as indicated by the mean and median scores. The level of difference in mean scores indicated was significant, statistically speaking, for every grade level and in every subject area except for 6th grade reading.

Earlier research from Braver (1989) shows that this is not due to the participating states getting better results irrespective of the programme. Braver compared average student achievement in career ladder districts before and after the career ladder programme was introduced, and found that average scores increased after the introduction of the programme. This change in achievement was consistent for the three years measured after the introduction of the programme.

Missouri teacher career ladder

The Missouri teacher career ladder is one of the longest-surviving teacher career structures in the United States. It is based around teachers attaining Stage 1, Stage 2, and Stage 3, which come with salary supplements of up to $1,500, $3,000, and $5,000 a year, respectively. Eligibility for promotion has elements of performance-based, professional development-based, and jobs-based structures. Teachers are assessed by administrators from their school using an evaluation tool – the Performance Based Teacher Evaluation Instrument (PBTE) – which has 20 criteria spanning six areas (Silman and Glazerman, 2009):

1. engaging students in class,
2. correctly assessing students,
3. exhibiting content knowledge,
4. professionalism in the school,
5. participation in professional development,
6. adherence to the district's education mission.

As there is only a single set of criteria which applies across the different levels, teachers applying for level 1 just need to meet the criteria, whereas teachers applying for levels 2 or 3 are required to show performance above the expected level for between 10 per cent and 15 per cent of the criteria. This makes the programme standards-based to an extent, but leaves significant room for ambiguity where administrators have to decide what counts as performance above the expected level. As these criteria are the same for levels 2 and 3, most of the difference between the levels is, therefore, based on the professional development and jobs-based elements.

Booker and Glazerman (2009) analysed nine years of student test results in maths and reading for the state's 524 districts, in order to compare achievement levels in career ladder districts with non-career ladder districts. They controlled for prior district scores in their analysis, and also carried out within-district comparison, using the variation in district programme participation over time. They concluded that there was a positive association between a district's involvement in the programme and its test scores, but that the estimates were small for maths scores and not statistically significant for reading scores.

Possible reasons for this uninspiring result were explored by Silman and Glazerman (2009) who carried out a qualitative case study of the Missouri teacher career ladder programme, conducted four focus groups with teachers, and interviewed officials in 15 randomly selected districts. Silman and Glazerman reported frequent mentions in focus groups and interviews of collaboration between administrators and teachers regarding the PBTE, such as teachers choosing when they would be observed and administrators ensuring that career-ladder teachers met benchmarks for advancement in order to avoid confrontation. This is a reminder of the importance of having more than one evaluator and including external assessors to avoid personal relationships affecting appraisal outcomes. Silman and Glazerman found 'little evidence that the PBTE is applied rigorously or implemented uniformly in a way that would motivate teachers to raise their performance' (27).

The other criteria for promotion in this programme are based on teachers taking on additional responsibilities and completing certain forms of professional development. The additional responsibilities have

to 'exceed the norm for the profession', and therefore have to take place outside classroom time, and are measured by the hour. For teachers, 'Career Ladder payments were seen as a reward for longevity and completion (with documentation) of a set of allowable activities such as tutoring, after-school activities, or approved professional development' (Silman and Glazerman, 2009: 27). Perhaps unsurprisingly, given the nature of appraisal, 49 per cent of participating teachers were at the top level of the ladder in 2002, earning an extra $5,000 a year (Cornett and Gaines, 2002).

Portugal's performance-related pay programme

In 2007, Portugal oversaw the break-up of its single salary schedule into two pay scales, a higher and a lower scale (Martins, 2010). The gap between the two was particularly large, and successful teachers moving from the lower scale to the higher would see their pay increase by 25 per cent from €2,000 a month to €2,500 a month. The progression from one scale to the next was based on individual teacher performance variables, including student performance, parental feedback, teacher attendance, professional development attendance, managerial responsibilities, and involvement in research projects. Once again, these requirements drew on elements from all three 'types' of career ladder: performance-based, jobs-based, and professional development-based. However, even if a teacher did well in these areas (which are combined in a cumulative fashion), they were not guaranteed a place on the upper scale, as there was a quota as to how many places were available each year. This meant that the scheme was norm-referenced, and put teachers in competition with one another for these places.

Martins (2010) carried out a difference-in-differences analysis of this new programme, drawing on two control groups: schools which were exposed to a lighter version of the intervention, and schools which were not exposed to the programme at all (private schools). The result of this analysis showed that the reform led to a significant and sizable relative decline in student achievement, based on national exams in which all schools took part. Drawing on further analysis of early retirement across public schools, Martins suggests that the reason for this decline was 'the disruption of teacher cooperation created by tournaments for promotions and increased administrative workloads, both resulting in job dissatisfaction' (Martins, 2010: 25). Both of

these factors should also therefore be borne in mind with regard to the design of teacher career structures.

Indonesia's teacher certification

In 2005, Indonesia introduced a comprehensive teacher law. This reform covered a number of linked-up areas related to the quality of the teaching profession, with the aim of giving teaching a 'professional' status. Reforms included the development of teacher standards, the requirement for all teachers to meet a minimum standard of a four-year degree before becoming certified, and the establishment of a course of additional professional training after the four-year degree. All teachers are required to be formally certified, either through a portfolio of the teacher's education and achievements, or through a remedial 90-hour course. Fundamental to this reform was the introduction of a 'professional allowance' granted to teachers once they are certified, which constitutes a significant addition to teachers' salaries, and will approximately double the wage bill of the government in years to come (Cerdan-Infantes and Makarova, 2013).

Once teachers are certified, their salaries increase based on their annual performance appraisal scores – another reform brought in by the teacher law. Teachers' knowledge and skills are evaluated annually against the teacher standards, and professional development is suggested based on their professional needs.

The effects of this teacher law were examined recently in a review by the World Bank (Chang *et al.*, 2013). It found that teacher certification and the doubling of teacher income had not led to the expected effects in terms of better teaching and better learning. There was no difference found in pedagogy or student outcomes between those primary school teachers who were certified, and those who were uncertified. This is consistent with the research discussed in *Chapter 2*, which suggests that raising teacher salaries alone (in those countries where the salary already covered basic needs) is not enough to improve teacher quality (Abd-El-Fattah, 2010; Bennell and Akyeampong, 2007; Delannoy and Sedlacek, 2001; Michaelowa, 2002). Why the certification failed to have an effect on teaching and learning is more puzzling.

However, increasing salary and introducing certification do seem to have had an effect on increasing the attractiveness of the profession. Chang and colleagues (2013) report that better candidates (those with better qualifications) are applying to teacher training institutions since the teacher law came into place. Applications to teacher training institutions have been increasing year on year faster than the national average. However, the supply of new teacher trainees has only kept up with the increase in demand, so the potentially beneficial effects of competition for places has not yet materialized (Chang *et al.*, 2013).

Chapter 6
Lessons for design and implementation

Several of the lessons for design drawn out by evaluations and reviews of teacher career structures have already been discussed when considering different methods and approaches to appraisal, as the appraisal process is central to performance-based teacher career structures. These lessons will be briefly revisited here, before other design considerations specific to teacher career ladders are discussed.

In its report on attracting and retaining qualified teachers within the Organisation of Eastern Caribbean States (OECS), the World Bank (2012) drew out key lessons from the implementation of teacher career ladders, some of which correspond to the best practices in appraisal discussed earlier. It suggests that for advancement to be credible, advancement decisions should: (i) involve peers, school principals, and any other actors agreed by key stakeholders, including teachers' unions; and (ii) use multiple sources of objective, valid, and reliable evidence of performance. Having multiple evaluators ensures the decision-making process is reliable and less subjective, while the use of multiple sources allows the overall outcome to overcome the weaknesses of individual methods.

Another key lesson for the OECS was the importance of clear evaluation criteria – clarity in what teachers need to do or show to earn a promotion (as opposed to how this is assessed and by who) (World Bank, 2012). As noted previously, different systems have defined a whole host of criteria that teachers must meet, including certain student scores, participating in professional development, and scoring by parents and supervisors. However, an important issue faced by several systems was the complexity of the evaluation criteria. North Carolina's career structure plan was suspended because of difficulties in implementing its complex evaluation system, and Cincinnati's programme also faced criticism that the evaluation criteria were too complicated for teachers to understand (Cornett and Gaines, 2002).

Box 3. Australia's Advanced Skills Teacher (AST) status

Australia introduced Advanced Skills Teacher (AST) status in 1990. These ASTs were paid between 4 per cent and 10 per cent more than the top of the salary scale at the time, in recognition of their superior teaching performance. However, according to Ingvarson (2013), implementation of this policy failed across most states because the salary increases were too small, and teachers were often given extra responsibilities and became stressed (even though the intention was that they would continue with classroom teaching).

Although this innovation formed part of national policy, standards and evaluation criteria for AST status were left up to local authorities, which lacked the expertise or resources necessary to develop and trial methods that were valid and reliable. Consequently, the most common evaluation method consisted of an interview, with a panel including the school principal, a colleague, a local government representative, and a teacher from another school. As teaching evaluations were not considered, it became difficult for panels to grant AST status without seeming biased. Accordingly, they approved almost everyone who applied who was eligible, leading to a loss of credibility.

One solution to this is to have a standards-based evaluation criteria, where there are clear skills, knowledge, and practices that teachers must have or be doing in order to earn a promotion. The OECD report, *Teachers for the 21st Century* (OECD, 2013), suggests that teacher appraisals need teacher standards in order to be fair and reliable. It contends that the main reference standards for teacher appraisals are usually:

- professional profiles of teachers or teaching standards (general profile of competencies for teachers), including specialised profiles for particular types of teachers (e.g. level of education, subject);
- a set of general and professional duties of teachers, including job descriptions;
- at the school level, a school development plan, internal regulations and the annual activity plan (OECD, 2013: 21).

How these competencies are demonstrated (i.e. through lesson observations or portfolios) can be left to the local district or the teacher themselves, but assessors should be trained in determining whether or not the standards have been met. This is in contrast to a cumulative approach, where each different appraisal method is worth

a certain number of points, or is weighted differently, leading to a lack of transparency.

Finally, evidence from Martins' (2010) appraisal of the Portuguese reform and from psychological theory supports the suggestion that bonuses or promotions as a result of appraisal should be criterion-referenced (based on standards), without the introduction of quotas, which lead to competition. In Portugal, this competition, in combination with an increased workload, led to a decrease in student results, as it discouraged collaboration between teachers.

Difficulty of standards and professional development

Another important issue for the design of teacher career structures is the ease with which teachers can be promoted. Mistakes can be made in both directions. If standards are so low, or appraisal procedures so lax, that the majority of teachers that apply receive promotion, then this reduces the status of the role, costs more, and can reduce the credibility of the programme with teachers. For example, 90 per cent of teachers in Texas qualified for the first two levels of the state's proposed career structure. Subsequently, Texas never implemented the top rungs of the proposed structure, due to the cost of paying 90 per cent of teachers a bonus and the scepticism that arose among staff that nine out of 10 teachers merited the award (Cornett and Gaines, 2002). The Advanced Skills Teacher status in Australia was met with similar scepticism when most teachers that applied were accepted (Ingvarson, 2013). Vegas points out that making promotion too easy also reduces the incentive for teachers to improve learning in their classrooms, as they would expect to receive it anyway (Vegas, 2005).

Conversely, if the criteria for promotion are set too high, or not many teachers are eligible to apply, the effect on motivation would also be minimal, as teachers would just not bother trying, or worse, become further stressed or overloaded. In Colombia (see *Factsheet 2*), few teachers are choosing to apply for promotion, despite the substantial salary increase. Ome (2012; reported in Bruns and Luque, 2014) suggests that this was partly because promotion is too difficult to attain, with only a fifth of teachers succeeding.

Delannoy and Sedlacek (2001) suggest that the vision of what is expected from teachers 'should be pitched at a realistic level' (58). This is especially important for implementation in developing countries

where initial teacher training may be limited and skills low. Teachers need to see that the next rung up on the ladder is achievable, so the standards for the lowest rungs on the ladder need to be set relative to the current skills of the teaching population, and, where jobs-based elements are additional to a teachers' normal workload, they should be given time in lieu. An example of a place where this has not happened is Ethiopia, where teachers complain that the expectations set by the career ladder are too high, and ignore their time constraints (Tekleselassie, 2005). One eighth-grade teacher is quoted thus:

> Teachers spend most of the time in the classroom; in the class of eighty, ninety or even hundred students what spare time is there to do other than conducting classes? You know, I don't even have enough time to provide feedback on class or homework assignments for every student. Now, they tell us to do research, to participate in several extracurricular activities, and still worse, to participate in community activities. Either we have to meet these requirements or lose our promotion. What do you expect us to do under such constraining circumstances? Pretend as though we had done what actually we didn't? What? (Tekleselassie, 2005: 624).

Decisions about how easy or hard the criteria for promotion are should also be based on the financial resources available. If only a small pot of money is available for the scheme, standards could be set higher so that fewer teachers attain the highest levels with the highest salaries. In a report for the Business Council of Australia (BCA), Dinham, Ingvarson, and Kleinhenz (2008) carried out such an analysis for Australia, and suggested that equilibrium in a national certification system for Australia's teachers would see around 30 per cent of teachers at the 'highly accomplished' level and 10 per cent at the 'lead teacher' level. They made clear, though, that this equilibrium would be attained by the setting of standards at variable levels of difficulty for the different levels of promotion, and did not recommend the establishment of a quota for the number of teachers allowed at each level.

Professional development

Even with a perfectly designed teacher career ladder, with clearly described teacher standards or requirements that each teacher must meet to move up at each level, teachers may find themselves unable to

meet these standards without high-quality professional development. Heneman III (1998) conducted a qualitative review into what teachers in a district in North Carolina thought about the performance-pay plan there, and found that although teachers felt generally positive about the plan, they felt unsure about their pedagogical ability to meet the expected student achievement goals. They felt that they had sufficient resources, but lacked the opportunities for team teaching and planning, best practice information-gathering, and professional development, among other things. A similar issue was reported by Tekleselassi with Ethiopia's career structure (see *Factsheet 4*) – teachers were required to carry out tasks such as research that they had not been trained to do.

This relates to Bennell and Akyeampong's (2007) distinction between 'will-do' motivation and 'can-do' motivation. These teachers appear to be in a situation where they have the former but lack the latter, described by Bennell and Akyeampong thus: 'a teacher may be highly committed to the attainment of the school's learning goals, but she may lack the necessary competencies to teach effectively, which ultimately becomes de-moralising and de-motivating' (40). Whereas, if teachers lack the competencies but are 'passing' new standards anyway, then such a system becomes merely bureaucratic hurdle and will not improve the education of the children as intended. Ensuring access to professional development is therefore crucial for the success of any new career structure. In its key lessons for the implementation of teacher career ladders, the World Bank (2012: 45) suggests that teacher professional development 'should be part of the plan, including provision for release time, financing aspects etc.' Singapore's career structure (see *Factsheet 5*) manages this element very well. Before teachers are promoted, they are required to attend professional development courses that are specifically designed to prepare them for the role for which they are applying.

It is important that professional development opportunities align with the criteria or standards for teachers defined by the career ladder. Having such a career ladder can support the organization of professional development by providing clear direction. Dinham, Ingvarson, and Kleinhenz (2008), suggest that a professional development system should have the following four elements as a minimum:

- Teaching standards that set out in detail what is to be expected of teachers.
- Teacher development 'milestones' with recognition and incentives for those that achieve them.
- Resources for teachers' professional development linked to the requirements of the standards.
- A legitimate and voluntary professional certification process based on authentic performance evaluations.

Financial aspects

Many career ladders fail due to lack of funding. It is important to examine the cost implications prior to implementation, and make adequate budget provisions. With some career structure designs, greater spending on teacher salaries is inevitable. For example, designs in US states where new roles were introduced, in addition to the single salary structure, meant that this cost additional money, and teachers continued to receive pay rises based on time teaching and qualifications, in addition to anything they earned through achieving the new levels (Cornett and Gaines, 2002). In contrast, Arizona's teacher career ladder legislation (see *Factsheet 1*) required districts to restructure teacher pay, rather than add the ladders to the existing structure. This was said to be key to the stability of Arizona's teacher plan (Cornett and Gaines, 2002), although Arizona's programme also required extra funding.

If designed in such a way that money for the higher rungs on the career ladder comes from money that would have been spent on the longest-serving teachers (regardless of performance), it is possible to design a new teacher compensation system with the same long-term salary costs as the current system (Hawley Miles, Pennington, and Bloom, 2015). In fact, theoretically, it would be possible (though not desirable or practical) to spend less money on teacher salaries under a career ladder, if the same salary increases that teachers would automatically get under the single salary schedule were only granted to those who passed a stringent appraisal at each level. In reality, though, such a system would not be accepted by teachers (in bargaining, the risk of not receiving automatic increases has to at least be offset by the possibility to earn more than they would have gained for excellent performance), and the salary situation in many developing countries

is already so constrained that any perceived cut would worsen teacher shortages and further demoralize teachers. Whether or not the salary bill increases, the introduction of an effective programme is likely to come with additional long-term costs to pay for professional development aligned with teacher standards, and administrative costs for assessment and record-keeping (Milanowski, 2003).

There is also likely to be an initial transition cost when implementing a new system, for two reasons. First, there will be some teachers in the current system at or near the top of the salary scale for whom the new system would lead to a pay cut. Systems, such as Cincinnati, that have tried to force all (but a relatively small number of very senior teachers) teachers onto the new plan have unsurprisingly met with resistance from teachers' unions, which damages teacher buy-in (Milanowski, 2003). Others, instead, have opted to continue to pay those teachers until their retirement or for a few phase-in years (keeping their salaries constant if not continuing to raise them), making the career ladder programme voluntary for these teachers, and introducing the plan as compulsory for newer teachers (Hawley Miles, Pennington, and Bloom, 2015). Second, for the successful implementation of a new teacher career ladder, whoever is performing the teacher appraisals must be adequately trained, as the quality of this training is paramount. In Indonesia, a delay in funding meant that training courses were hastily designed and inefficient, and led to an almost 100 per cent pass rate at the end of training (implying, in this case, a lack of discretion in assessment decisions) (Chang *et al.,* 2013).

How the career structure is designed affects not only how much money is spent, but the predictability of spending on teacher salaries each year. As discussed in more detail in *Chapter 4*, norm-referenced appraisal (where only a certain number of teachers are promoted dependent on their relative performance) often allows more certainty regarding the amount required than criterion-referenced appraisal (where any teacher who meets the standards is promoted).

In Ethiopia (see *Factsheet 4*), a criterion-referenced system is used where teachers must meet certain criteria before being promoted. However, at the highest levels, a norm-referenced appraisal is used – only the best of those that meet the criteria are promoted. This allows for more certainty about budgets, but without introducing competition and reducing collegiality between teachers up to the

highest levels of the career ladder (at which point, competing teachers may come from different schools anyway).

In Estonia (see *Factsheet 3*), a criterion-referenced system is used throughout the career ladder, but local authorities can still predict exactly how much will be spent on salaries, as the salaries are not fixed. Teachers are guaranteed a minimum salary, and guaranteed that their promotion will be accompanied by a salary increase, but the exact amount granted to each teacher depends on the number of teachers at each level.

Ownership and management of reform

While teachers need to understand the framework for evaluation, they also need to 'buy in' to the career programme and see it as something fair and worthwhile if it is to have any positive impact on teacher motivation or skills. To achieve this it is essential to ensure the involvement of teachers and their representatives in the initial design and development of the programme. Without this 'buy-in' from a critical mass of teachers, a new teacher compensation system will not succeed (Cornett and Gaines, 2002; World Bank, 2012). This is not always the case with policy changes affecting teachers, and a survey by VSO in Malawi, Papua New Guinea, and Zambia found that the insufficient involvement of teachers' representatives in policy-making was a major cause of dissatisfaction (VSO, 2002).

Dellanoy and Sedlacek (2001) point out that all known reforms have required bargaining with teachers' unions over 'acquired rights', as teachers move from a system where they were guaranteed pay rises to one where this is dependent on appraisal. They offer three pieces of guidance on this process, from the state of Connecticut:

> First, a critical pre-condition is the existence of a social consensus about the need for reform. ... Second, the need for differentiated pay scales (according to performance) should be balanced with the need to ensure that teacher salaries are competitive at the market level (taking into account monetary and non-monetary benefits). Finally, the vision of what is expected from teachers, the 'social contract', should be pitched at a realistic level (Dellanoy and Sedlacek, 2001: 58).

Good communication and timely information-sharing are also important for continued teacher buy-in, especially for those who have

not been directly involved in the process of implementation and design. The World Bank (2012) suggests that 'teachers should be informed clearly, promptly and in detail about the evaluation procedures and related policies' (45).

Although teachers and their union representatives should be involved in and have input into the design of the evaluation system, they should not be solely responsible for its performance unless they have the necessary expertise (e.g. as part of a professional body of teachers). Based on the lessons from the implementation of the AST programme in Australia, Invargson (2013) suggests that

> there is a need for a clear separation between the certification system, which should be regulated by a professional body, and systems for deciding on the pay to be associated with that certification, which should rightly be negotiated between teachers unions and local authorities (248).

The certification system, consisting of some form of criteria and the processes by which teachers will be judged to have met the criteria, should be designed by experts in evaluation design, with input from stakeholders, to ensure that the system is valid and reliable, and reflects the wisdom gained from teachers' experiences.

In Arizona, the state passed legislation which determined a clear framework for how systems should be designed, but left districts to decide exactly how this was to be implemented in their local areas (Driscoll, 2015). Once districts had designed their own programmes, they were submitted to the state authorities for approval against the legislation. The right balance between central guidance and local flexibility will depend on the skill level of local authorities, how much autonomy authorities and schools are used to and expect, and how easy it is to hold local districts accountable to the centrally mandated elements of the programme (which will, in part, depend on the geography of the country). While local leaders will have a better understanding of the school context and teachers' abilities and needs, the central government will have more expertise in programme design and can align teacher evaluation systems with national-level goals.

Fullan and Miles (1992) remind us, however, that it is especially unwise to mandate important changes, as these require motivation,

skill, and discretionary judgement on the part of those who must change (teachers and school leaders).

Implementation plan

Implementing a teacher career structure is a substantial undertaking, and the process of implementation itself needs planning, along with the design (World Bank, 2012). The process requires substantial commitment from the main actors involved, including education authorities at central and local levels, teachers' unions, universities, and so on, as well as consensus among these groups about the standards or criteria that define teacher quality, and how they will be measured (OECD, 2013). A particularly important stakeholder to get on board from the outset is the Ministry of Finance. Unless the reform is adequately costed and budgeted, it will not be implemented. Enough time needs to be given for the proper training of evaluators (whether these are school staff or external authorities), and for schools and teachers to prepare and understand the new system, the rationale behind it, and the standards which they will need to work towards. Too often, reforms are ad hoc, and uncoordinated with one another. Time and attention should be given to how the proposed reform aligns with other educational reforms, to ensure that the overall effect is coherent and that different policies are pulling in the same direction (Fullan and Miles, 1992).

To help with successful implementation, it is useful to pilot the system in a smaller part of the state, as this allows any difficulties or oversights to be ironed out before the programme is rolled out on a wider scale. This approach also helps with budget planning, as it allows authorities to more accurately estimate the proportion of teachers able to pass at each level, and to adjust salary promises accordingly ahead of the main roll out in order to keep the salary bill within budget.

Other obstacles

There are other potential obstacles to be aware of in the design and implementation of a new career structure. In many countries, teachers are civil servants, and their pay, therefore, is based on pay scales which are common across the civil service. This could add an element of challenge in implementing a new career structure, as other civil service professionals might expect to follow suit. With regards to the

relationship between the teachers' career structure and the rest of the civil service, one option would be to replicate Ethiopia's approach, and have teacher salaries remain within the general framework, but move teachers to another civil service salary scale on promotion. Another (by no means easy) option would be to create an entirely separate salary scale for teachers.

Another likely obstacle concerns the availability or otherwise of suitable people to carry out teacher evaluations. Promotions based on any 'holistic' evaluation (that goes beyond narrow measures such as student results) rely to a certain extent on the judgement of more senior professionals. If there is a lack of knowledge or understanding of what good teaching looks like among principals and local education authorities, the process of promotion based on quality of teaching becomes fraught with difficulty. In this scenario, it is very important that sufficient training is given to these professionals (or whoever is to be responsible for evaluating teachers for promotion) prior to the introduction of a new career structure. If the career structure is implemented before this happens, there is a danger that if the wrong people are promoted initially, teachers could lose trust in the fairness of the system before it is even fully implemented.

Conclusion

This literature review set out to examine the available research concerning the organization of teacher careers, and made the assumption that, where salaries are sufficient to meet teachers' basic needs, specific models of teacher career organization could play a role in improving the motivation of teachers in their daily work, and in raising the appeal of the profession. This section draws some brief conclusions regarding the five research questions set out in the introduction.

What are the specific problems linked to the organization of teacher careers in developing countries?

By far the most common way to organize teacher careers in developing and developed countries is the single salary schedule. Problems with this structure are widely discussed in the literature, and include: a lack of correlation between the factors used for promotion (certificates and experience) and teacher effectiveness; a lack of accountability for quality of teaching; the demotivating effect on the colleagues of less dedicated teachers who are automatically promoted; a flat salary structure that makes the profession less attractive to the most able; a lack of opportunities for career progression without leaving the classroom; and a limited sense of self-determination among teachers. Changing the career structure for teachers to a system that includes promotion opportunities that allow teachers to continue teaching, and that links promotion to the quality of teaching, could therefore potentially address all of these problems, if designed correctly.

In addition to teachers whose pay follows this single salary schedule, many developing countries also have contract teachers who are employed to meet the increasing demand for teachers, but who often lack the qualifications required of civil service teachers. This situation creates a dual problem: students taught by these teachers do not have the benefit of a qualified teacher with teacher training, and qualified teachers feel the status of the profession is lowered by the admission of less-qualified candidates to the profession. Changing the teacher career structure could potentially help to address these

problems. If contract teachers were considered to be on the first rung of a career ladder and could access training to allow them to be promoted to full teacher status, this would give them a route to become fully qualified. And if qualified teachers were known as such, or had the opportunity to become 'lead teachers' or 'master teachers', they could differentiate themselves professionally from those less qualified.

How are the motivation and organization of careers linked?

The single salary structure does not, in itself, provide any motivation for teachers to work hard or improve their teaching quality, as whether they do this or not has no effect on their career outcomes or pay. Teachers in these systems rely on their internal motivation to perform well for their students, as the single salary structure is effectively demotivating, as discussed above.

Types of motivation can be classified along a scale, from controlled (acting because of an external pressure) to autonomous (acting out of an intrinsic desire for a certain outcome). Extrinsic incentives, such as monetary bonuses based on specific outcomes, can undermine autonomous motivation. This should be avoided due to the positive effects of autonomous motivation on problem-solving, persistence, and creativity.

The task for any career structure, therefore, is to encourage autonomous motivation through the creation of an environment that encourages competence, autonomy, and good interpersonal relations, while, at the same time, holding teachers accountable for the quality of their teaching. This can be achieved by including extrinsic incentives and disincentives, for those who remain unmotivated, in a way that is not perceived as controlling to those who are already autonomously motivated. In other words, accountability for teaching quality is needed, but it must be perceived as supportive and conducive to the autonomy of all teachers willing to try to improve their practice, so that it does not undermine their autonomous motivation. This sounds challenging, but some career structures seem to achieve this balance.

What are the different models of teacher career organization around the world?

Beyond the single salary structure, with its experience-based pay rises and administrative promotions (to school leadership and out of the

classroom), there are three main models of teacher career organization. These all link pay with teaching quality in some way, but vary in terms of how direct that link is, and how much they allow for conditions of autonomy and supportive relationships.

Performance-related pay models give teachers one-off bonuses, based on either their students' results or a broader appraisal of teacher performance. Another model is a variation on the single salary structure, where salary rises at key points (e.g. every three years) are dependent on passing an appraisal. Sometimes the standards they are appraised against become more challenging, the longer they've been in the profession. The final model is that of the career ladder. Here teachers do not rise up the pay scale by passing an appraisal, but rather take on a new status or role, such as 'lead teacher', having met the required standards to do so. Their pay reflects their new position. There are, of course, variations within these three models, relating, for example, to who evaluates the teachers, the features of the standards, whether professional development is mandatory, and whether new positions come with additional responsibilities.

Which are the most successful models, according to the available research?

The research on all of these models is limited to the extent that no firm conclusions can be drawn. The research on performance-related pay suggests that it is largely ineffective, with most of the 29 American states that implemented PBR programmes in 1986 having since dropped or diluted them. However, two studies on performance-related pay for individual teachers in India and Israel suggest that it can raise student results. Whether or not this success was due to signalling effort (effort for short-term results rather than genuine learning) is an important and, as yet, unresolved question. In developed countries, performance-related pay for teachers has unfortunately been associated with teaching to the test, teachers leaving 'difficult' schools and, in some cases, cheating.

The career ladder structure is a more promising model, in that it allows the possibility of linking pay to performance indirectly, and offer teachers a pathway for professional growth. But there are significant variations within the career ladder structure used by different countries, and different features are likely to result in

different outcomes. Only three career ladder programmes have been quantitatively evaluated. Arizona's model was standards-based, criterion-referenced, and had multiple, external evaluators involved in promotion decisions. It was successful at reducing the drop-out rate, improving the graduation rate, and improving student scores, relative to districts that did not take part. Missouri's model included teacher standards, but these remained identical at different levels of promotion, and teachers were assessed by administrators in their own school. Results in maths improved only marginally, and in reading not at all, which evaluators put down to a lack of rigour in the application of the evaluation procedure, due to collusion between administrators and teachers. Portugal introduced a nation-wide career structure in which teachers had to pass an evaluation to move from a lower pay scale to a higher pay scale. This appraisal decision was cumulative, and norm-referenced, putting the teachers in competition with one another, with the result that student scores actually decreased after the introduction of the programme.

It is very important to note that the success of this model probably depends on a number of important preconditions: sufficient financial resources, a reliable and transparent teacher evaluation system, strong legislative and regulatory frameworks, and so on. Particular care must therefore be taken to consider the socio-cultural and socio-economic contexts of developing countries. More research is needed to assess how career ladder models function in these particular contexts.

What are the lessons for the design and implementation of career ladder systems?

This research, and qualitative reports on other career structures, give us clues as to what features might be most effective in the design of teacher careers.

Holistic (standards-based), criterion-referenced evaluation for teachers seems to be more effective than cumulative, norm-referenced evaluation, at least at the lower levels of the career ladder. Criterion-referenced evaluation has implications for finances, as it means that anyone who meets the standards can be promoted (and therefore receive a higher salary), but this uncertainty can be overcome in two ways. Either an additional norm-referenced process can be introduced to select between teachers who have met the

standards at the highest levels, introducing some competition but keeping costs down, or a pay rise can be guaranteed for anyone who meets the criteria, but the extent of this pay rise can be based on the available budget.

Evaluation against standards should be carried out by at least two people. At lower levels of the career ladder, it makes practical sense for teachers to be evaluated by senior members of the school, however at middle and higher levels it would be preferable if the evaluation was at least reviewed by an external assessor. These external assessors and school-based assessors should be trained in how to make judgements against standards before the career structure is implemented.

With regard to the design of standards themselves, teachers or teacher representatives should be involved, and the standards set should be realistic and take into account the time constraints on teachers in classrooms. The standards at the lower end of the ladder need to be attainable for almost all teachers, while the standards at the higher end of the scale can be more aspirational, but should still be achievable with hard work and adequate professional development.

Annex: Factsheets

Factsheet 1
ARIZONA

Arizona's teacher career programme was jointly developed in 1984 by policy-makers, union representatives, teachers, and other stakeholders, and was made into legislation. In 1985, the state selected 14 school districts to take part in a five-year pilot programme. Following this, a further 14 districts opted to participate in the programme, but beyond this, no further districts were able to take part due to a lack of funding. The districts taking part in the programme account for about a third of students in Arizona.

What does the career structure look like?

In Arizona, individual districts that take part are required to design their own career structure, based on regulations that form part of state legislation. The Career Ladder Program consists of levels and steps, each of which has its own salary range, but as the number of levels and steps is not specified by the legislation, this varies across the 28 districts.

Each district has to reapply every year to the State Career Ladder Advisory Committee to have their career structures approved against the legislation. Staff from the Arizona Department of Education also provide technical assistance to district personnel in the administration of their programmes.

What is movement through the career structure based on?

With regard to the basis for teacher pay, the legislation requires that Career Ladder programmes provide for:

- increasingly high levels of pupil academic progress as measured by objective criteria;
- increasingly high levels of teaching skills;
- increasingly high levels of teacher responsibility.

Teacher pay is therefore both jobs-based and performance-based. The legislation also requires that each district include adequate and appropriate professional development opportunities to help teachers reach the skill levels required for the next step. Although completion of professional development is not part of the legislative requirements for moving through the levels, some of the districts count completion of certain professional development activities among the teacher responsibilities laid out at each level.

How does this work in practice?

The legislation specifies that promotion should be based on more than one measure of teacher performance, and that this must include instructional performance, pupil academic progress, and instructional responsibilities. In practice, most districts use

classroom-based measures of student academic progress rather than external tests. Teachers are usually required to create portfolios gathering evidence of their skills and competencies.

The legislation states that at least two people must be involved in placement decisions to ensure reliability, and an appeal procedure must be put in place. Portfolios are often submitted to district-level committees made up of teachers (at the higher levels of the career structure) and parents, who decide whether a teacher has met the criteria for the level.

Criteria differ for each district, although all are based on the key requirements stipulated in the legislation. All teachers that meet the criteria are promoted, as is normal for a criterion-referenced system. The state actively encourages collaboration and teamwork. With regard to the jobs-based component, districts have a continuum of responsibilities which teachers must take on as they advance up the levels.

Are there other bonuses or allowances?

In 1994/95, a statute revision was enacted that allowed all districts to participate in an additional incentive component. All employees are eligible to participate in this programme at the school site level (including non-teaching staff). It is up to districts to determine who receives the incentive.

What are the financial implications?

State-appropriated funding is derived by a formula based primarily on student counts. At full implementation, districts may increase their base funding level by up to 5.5 per cent, depending on compliance with requirements. The programme is also subsidised by district taxes.

Has this programme been evaluated?

Yes, school districts that take part in the programme have been compared with those that do not, and found to have significantly higher student results in almost all grades and subjects (Stoat, 1994; 2002). For more information, see *Chapter 5*.

Are there any problems or issues with this programme?

No new districts have been able to join the programme since 1994 due to lack of funding. In 2010, one district that was unable to join the programme filed a lawsuit against the state, and the judge ruled that it was unconstitutional to enable some districts to access this funding but not others. The state therefore had to expand the funding to all districts that wanted to participate or repeal the programme. It chose to do the latter (due to lack of funding), and the Career Ladder Program is now being phased out.

Sources: Arizona, 2015; Driscoll, 2015.

Factsheet 2
COLOMBIA

What does the career structure look like?

Colombia's Estatuto de Profesionalización Docente (EPD) programme was introduced in 2002, marking a change from the previous seniority-based system. Teachers begin on one of three different grades, based on their level of education. Each of these grades has four wage levels (A, B, C, and D), which can be worked through over the course of a teacher's career, based on his or her competence. As of 2011, across all three grades, 94 per cent of teachers are on the lowest wage level (A).

What is movement through the career structure based on?

Moving from one salary level to the next requires:

- at least three years in service;
- scoring at least 60 per cent on the compulsory annual performance assessments over the previous two years;
- scoring 80 or higher on the EPD's assessment of competencies, which covers behavioural, pedagogical, and discipline-specific competencies.

As a result, the career structure is performance-based only – not jobs-based or professional development-based. No professional development is required, although it may well be helpful in attaining the required competencies. Promotion does not depend on or result in extra responsibilities.

How does this work in practice?

School directors formally appraise every teacher each year, and teachers are rated out of 100 on a combined assessment of skills and academic qualifications. However, appraisal for promotion only happens every three years (at most), and is managed by the national testing agency (Instituto Colombiano para la Evaluación de la Educación) and sub-national governments.

The outcome of the EPD appraisal is decided cumulatively (adding together points from different aspects of the appraisal), with a threshold score of 80 required for promotion. While this officially makes the promotion decision criterion-referenced, promotions are contingent on the available budget, with those with the highest scores given priority. Any teacher who scores less than 60 two years in a row is dismissed.

Promotions are difficult to achieve. In 2011, less than 19 per cent of candidates passed the threshold required for promotion to a higher salary level (B, C, or D), and less than 22 per cent achieved promotion to a higher grade.

What are the financial implications?

Salary increases with promotion are substantial. For example, base salaries for wage level D within Grade 2 are 81 per cent higher than for level A. However, few teachers qualify for promotions, and even if they do there is no guarantee they will receive this pay rise, as promotions are budget dependent. This makes Colombia's wage bill more sustainable, but puts teachers in competition with one another, which could be a reason why fewer than 60 per cent of teachers chose to take the 2011 EPD assessment.

Has this programme been evaluated?

Evaluation of this programme has been difficult due to the lack of reliable pre-reform data. To get around this issue, Ome (2012) used regression analysis to correlate school-level test results with the presence of EPD teachers. He found that schools with a higher share of EPD teachers had lower dropout rates and slightly higher test scores in some grades and disciplines, but that the correlations were inconsistent.

Are there any problems or issues with this programme?

Not many teachers are choosing to apply for promotion, despite promotions coming with a significant salary increase. This could be because the standards are too high (with roughly a fifth of teachers achieving promotion in 2011) or because salary increases are not guaranteed. While this is good for the budget, it could mean that most teachers are not motivated by this scheme.

Sources: Bruns and Luque, 2014; Ome, 2012.

Factsheet 3
ESTONIA

What does the career structure look like?

There are four occupational grades (*ametijärk*) for teachers in Estonia: junior teacher, teacher, senior teacher, and teacher-methodologist. Until now, the teacher's base-salary has been in direct correlation with the appointed grade.

What is movement through the career structure based on?

The junior teacher grade is granted to anyone who has met the qualification requirements for being a teacher, and movement to teacher status requires one year of effective work as a junior teacher. In order to move to the senior teacher or teacher-methodologist grade, teachers must have worked effectively as a teacher at the lower level for three years consecutive, and have undertaken a minimum of 160 hours of professional training in the past five years.

Teachers' qualifications are taken into account in the decision and, for the higher levels, existing responsibilities, such as being part of working groups or carrying out pedagogical research, are considered part of the promotion criteria. For example, a teacher should already have completed some mentoring of younger teachers in order to be appointed to the senior teacher position. The competencies and qualification requirements for each grade are laid out by the government regulation, Framework Requirements for Teachers' Training.

This career structure is professional development-based and jobs-based, but does not include a performance-based element beyond the evaluation component that is included in the professional development courses.

How does this work in practice?

The jobs-based element takes a different approach to many countries, with responsibilities given to teachers as a result of promotion, rather than being part of the criteria for promotion. The process of verifying a teacher's credentials to move to the next grade is known as attestation. There is a sense that whoever conducts the attestation is just verifying the teacher's own self-evaluation against the requirements to confirm that they are already at a certain grade level, rather than promoting them per se. If the teacher chooses to apply for attestation, they submit a written application along with documents confirming their fulfilment of the requirements.

Different personnel are responsible for teacher attestation at different levels. Teachers and junior teachers have their grade granted by the head of the institution, senior teachers have their grade granted by an attestation commission established by the head of the institution, and teacher methodologists have it granted by a commission established by the Minister of Education. Movement to higher grades is criterion-based, so anyone that meets the requirements for each level is promoted.

What are the financial implications?

There is no fixed salary level for each teacher grade, although it is guaranteed that teachers in higher grades will be paid more. Decisions regarding progression to grades are made independently of budgetary decisions, with the exact salaries shared out from a lump salary sum given to the local authority, based on an agreement between local authority representatives and teacher unions as to the minimum salary for each grade.

This system allows for promotions with a guaranteed pay rise (although not an exact figure), without a quota or upper limit on promotions, while keeping salary expenditure constant and predictable.

Has this programme been evaluated?

No. Estonia's PISA results have improved significantly over the past 10 years, although there is no guarantee that this is related to their teacher career structure.

Are there any problems or issues with this programme?

In his study on the assessment of primary teaching in Estonia, Mannamaa (2010) suggests that 'the general opinion is that the system does not provide sufficient information to guide the development of teachers' performance' (226). The Estonian government has since implemented a project entitled Raising the Qualifications of General Education Teachers (2008–2014), which aims to support the professional development of general education teachers throughout their careers.

Sources: EURYDICE, 2010; Mannamaa, 2010; National Examinations and Qualifications Centre, 2009.

Factsheet 4
ETHIOPIA

What does the career structure look like?

The career ladder, as described by Tekleselassie in 2005, included four steps or ranks: teacher, senior teacher, associate leader teacher, and lead teacher. Since 2005, the salary scale has changed: teachers at each of these levels are paid more, and those with second degrees are paid substantially more, but the four ranks on the career ladder remain (Ethiopian Teachers Association, 2012).

What is movement through the career structure based on?

To move to the next step on the ladder, teachers have to meet various requirements: being effective in teaching; diligence in improving one's profession and willingness to share experience with others; ability to evaluate the curricular materials at school level and to adapt them to local needs; ability to give support and to evaluate students' behavioural changes; and cooperation with the school community and parents. Since 2012, teacher have been able to apply for the next step after three years (previously, it was four years).

How does this work in practice?

Whether or not a teacher has met these requirements is variably determined by evaluations from principals, colleagues, parents, and students, with every requirement evaluated by at least two of these groups. To be promoted to the most senior positions of associate leader teacher and lead teacher, teachers must also produce a research report, and take on additional administrative roles (such as head of department).

What are the financial implications?

While this career structure is mainly criterion-referenced, in that teachers have to meet certain criteria to be promoted, there is not enough money to pay all the teachers who successfully meet the criteria for the most senior positions. As a result, there is further screening for these positions, ensuring the programme is more financially manageable, but making the career structure norm-referenced (and therefore introducing competition) at the highest levels.

Has this programme been evaluated?

It has not been evaluated quantitatively, but Tekleselassie conducted interviews about this policy with seven teachers from seven regions of Ethiopia. As he was concerned with the differences between the original single scale salary structure and the new career scheme that replaced it, the majority of his participants were long-serving teachers who had experienced both schemes.

A potential concern with this sample is that those teachers who have been teaching the longest are the most likely to dislike performance-based career structures, as under the single salary scheme they were automatically paid more for their experience, whereas under the new scheme they have to meet certain standards to receive a higher salary. Nevertheless, the specifics of their complaints about the new scheme provide useful lessons for other countries implementing new career structures for teachers.

Are there any problems or issues with this programme?

The first complaint reported by Tekleselassie was that the policy did not take into account the time constraints of teachers. These teachers were already teaching large classes, and so struggling for time to mark all the students' homework and classwork, but the policy also demanded that they do research projects and take part in community activities in order to progress. The second complaint was related to this: that teachers lacked the skills or training to meet the requirements. They were expected to conduct research but did not have research skills training, and were provided with very little on-the-job training regardless.

Principals were also reported to lack the time and skills necessary to carry out evaluations. As principals are elected to their role by teachers, rather than promoted based on evaluations, teachers also reported that principals have other motivations which may conflict with their motivation to promote the best teachers.

Other criticisms of the programme were related to the personnel involved in teacher evaluation. Parents are involved in teacher evaluation, which, it is argued, is not a good measure, as parents have little involvement with teachers and therefore base their scores on what they are told by the school principal. Peer evaluation is also criticized, as, according to the teachers interviewed by Tekleselassie, peer evaluation erodes the sense of collegiality, and at the higher-level teachers find themselves in competition with one another.

Sources: Tekleselassie, 2005; Ethiopian Teachers Association, 2012.

Factsheet 5
SINGAPORE

What does the career structure look like?

Singapore's career structure has three tracks: the teaching track, the leadership track, and the specialist track. The teaching track includes the roles of senior teacher, lead teacher, master teacher, and principal master teacher. For most of the roles on this track, teachers continue teaching in schools, though master teachers are based in the Academy for Singapore Teachers and work with many schools. The leadership track encompasses subject/level head, head of department, vice-principal, principal, cluster superintendent, deputy director, director, and director-general of education. The specialist track also includes roles that take teachers out of the classroom, and, in many cases, out of the school where employees work on curriculum development and other policies. The roles in this track are senior specialist 1, senior specialist 2, lead specialist, principal specialist, and chief specialist. Movement up each track is accompanied by a rise in basic pay.

What is movement through the career structure based on?

There is a matrix of descriptors called the 'Behavioural Indicators Document', which describes the competencies required at each level, and was designed in collaboration with organizational psychologists. The ladders are performance-based, professional development-based and jobs-based. Teachers are evaluated yearly based on student outcomes (quality of teaching, holistic development), staff outcomes (working with others, sharing resources), and organizational outcomes (contributing to school life), and given a grade from A–E. This grade is decided on by the appraisal panel, made up of the senior management team, and is relevant when applying for promotion. It also determines the teacher's annual bonus.

Appointment to a higher level also depends on the completion of certain forms of professional development, which can include courses of six months for certain positions (although teachers have to be recommended to take these courses). Some of these courses are specifically role-based. For example, there is a course for those who have been selected by the ministry for promotion to principal, before they are appointed to this role. Promotion is also jobs-based, as each new level comes with new responsibilities – dependent on the track – and, in some cases, teachers must start carrying out these responsibilities before being officially appointed to the new position.

How does this work in practice?

Movement to the next level is considered an appointment rather than an achievement of certification. There is a quota determining how many teachers can reach each level, and the Ministry of Education ultimately decides who gets promoted, based on the criteria outlined above. Teachers can put in a preference for which track they would like to pursue, but the Ministry can decide that they are more suited to a different track.

What are the financial implications?

This is a time-intensive system, as teachers are thoroughly evaluated every year, and their grade is decided upon by a panel of people. This means that the system is also expensive, as there needs to be enough senior teachers to carry out all of these evaluations. Singapore also put a lot of resources into their professional development, which goes hand in hand with the different tracks. However, although it is expensive, the system is predictable, as the Ministry controls who is promoted and to which level.

Has this programme been evaluated?

Not publically.

Are there any problems or issues with this programme?

The evaluation process takes place yearly and is thorough, meaning teachers spend a lot of time compiling evidence. Some teachers also complain that due to the non-teaching elements of the evaluation, they feel pressured to take on the leadership of extra-curricular courses and projects, which takes time away from planning lessons.

Sources: Singapore, 2015; Lye, 2015.

References

3D Eye. 2012. 'Fully evolved human beings: Are we there yet?'. Retrieved from: https://3diassociates.wordpress.com/2012/12/21/fully-evolved-human-beings-are-we-there-yet/

Abd-El-Fattah, S.M. 2010. 'Longitudinal effects of pay increase on teachers' job satisfaction: A motivational perspective'. In: *The Journal of International Social Research, 3*(10), 11–21.

Adelabu, M.A. 2005. *Teacher motivation and incentives in Nigeria*. London: DFID.

Adnett, N. 2003. 'Commentary. Reforming teachers' pay: Incentive payments, collegiate ethos and UK policy'. In: *Cambridge Journal of Economics, 27*(1), 145–157. Retrieved from: http://doi.org/10.1093/cje/27.1.145

AITSL (Australian Institute for Teaching and School Leadership). 2013. *Australian Professional Standards for Teachers.* Retrieved from: www.aitsl.edu.au/australian-professional-standards-for-teachers/standards/list

Akyeampong, K.; Asante, K. 2005. *Teacher motivation and incentives: A profile of Ghana*. University of Sussex: Centre for International Education.

Alam, M.T.; Farid, S. 2011. 'Factors affecting teachers' motivation'. *International Journal of Business and Social Science, 2*(1), 298–304.

Amabile, T.M.; Goldfarb, P.; Brackfield, S.C. 1990. 'Social influences on creativity: Evaluation, coaction, and surveillance'. In: *Creativity Research Journal, 3*(1), 6–21.

Arizona. 2015. Department of Education. *Arizona Career Ladder Program*. Retrieved from: www.azed.gov/highly-qualified-professionals/arizona-career-ladder/

Behrstock, E.; Akerstrom, J. 2008. *Performance pay in Houston*. Washington, DC: Center for Educator Compensation Reform.

Bénabou, R.; Tirole, J. 2003. 'Intrinsic and extrinsic motivation'. In: *The Review of Economic Studies, 70*(3), 489–520.

Benveniste, L.; Marshall, J.; Araujo, M.C. 2008. *Teaching in Cambodia.* Phnom Penh, Cambodia: World Bank.

Bennell, P. 2004. *Teacher motivation and incentives in sub-Saharan Africa and Asia.* Brighton: Knowledge and Skills for Development.

Bennell, P.; Akyeampong, K. 2007. *Teacher motivation in sub-Saharan Africa and South Asia.* Researching the Issues, 71. Retrieved from: http://r4d.dfid.gov.uk/Output/175028/Default.aspx

Bennell, P.; Mukyanuzi, F. 2005. *Is there a teacher motivation crisis in Tanzania?* Brighton: Knowledge and Skills for Development.

Booker, K.; Glazerman, S. 2009. *Does the Missouri Teacher Career Ladder Program raise student achievement?* Mathematica Policy Research, Inc. Retrieved from: http://eric.ed.gov/?id=ED507469

Braver, M.W. 1989. 'Executive summary: Impact of the Arizona Career Ladder Pilot on student achievement'. Paper presented at the Arizona Legislature, Senate Education Committee, Phoenix, February 1990.

Bruns, B., Filmer, D.; Patrinos, H. A. 2011. *Making schools work: New evidence on accountability reforms*. Washington, DC: World Bank.

Bruns, B.; Luque, J. 2014. *Great teachers: How to raise student learning in Latin America and the Caribbean*. Washington, DC: World Bank.

Bryk, A.S.; Schneider, B. 2002. *Trust in schools: A core resource for improvement*. New York: Russell Sage Foundation.

Buddin, R., McCaffrey, D.F., Kirby, S.N.; Xia, N. 2007. *Merit pay for Florida teachers*. Retrieved from: www.rand.org/pubs/working_papers/WR508.html

Caena, F. 2011. *Literature review: Quality in teachers' continuing professional development*. European Commission. Retrieved from: https://wb-pet-ministerial.teamwork.fr/docs/Literature_review_Quality_in_Teachers_continuing_education.pdf

Carlson, B. 2009. 'School self-evaluation and the "critical friend" perspective'. In: *Educational Research and Review*, *4*(3), 78–85.

Casassus, J.; Cusato, S.; Froemel, J.E.; Palafox, J.C. 2002. *First international comparative study of language, mathematics, and associated factors for students in the third and fourth years of primary school*. Santiago: LLECE

CEPPE (Centre of Study for Policies and Practices in Education). 2013. *Learning standards, teaching standards and standards for school principals: A comparative study*. OECD Education Working Papers, 99. Chile: OECD.

Cerdan-Infantes, P.; Makarova, Y. 2013. *Spending more or spending better: Improving education financing in Indonesia.* Jakarta: World Bank.

Chang, M.C.; Al-Samarrai, S.; de Ree, J.; Shaeffer, S.; Stevenson, R.; Ragatz, A.B. 2013. *Teacher reform in Indonesia: The role of politics and evidence in policy making*. Washington DC: World Bank.

Clotfelter, C.T.; Glennie, E. J.; Ladd, H.F.; Vigdor, J.L. 2008. 'Teacher bonuses and teacher retention in low-performing schools'. In: *Public Finance Review*, *36*(1), 63–87.

Cobbold, C. 2006. 'Attracting and retaining rural teachers in Ghana: The premise and promise of a district sponsorship scheme'. In: *Journal of Education for Teaching*, *32*(4), 453–469. Retrieved from: http://doi.org/10.1080/02607470600982142

Conley, S.; Odden, A. 1995. 'Linking teacher compensation to teacher career development'. In: *Educational Evaluation and Policy Analysis*, *17*(2), 219–237.

Coolahan, J.; Santiago, P.; Phair, R.; Ninomiya, A. 2004. *Attracting, developing, and retaining effective teachers. Country note: Korea.* Paris: OECD Publishing.

Cornett, L.M.; Gaines, G.F. 2002. *Quality teaching: Can incentive policies make a difference?* Education Commission of the States. Retrieved from: http://eric.ed.gov/?id=ED464085

Cullen, J.B.; Reback, R. 2006. *Tinkering toward accolades: School gaming under a performance accountability system.* Working Paper, 12286. Cambridge, MA: National Bureau of Economic Research. Retrieved from: www.nber.org/papers/w12286

Davidson, E. 2007. 'The pivotal role of teacher motivation in Tanzanian education'. In: *The Educational Forum, 71*(2), 157–166.

Deci, E.L. 1971. 'Effects of externally mediated rewards on intrinsic motivation'. In: *Journal of Personality and Social Psychology, 18*(1), 105–115.

Deci, E.L.; Koestner, R.; Ryan, R. M. 1999. 'A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation'. In: *Psychological Bulletin, 125*(6), 627–668.

Deci, E.L.; Ryan, R.M. 1985. 'Cognitive evaluation theory'. In: E.L. Deci and R. M. Ryan (Eds), *Intrinsic motivation and self-determination in human behavior* (pp. 43–85). New York: Springer US.

Dee, T. S.; Keys, B.J. 2005. 'Dollars and sense: What a Tennessee experiment tells us about merit pay'. In: *Education Next, 5*(1), 60–67.

Deere, D.; Strayer, W. 2001. *Putting schools to the test: School accountability, incentives and behaviour.* Working Paper, Department of Economics, Texas A&M University.

Delannoy, F.; Sedlacek, G. 2001. *Brazil: Teachers development and incentives: A strategic framework.* Washington, DC: World Bank.

Dembele, M.; Schwille, J. 2006. 'Can the global trend toward accountability be reconciled with ideals of teacher empowerment? Theory and practice in Guinea'. *International Journal of Educational Research, 45*(4-5), 302–314.

Devcota, B. 2005. *Is there a teacher motivation crisis in Nepal?* London: DFID.

Dinham, S., Ingvarson, L.; Kleinhenz, E. 2008. *Teaching talent: The best teachers for Australia's classrooms.* Business Council of Australia. Retrieved from: www.bca.com.au/Content/101446.aspx

Driscoll, B. 2015. Personal communication, March.

EFA (Education for All). 2014. *Teaching and learning: Achieving quality for all*. Paris: UNESCO Publishing.

Ethiopian Teachers Association. 2012. 'Teachers' salary scale increased'. Retrieved from: www.ethiopianteachers.org/index.php?option=com_content&view=article&id=95:teachers-salary-scale-increased&catid=34:eta-news&Itemid=1

EURYDICE. 2010. *Organization of the education system in Estonia 2009/10*. Education, Audiovisual and Culture Executive Agency, European Commission.

Fanfani, E.T. 2004. 'Teaching careers in Latin America: A Survey in Argentina, Peru, and Uruguay'. In: *International Institute for Education Planning Newsletter*, January–March 2004: 3–4.

Figlio, D.; Getzler, L. 2002. *Accountability, ability and disability: Gaming the system?* National Bureau for Economic Research Working Paper 9307. Cambridge, MA: NBER.

French, R.L.; Malo, G.E.; Rakow, E.A. 1988. 'What we have learned from Tennessee's career ladder experience'. In: *Educational Leadership*, *46*(3), 70–73.

Fullan, M.G.; Miles, M.B. 1992. 'Getting reform right: What works and what doesn't'. In: *Phi Delta Kappan, 73*(10), 745–752.

Gagné, M.; Deci, E.L. 2005. 'Self-determination theory and work motivation'. In: *Journal of Organizational Behavior, 26*(4), 331–362.

Gannicott, K. 2009. *Secondary teacher policy research in Asia: Teacher numbers, teacher quality: Lessons from secondary education in Asia*. Bangkok: UNESCO Bangkok.

Garrett, R.M. 1999. *Teacher job satisfaction in developing countries*. London: DFID. Retrieved from: http://eric.ed.gov/?id=ED459150

Ghazleh, M.A. n.d. *Teacher professional development policies in Jordan*. Jordan: Ministry of Education.

Glazerman, S.; Seifullah, A. 2012. *An evaluation of the Chicago Teacher Advancement Program after four years: Final report*. Mathematica Policy Research, Inc. Retrieved from: http://eric.ed.gov/?id=ED530098

Glewwe, P.; Holla, A.; Kremer, M. 2009. *Performance incentives: Their growing impact on K-12 education*. Washington, DC: Brookings Institution Press.

Glewwe, P.; Ilias, N.; Kremer, M. 2003. *Teacher incentives*. Working Paper, 9671. Cambridge, MA: National Bureau of Economic Research. Retrieved from: www.nber.org/papers/w9671

Goldhaber, D.D. 2007. 'Everyone's doing it, but what does teacher testing tell us about teacher effectiveness'. In: *Journal of Human Resources, 42*(4): 765–794.

Goldhaber, D.D.; Brewer, D. J. 2000. 'Does teacher certification matter? High school teacher certification status and student achievement'. In: *Educational Evaluation and Policy Analysis, 22*(2): 129–45.

Gorozidis, G.; Papaioannou, A.G. 2014. 'Teachers' motivation to participate in training and to implement innovations'. In: *Teaching and Teacher Education, 39*, 1–11.

Haig, T. Personal communication, March 2015.

Hanushek, E.A.; Rivkin, S.G. 2012. 'The distribution of teacher quality and implications for policy'. *Annual Review of Economics, 4*(1), 131–157.

Hawley Miles, K.; Pennington, K.; Bloom, D. 2015. *Do more, add more, earn more: Teacher salary redesign lessons from 10 first-mover districts*. Washington, DC: Center for American Progress.

Hein, V.; Ries, F.; Pires, F.; Caune, A.; Heszteráné Ekler, J.; Emeljanovas, A.; Valantiniene, I. 2012. 'The relationship between teaching styles and motivation to teach among physical education teachers'. In: *Journal of Sports Science & Medicine, 11*(1), 123–130.

Heneman III, H. 1998. 'Assessment of the motivational reactions of teachers to a school-based performance award program'. In: *Journal of Personnel Evaluation in Education, 12*(1), 43–59.

Heneman III, H.; Milanowski, A.; Kimball, S.; Odden, A. 2006. *Standards-based teacher evaluation as a foundation for knowledge- and skill-based pay*. Philadelphia, PA: Consortium for Policy Research in Education.

Herzberg, F. 2008. *One more time: How do you motivate employees?* Boston, Mass: Harvard Business Press.

Hyde, K.; Muito, M.; Muito G. 2005. *Teacher motivation and incentives in Kenya, Nairobi*. Brighton: KSD.

INEE (Inter-Agency Network for Education in Emergencies). 2008. *Guidance notes on teacher compensation in fragile states, situations of displacement and post-crisis recovery*. INEE. Retrieved from: http://toolkit.ineesite.org/toolkit/INEEcms/uploads/files/GN_Teacher_Comp_2013_Eng.pdf

Ingvarson, L. 2012. *Comments on DEECD discussion paper: New directions for school leadership and the teaching profession*. Retrieved from: www.education.vic.gov.au/Documents/about/department/ndsltdiscussionpaper.pdf

____. 2013. 'Reforming career paths for Australian teachers'. In: M. Akiba (Ed.), *Teacher reforms around the world: Implementations and outcomes.* International Perspectives on Education and Society, 19 (pp. 237–273). Bingley, UK: Emerald Group Publishing Limited.

Ingvarson, L; Chadbourne, R. 1994. 'The career development model of teacher evaluation'. In: L. Ingvarson and R. Chadbourne (Eds), *Valuing teachers' work: New directions in teacher appraisal*. Melbourne: Australian Council for Educational Research.

Jacob, B.A. 2002. *Accountability, incentives and behavior: The impact of high-stakes testing in the Chicago public schools.* NBER Working Paper, 8968. Cambridge, MA: National Bureau of Economic Research. Retrieved from: www.nber.org/papers/w8968

Jacob, B.A.; Lefgren, L. 2005. *What do parents value in education? An empirical investigation of parents' revealed preferences for teachers.* NBER Working Paper, 11494. Cambridge, MA: National Bureau of Economic Research. Retrieved from: https://ideas.repec.org/p/nbr/nberwo/11494.html

Jacob, B.A.; Lefgren, L. 2008. 'Can principals identify effective teachers? Evidence on subjective performance evaluation in education.' In: *Journal of Labor Economics*, *26*(1), 101–136.

Jacob, B.A.; Levitt, S.D. 2003. 'Rotten apples: An investigation of the prevalence and predictors of teacher cheating'. In: *The Quarterly Journal of Economics*, *118*(3), 843–877.

Jacob, B.A.; Walsh, E. 2011. 'What's in a rating?' In: *Economics of Education Review*, *30*(3), 434–448.

Jessop, T.; Penny, A. 1998. 'A study of teacher voice and vision in the narrative of rural South African and Gambian primary school teachers'. In: *International Journal of Educational Development, 18*(5), 393–403.

Johnson, S.M.; Papay, J.P. 2009. *Redesigning teacher pay: A system for the next generation of educators.* Washington, DC: Economic Policy Institute.

Kane, T.J.; McCaffrey, D.F.; Miller, T.; Staiger, D.O. 2013. *Have we identified effective teachers? Validating measures of effective teaching using random assignment*. Washington, DC: Institute of Education Sciences.

Keitheile, M.; Mokubung, M. 2005. *The SACMEQ II project in Botswana: A study of the conditions of schooling and the quality of education*. Harare, Zimbabwe: SACMEQ.

Kellough, E.J.; Lu, H. 1993. 'The paradox of merit pay in the public sector: Persistence of a problematic procedure'. In: *Review of Public Personnel Administration 13*(2): 45–64.

Key, J. 2014. PM John Key's full speech to the West Auckland Business Club. *New Zealand Herald,* 23 January. Retrieved from: www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11190903

Klassen, R.M.; Perry, N.E.; Frenzel, A.C. 2012. 'Teachers' relatedness with students: An underemphasized component of teachers' basic psychological needs'. In: *Journal of Educational Psychology*, *104*(1), 150–165.

Koretz, D.; Barron, S.; Mitchell, K.; Stecher, B.M. 1996. *Perceived effects of the Kentucky Instructional Results Information System*. Santa Monica, CA: RAND Corporation. Retrieved from: www.rand.org/pubs/monograph_reports/MR792.html

Koretz, D.M. 2002. 'Limitations in the use of achievement tests as measures of educators' productivity'. In: *The Journal of Human Resources*, *37*(4), 752–777.

Lam, S.; Cheng, R.W.; Choy, H.C. 2010. 'School support and teacher motivation to implement project-based learning'. In: *Learning and Instruction*, *20*(6), 487–497.

Lavy, V. 2004. *Performance pay and teachers' effort, productivity and grading ethics.* NBER Working Paper, 10622. Cambridge, MA: National Bureau of Economic Research. Retrieved from: www.nber.org/papers/w10622

Locke, E.A.; Shaw, K.N.; Saari, L.M.; Latham, G.P. 1981. 'Goal setting and task performance: 1969–1980'. In: *Psychological Bulletin, 90*(1), 125–152.

Lye, L. Personal communication, March 2015.

Mannamaa, I. 2010. 'Assessing teachers' performance in pre-primary and primary schools in Estonia'. In: *Questions of Quality. CECDE International Conference 2004: Conference proceedings.* Dublin: Centre for Early Childhood Development and Education.

Marshall, G.; Cole, P.; Zbar, V. 2012. *Teacher performance and development in Australia: A mapping and analysis of current practise.* Melbourne: Australian Institute for Teaching and School Leadership.

Martins, P.S. 2009. *Individual teacher incentives, student achievement and grade inflation.* SSRN Scholarly Paper, ID 1359987. Rochester, NY: Social Science Research Network.

Martins, P.S. 2010. *Individual teacher incentives, student achievement and grade inflation.* London: Centre for the Economics of Education, London School of Economics.

Maslow, A.H. 1943. 'A theory of human motivation'. In: *Psychological Review, 50*, 370–96.

McGraw, K.O. 1978. 'The detrimental effects of reward on performance: A literature review and a prediction model'. In: M. R. Lepper and D. Greene (Eds), *The hidden costs of reward* (pp. 33–60). Hillsdale, NJ: Erlbaum.

McKenzie, P.; Santiago, P.; Sliwka, P.; Hiroyuki, H. 2005. *Teachers matter: Attracting, developing and retaining effective teachers*. Paris: OECD.

Michaelowa, K. 2002. *Teacher job satisfaction, student achievement, and the cost of primary education in francophone sub-Saharan Africa*. HWWA Discussion Paper. Retrieved from: www.econstor.eu/handle/10419/19349

Milanowski, A. 2003. *The varieties of knowledge and skill-based pay design: A comparison of seven new pay systems for K-12 teachers*. CPRE Research Report Series (RR-050). Philadelphia: University of Pennsylvania, Consortium for Policy Research in Education.

Milkovich, G.T.; Wigdor, A.K. 1991. *Pay for performance: Evaluating performance appraisal and merit pay.* Washington, DC: National Academy Press.

Mosoge, M.J.; Pilane, M.W. 2014. 'Performance management: The neglected imperative of accountability systems in education'. In: *South African Journal of Education, 34*(1), 1–18.

Muralidharan, K.; Sundararaman, V. 2009. *Teacher performance pay: Experimental evidence from India.* NBER Working Paper 15323. Cambridge, MA: National Bureau of Economic Research.

Murnane, R.J.; Cohen, D.K. 1986. 'Merit pay and the evaluation problem: Why most merit pay plans fail and a few survive'. In: *Harvard Educational Review 56*(1), 1–18.

National Examinations and Qualifications Centre. 2009. *Raising the qualifications of general education teachers 2008–2014*. Retrieved from: www.ekk.edu.ee/the-esf-programmes/raising-the-qualifications-of-gene

NBPTS (National Board for Professional Teaching Standards). 2015*a*. *About certification*. Retrieved from: http://boardcertifiedteachers.org/about-certification

____. 2015*b*. *Renewal*. Retrieved from: http://boardcertifiedteachers.org/renewal

Odden, A.; Wallace, M. 2007. *Rewarding teacher excellence: A teacher compensation handbook for state and local policy makers*. Madison: Consortium for Policy Research in Education.

OECD (Organisation for Economic Co-operation and Development). 2009. *Evaluating and rewarding the quality of teachers: International practices*. Paris: OECD.

____. 2013. *Teachers for the 21st Century: Using evaluation to improve teaching*. Paris: OECD.

Ohio. 2015. *Standards for the teaching profession*. Retrieved from: https://education.ohio.gov/getattachment/Topics/Teaching/Educator-Equity/Ohio-s-Educator-Standards/Rev_TeachingProfession_aug10.pdf.aspx

Ome, A. 2012. *Meritocracia en la Carrera Docente: Evidencia para Colombia*. Estudios sobre la calidad de la Educación en Colombia. Bogota: ICFES. [Reported in English in Bruns and Luque, 2014]

Orr, D.; Westbrook, J.; Pryor, J.; Durrani, N.; Sebba, J.; Adu-Yeboah, C. 2013. *What are the impacts and cost-effectiveness of strategies to improve performance of untrained and under-trained teachers in the classroom in developing countries? Technical Report*. London: University of London.

Oxford Dictionaries. 2015. 'Career'. Retrieved from: www.oxforddictionaries.com/definition/english/career.

Pakistan. 2000. Ministry of Education, EFA Assessment Committee. *Education for All 2000 assessment: Country report*. Bangkok: UNESCO PROAP.

Pelletier, L.G.; Séguin-Lévesque, C.; Legault, L. 2002. 'Pressure from above and pressure from below as determinants of teachers' motivation and teaching behaviors'. In: *Journal of Educational Psychology*, *94*(1), 186–196.

Perry, J.L. 1986. 'Merit pay in the public sector: The case for a failure of theory'. In: *Review of Public Personnel Administration* 7(1): 57–69.

Perry, J.L.; Engbers, T.A.; Jun, S.Y. 2009. 'Back to the future? Performance-related pay, empirical research, and the perils of persistence'. In: *Public Administration Review, 69*(1), 39–51.

Plucker, J.A.; Zapf, J.S.; McNabb, S.A. 2005. *Rewarding teachers for students' performance: Improving teaching through alternative teacher compensation programs*. Education Policy Brief, 3(5). Bloomington, IN: Center for Evaluation and Education Policy.

Podgursky, M.J.; Springer, M.G. 2007. 'Teacher performance pay: A review'. In: *Journal of Policy Analysis and Management, 26*(4), 909–950.

Porter, L.W.; Lawler, E.E. 1968. *Managerial attitudes and performance*. Homewood, IL: Dorsey Press and Richard D. Irwin.

Prendergast, C. 1999. 'The provision of incentives in firms'. In: *Journal of Economic Literature, 37*(1), 7–63.

Ramachandran, V.; Pal, M.; Jain, S.; Shekar, S.; Sharma, J. 2006. *Teacher motivation in India*. Working Paper. Retrieved from: http://econpapers.repec.org/paper/esswpaper/id_3a306.htm

Reeve, J.; Bolt, E.; Cai, Y. 1999. 'Autonomy-supportive teachers: How they teach and motivate students'. In: *Journal of Educational Psychology, 91*(3), 537–548.

Rivkin, S.G.; Hanushek, E.A.; Kain, J.F. 2005. 'Teachers, schools, and academic achievement'. In: *Econometrica, 73*(2), 417–458.

Roth, G.; Assor, A.; Kanat-Maymon, Y.; Kaplan, H. 2007. 'Autonomous motivation for teaching: How self-determined teaching may lead to self-determined learning'. In: *Journal of Educational Psychology, 99*(4), 761–774.

Ryan, R.M.; Deci, E. L. 2000. 'Intrinsic and extrinsic motivations: Classic definitions and new directions'. In: *Contemporary Educational Psychology, 25*(1), 54–67.

Ryan, R. M.; Mims, V.; Koestner, R. 1983. 'Relation of reward contingency and interpersonal context to intrinsic motivation: A review and test using cognitive evaluation theory'. In: *Journal of Personality and Social Psychology*, *45*(4), 736–750.

Salifu, I. 2014. 'Barriers to teacher motivation for professional practice in the Ghana education service'. In: *Policy Futures in Education*, *12*(5), 718–729.

Sanders, W.L.; Rivers, J.C. 1996. *Cumulative and residual effects of teachers on future student academic achievement: Research progress report*. Knoxville, TN: University of Tennessee, Value-Added Research and Assessment Center.

Sclafani, S. 2009. *Evaluating and rewarding the quality of teachers: International practices*. Paris: OECD.

Sherry, H. 2008. *Teachers' voice: A policy research report on teachers' motivation and perceptions of their profession in Nigeria*. London: VSO. Retrieved from: www.eldis.org/go/home&id=36683&type=Document#.VQ9B_-Gxdcw

Shulman, L.S.; Shulman, J.H. 2004. 'How and what teachers learn: A shifting perspective'. *Journal of Curriculum Studies*, *36*(2), 257–271.

Silman, T.; Glazerman, S. 2009. *Teacher bonuses for extra work: A profile of Missouri's Career Ladder Program*. Mathematica Policy Research, Inc. Retrieved from: http://eric.ed.gov/?id=ED507471

Singapore. 2015. Ministry of Education. *Career information*. Retrieved from: www.moe.gov.sg/careers/teach/career-info/

Sloat, E.F. 1994. *Measures of student achievement and related outcomes: Group 1 Career Ladder school districts*. Phoenix, AZ: Arizona Department of Education.

____. 2002. *Comparative student achievement between Career Ladder and non-Career Ladder districts on the spring 2001 Stanford 9, Grades 2 through 8*. Glendale, AZ: Office of Research, Planning, and Assessment.

South Africa. 2011. Department of Basic Education. *Integrated strategic planning framework for teacher education and development in South Africa, 2011–2025*. Pretoria.

Springer, M.G.; Hamilton, L.; McCaffrey, D.F.; Ballou, D.; Le, V.-N.; Pepper, M.; Lockwood, J.R.; Stecher, B.M. 2010. *Teacher pay for performance: Experimental evidence from the Project on Incentives in Teaching*. Nashville, TN: National Center on Performance Incentives. Retrieved from: www.rand.org/content/dam/rand/pubs/reprints/2010/RAND_RP1416.pdf

Springer, M.G.; Pane, J. F.; Le, V.-N.; McCaffrey, D.F.; Burns, S.F.; Hamilton, L.S.; Stecher, B. 2012. 'Team pay for performance: Experimental evidence from the Round Rock Pilot Project on Team Incentives'. In: *Educational Evaluation and Policy Analysis*, *34*(4), 367–390.

Tekleselassie, A.A. 2005. 'Teachers' career ladder policy in Ethiopia: An opportunity for professional growth or "a stick disguised as a carrot?"' In: *International Journal of Educational Development*, *25*(6), 618–636.

Tin, L.G.; Hean, L.L.; Leng, Y.L. 1996. 'What motivates teachers?' In: *New Horizons in Education*, 37(1), 19–27.

UNESCO. 2010. *Methodological guide for the analysis of teacher issues. Teacher training initiative for sub-Saharan Africa (TTISSA). Teacher policy development guide.* Paris: UNESCO Publishing.

____. 2014. *Teaching and learning: Achieving quality for all.* EFA Global Monitoring Report 2013/2014. Paris: UNESCO Publishing.

____. 2005. *Education for All: The quality imperative.* EFA Global Monitoring Report 2005. Paris: UNESCO Publishing.

UIS (UNESCO Institute for Statistics). 2012. *The global demand for primary teachers – 2012 update: Projections to reach universal primary education by 2015*. UIS Information Bulletin, 10. Montreal: UNESCO-UIS.

____. 2013. *A teacher for every child: Projecting global teacher needs from 2015 to 2030*. UIS Fact Sheet, 27. Montreal: UNESCO-UIS.

Van Eekelen, I.M.; Vermunt, J.D.; Boshuizen, H.P.A. 2006. 'Exploring teachers' will to learn'. In: *Teaching and teacher education, 22*(4), 408–423.

Vegas, E. 2005. *Incentives to improve teaching: Lessons from Latin America.* Washington, DC: World Bank.

VSO (Voluntary Service Overseas). 2002. *What makes teachers tick? A policy research report on teachers' motivation in developing countries.* London: VSO.

Wilson, S.M.; Floden, R.E.; Ferrini-Mundy, J. 2002. 'Teacher preparation research: An insider's view from the outside'. In: *Journal of Teacher Education, 53*(3), 190–204.

Woessmann, L. 2001. 'Why students in some countries do better'. In: *Education Matters, 1*(2), 67–74. Retrieved from: http://educationnext.org/whystudentsinsomecountriesdobetter/

World Bank. 2012. *Attracting and retaining qualified teachers in the OECS.* Washington, DC: World Bank.

Yuan, K.; Le, V.-N.; McCaffrey, D.F.; Marsh, J. A.; Hamilton, L.S.; Stecher, B.M.; Springer, M. G. 2013. 'Incentive pay programs do not affect teacher motivation or reported practices results from three randomized studies'. In: *Educational Evaluation and Policy Analysis, 35*(1), 3–22.

Zembylas, M.; Papanastasiou, E. 2006. 'Sources of teacher job satisfaction and dissatisfaction in Cyprus'. *Compare: A Journal of Comparative and International Education, 36*(2), 229–247.

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If a qualified and motivated teaching force is key to achieving the Education 2030 goals, teacher career structures may represent a powerful leverage to improve teachers' motivation.

What is the relation between teacher motivation and organization of careers? What models of teacher career organization exist around the world? Which are most successful according to available research? What lessons can be drawn for the design and implementation of career ladder systems?

Drawing on the experience of a wide range of countries, this book explores the links between career structures and teacher motivation, identifying different models of teacher career organization and related implementation challenges. It offers valuable guidance to educational planners and human resource managers seeking ways to make the teaching career more attractive to potential candidates and to motivate those already on the job.

About the Author

Lucy Crehan began her career teaching Science at a secondary school in London, before becoming interested in education policy and studying for her Master's in Education at the University of Cambridge. She then spent time researching education systems in six countries on four continents, the basis for her second book, *Cleverlands*. She now works as part of a team at Education Development Trust (UK), advising governments on education reform.

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