The Initial Teacher Education Research Project

The Initial Professional Development of Teachers: A Literature Review

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Table of Contents

Introduction

The poverty of South African education under apartheid was an important factor in mobilising resistance to white minority rule, which in turn led to the transition to democracy in 1994. The continuing poor quality of schooling outcomes, however, has been highlighted at regular intervals, from the *National Teacher Education Audit* (Hofmeyr and Hall 1995) and *Getting Learning Right* (Taylor and Vinjevold 1999) through the *National Policy Framework for Teacher Education and Development* (DoE 2007) to the *Integrated Strategic Planning Framework for Teacher Education and Development* (DBE/DHET 2011a). With South African learners scoring exceptionally poorly in both national and internationally benchmarked evaluations, and international research showing that teacher quality is a key determinant of learner achievement (Darling-Hammond 2000; Rice 2003; OECD 2005; Hanushek and Rivkin 2006; Mourshed and Barber 2007), attention has increasingly focused on the state of teacher education in the country, and on the extent to which new teachers, in particular, are being provided with the subject and pedagogical knowledge and skills they need. It is for these reasons, along with the negative public image of the profession, unattractive school working conditions and high attrition amongst young new teachers, that a thorough **study of the initial professional development of teachers in South Africa is needed**.

The initial professional development of teachers, or the process whereby prospective teachers are selected, prepared, placed, inducted and begin to teach in schools, can be broken down, for analytical purposes, into a number of components. The formal **period of teacher initial professional development** begins with a student's entry into a teacher education programme and continues into the newly qualified teacher's first few years of teaching in a school. While this research project focuses primarily on the final year of study and the first three years of teaching in schools, all the features of the formal period of teacher initial professional development have a bearing on this primary focus. The formation and development over time of **teachers' professional identity – in short, who they think they are –** is taken as the main organising element of this literature review, and is first considered separately; thereafter, the specific sub-elements of, or factors impacting upon, teachers' professional identity are considered under the following headings:

- Motivation to teach
- Student-teachers' perceptions of teaching
- Teacher standards
- Teacher knowledge
- Teacher education programmes
- Student-teachers' experiences of teacher education
- Mentoring of student-teachers
- Student-teacher retention
- New teacher placement
- Early teaching experiences
- Beginner teacher reflections on their teacher education

- School culture and context
- New teacher attrition
- Teacher induction
- Early professional development

As the order of the headings above suggests, all these sub-elements of or influences upon teacher professional identity can be considered in a broadly **chronological** manner, i.e., from the time someone decides to become a teacher to the time they find themselves formally educated as a teacher and employed to teach in a classroom. However, all of these sub-elements are also **themes** which are more or less constantly present, even if some consist of groundings which are now in the past or of expectations and perceptions of the future. Before examining the concept of teacher professional identity as such, it is useful to reflect on how its sub-elements interrelate.

Conceptualising the process of teacher initial professional development

Prospective teachers choose to become teachers, or at least decide to apply to study to become a teacher, on the basis of certain personal characteristics, desires and motivations. These **motivations** or reasons for becoming a teacher are the first component of what is at this stage still a proto- or pre-professional teacher **identity**, which is probably accompanied by other identities deriving from the prospective teacher's current or prior socio-economic background, including family, school, university and/or work experiences. In the course of their studies and actual teaching experiences, this emerging teacher professional identity will be shaped by, amongst other things, the **discipline**(s) or subject(s) in which they have specialised or are specialising and which they are being prepared to teach, their **perceptions** of being a teacher, of teaching and of the teaching profession, their view of the **field** of knowledge for teaching, their ongoing and potentially changing motivation to teach (which may be intrinsic, extrinsic, altruistic or simply subject-related), their assessment of their subject **proficiency** and of their own ability to exercise professional **judgement**.

The manner in which a prospective teachers' emerging professional identity is moulded by the discipline(s) or subject(s) in which they are deemed to be specialists has a range of components, being related to the nature and extent of their disciplinary or **subject matter knowledge**, their **pedagogic content knowledge** and their **curriculum knowledge**, which in turn may vary over time (for instance, prior to, during and after teacher education) and in relation to the specific nature of the teacher education programme in which they learn or practice their knowledge as well as in relation to the teacher education institution, the schools they experience and the induction they might receive. The nature and extent of a prospective teacher's **ability to implement what they know and have learnt**, both theoretically, in practice and in context, during both teaching practice and once placed in a school, is also relevant here, along with their own assessment of their ability.

Their professional identity will also be influenced by the nature of the expectations and kinds of **support** they receive while studying, as well as their perceptions thereof, and by their expectations and perceptions of **teaching practice** and of the broad process of being initiated or **inducted** into (and **retained** in) the profession and **placed** in a particular school and school **environment**, and of the extent to which the support they receive in the process contributes to their ability to teach effectively.

Teacher professional identity

Identity is always relational and constructed; it is often multiple and sometimes contradictory; and it can change over time. **Teacher professional identity** is no exception. It may be **chosen by the self** (as in a motivation or desire to teach) and/or **imposed from the outside** (as in official norms and standards expected of all teachers), but in all cases whatever is chosen or imposed becomes an identity only when the individual concerned sees them as meaningful, internalises them and acts accordingly (Castells 1997: 6-7). An individual's construction of themselves as a teacher with a particular identity is also closely connected to techniques and situations through and in which some manage others and at the same time teach these others to manage themselves (Foucault 1984: 370).

> [I]ndividual identity is not a free, monological construction but is formed by, and in, cultural contexts, and is essentially dialogical. Recognition and respect from those who understand one's project are key factors in the construction of identities (Morrow 2007: 159).

Teacher professional identity is an ongoing process of **interpretation** and re-interpretation of **experiences** constructed, negotiated and transformed in relation to **significant others** and **significant contexts** (Beijaard et al 2004: 113; Czerniawski 2011: 432; Dahlgren and Chiriac 2009: 2; Flores and Day 2006: 220; Parker 2009a: 80-1; Rots 2007: 1), from family members and past teachers through teacher educators and mentors to school colleagues and leaders, and from schooling through university and teacher preparation to school, district and policy environments.

The development of teacher professional identity thus involves "both external realisations and personal conceptualizations", and may consist of **sub-identities or competing identities** (Chong et al 2011: 51). Alongside or overlapping with teacher professional identity proper (which reflects "social and policy expectations of what a good teacher is and the educational ideals of the teacher" and may be influenced by elements like workloads, responsibilities and expectations) is what has been called 'situated located identity' (reflecting a specific classroom or school context and influenced by learners, colleagues, principals, parents and available human and material resources), as well as personal identity (reflecting non- or extra-school factors including family and social roles (Chong et al 2011: 51). Another way of conceptualising teachers' professional identities is to distinguish between "restricted and extended

professionality", with the former tending to be classroom-focused and experience-based and the latter being more collegially- and contextually-focused and theory-based (Hoyle 1980: 49).

Research on teachers' professional identity has been taken in at least four interlinked directions: the formation of professional identity, its main characteristics, teachers' representations (biographically or through stories) of their professional identities (Beijaard et al 2004: 107), and the place of teachers in relation to broader debates over professionalism and professionalisation (MacBeath 2012: 11; Ellis 2007: 447-8). First, a substantial proportion of research has focused on **teacher professional identity formation**, emphasising identity development or change, often from student-teacher to teacher proper. For instance, "professional identity [is] an ongoing process of integration of the 'personal' and the 'professional' sides of becoming and being a teacher" (Beijaard et al 2004: 113); it is an unstable amalgam of personal imaginings and social expectations, which is formed and altered through encounters and relationships with people, places and ideas that prompt self-reflection (Beijaard et al 2004: 114; Burnett 2006: 323-4).

Second, research on the main **characteristics of teacher professional identity** has examined occupational, professional and/or subject-related factors. For example, while not downplaying the importance of teacher biography, experience and school context and culture as elements influencing teacher professional identity, Beijaard et al (2000) emphasise that "teachers derive their professional identity from (mostly combinations of) the ways they see themselves as subject matter experts, pedagogical experts, and didactical experts", referring to "a deep and full understanding of the subject area", "ethical and moral … engagement with students" including "what is going on in students' minds, ways of communicating with and speaking about other people, and personal or private problems students have", and "the planning, execution, and evaluation of lessons", respectively (Beijaard et al 2000: 751-3). Third, the relatively small amount of research on **teachers' representations of their professional identities** has suggested that teachers may be as or more concerned about who they are than about what they know, emphasising their personal practical knowledge more than their subject-related knowledge (Clandinin and Connelly 1996: 29; Whelan et al 2001: 144). While teachers' professional identities may be composed by the self, autobiographically as it were, they are also, in part, 'scripted', or proposed to or imposed on teachers by the stories told of them as teachers occupying 'positions on a school landscape': "as new teacher, as experienced teacher, as specialist teacher, as retiring teacher, as teacher in crisis, and so on" (Whelan et al 2001: 154).

Fourth, debates over the location of teachers within wider conceptualisations of professionalism and professionalisation have focused either on the extent to which teachers meet specific criteria associated with professionalism in general, or on whether the teaching profession exhibits key features of professionalisation. MacBeath (2012) offers 12 criteria of **professionalism**:

1. Theoretical knowledge and concomitant skills: Professionals are assumed to have extensive theoretical knowledge and, deriving from that, skills that are exercised in practice.

2. High quality pre-service academic and professional preparation: Professions usually require at least three years' academic accreditation plus professional induction, together with a requirement to demonstrate professional competence in the workplace.

3. Legal recognition and professional closure: Professions tend to exclude those who have not met their requirements nor joined the appropriate professional body.

4. Induction: A period of induction and a trainee role is a prerequisite to being recognised as a full member of a professional body together with continuous upgrading of skills through continuing professional development.

5. Professional association: Professions usually have professional bodies organised by their members, intended to enhance their status together with carefully controlled entrance requirements and membership.

6. Work autonomy: Professionals retain control over their work and also have control over their own theoretical knowledge.

7. Code of professional conduct or ethics: Professional bodies usually have codes of conduct or ethics for their members and disciplinary procedures for those who infringe the rules.

8. Self-regulation: Professional bodies are self-regulating and independent from government.

9. Public service and altruism: Services provided are for the public good and altruistic in nature.

10. Authority and legitimacy: Professions have clear legal authority over some activities but also add legitimacy to a wide range of related activities.

11. Inaccessible and indeterminacy [Sic.] body of knowledge: The body of professional skills are relatively inaccessible to the uninitiated.

12. Mobility: Skills, knowledge and authority belong to professionals as individuals, not the organisations for which they work and, as they move, they take their talents with them. Standardisation of professional training and procedures enhances such mobility (MacBeath 2012: 15; see also Hoyle 1980: 43, 45).

While most of these categories do indeed apply to teachers as commonly understood, there are a number of categories where teachers' professional status is weak. While teachers' professional associations may have legal recognition, their power to exclude those who do not meet their requirements and to control entrance requirements are

often counterbalanced in practice by government's power to regulate teacher qualifications and universities' ability to recruit and prepare all who might apply through traditional channels and even some through alternative routes. Teachers' work autonomy is often exceptionally weak, in that what passes for their work and theoretical knowledge is also usually regulated by government; teachers' professional bodies are thus only partly self-regulating. Finally, public service and altruism may well characterise the work of many, but not necessarily all, teachers.

Accepting that most of these categories are relevant, one might also question *how* extensive a professional teacher' theoretical knowledge and skills ought to be, *how* long their teacher preparation, or *how* autonomous and self-regulating their associations. What the list above does not mention, moreover, is that "public school teachers are paid much more like factory workers than like professionals":

> In virtually all other professional occupations, salaries are determined by separate negotiations between each employer and employee. Each worker makes as much as he or she can convince an employer to pay. Teachers, by contrast, are compensated according to uniform pay scales negotiated by labor unions (Greene and Forster 2008: 2).

This means that **teacher pay** tends to be egalitarian, with all teachers with the same qualifications and years of service being paid more or less the same, no matter how well or badly they teach. Individual teachers have little incentive to work harder than they ordinarily do, and high-performing individuals have little reason – aside from personal enjoyment or altruism – to enter the profession, when other professions offer better financial rewards and greater upward mobility.

The fact that teachers tend to be paid more like ordinary (and usually public) employees than specialised (often private) practitioners thus has a bearing on their professional identity. Related to this is an inability on the part of the teaching profession to constitute itself as the sole jurisdictional authority of what teachers know and do, an inability associated with difficulties in making all aspects of teachers' knowledge explicit. As Abbott argued over twenty years ago, jurisdiction (or the manner in which certain occupations control their knowledge and its applications) is the defining relation in professional life; and thus to understand how a profession develops and maintains itself or, alternatively, becomes obsolete, requires an understanding of "sequences of jurisdictional control" or "who had control of what, when, and how" (Abbott 1988: 3).

Professions, in these terms, are "exclusive occupational groups applying somewhat abstract knowledge to particular cases" (Abbott 1988: 8), with the emphasis here on abstraction: "only a knowledge system governed by abstractions can redefine its problems and tasks, defend them from interlopers, and seize new problems" (Abbott 1988: 9). In addition, professions may develop in a variety of ways and directions; they are shaped both inter-and intra-professionally; the actual work they do is just as important as the structural and cultural forms they take; they are not necessarily

homogenous but develop internal differences; and they change over time (Abbott 1988: 17-19).

The teaching profession or, better, **the professionalisation of teachers** in conjunction with the evolution and development of the teaching profession, bears all these characteristics to a greater or lesser degree. However, it is the key element of abstract knowledge that has so far eluded efforts by those who would wish, by monopolising its various forms, to strengthen the profession and make it comparable in status and authority to professions like medicine and law. Most of the various components of abstract knowledge within the teaching profession have tended to reside at least partially outside of the control of the profession (for example, in the established academic disciplines which teachers are expected to be expert in and convey to others in school classrooms, albeit in a recontextualised, state-authorised, form as curriculum knowledge) or, when the knowledge is internal to the profession (in the form of particular pedagogical techniques and other forms of craft knowledge), it has remained undertheorised and close to everyday practice. While teachers can rightly be expected to be knowledgeable about both what to teach and how to teach, and hence to be both expert in knowledge as 'pure' theory and expert in 'applying' knowledge in practice (Hoyle 1980: 51-2), teaching is often undervalued (even within the profession itself) because the more 'applied' or 'practical' form of teacher professional knowledge, the abstract knowledge which directly infuses and informs teachers' practices, is often tacit and inexplicit (Loughran et al 2003: 853; Burn 2007: 447), making it "difficult to find concrete examples of what it might look like and how it might be readily portrayed for others, by either teachers or academics" (Loughran et al 2003: 868).

Still, there remains one particular element of abstract knowledge that has been "a historically consistent feature of moves to professionalize school teaching and to argue for individual teachers' professional autonomy" (Ellis 2007: 447) and which could well, at some future point, "create the conditions for internal regulation and control by the profession itself rather than external control and surveillance by the state" (Ellis 2007: 448). This is what has been known since the 1980s as pedagogical content knowledge, associated with the work of Shulman (1986) and others (though it has a much longer pedigree, traceable back to the concept of 'teaching knowledge' in US normal schools during the nineteenth century) (Ellis 2007: 449). Yet despite substantial further theorisation, debate and application (Guyver and Nichol 2004: 3; Turner-Bisset 2001: 13), the very content and dimensions of pedagogical content knowledge (PCK) remain unclear, with "no universally accepted conceptualisation of PCK, nor any consensus as to precisely which different knowledge components are included within it" (Burn 2007: 447).

The process of professionalisation of teachers has been unable as yet to firmly delineate teachers' professional knowledge, and this is partly responsible for the continuing weakness of the teaching profession, as compared, for example, to professions like medicine and law. The teaching profession has either underestimated or been unprepared for the jurisdictional contestations and disputes (Abbott 1988: 2) that all professions have faced in recent times, including "the political pressure for professions –

as powerful, vested interests – to become more democratically accountable" (Ellis 2007: 449). Central to these contestations and pressures is what teachers can be expected to know, and the level of abstraction of this knowledge. Across the history of diverse professions, "[a]bstraction enables survival" (Abbott 1988: 30), and whereas weakly abstracted knowledge need not entail the professional demise of the teaching occupation, it will stand in the way of fully-fledged professionalisation. The impact of this on what teachers actually know and do, and especially on the development of new teachers' professional identities and professional knowledge, must thus be taken into consideration.

Core components of a teacher's professional identity thus encompass their past and present home and family circumstances and experiences (including their reasons for choosing a teaching career or their motivation to teach), their prior schooling and university studies (including their aptitudes and achievements, their perceptions of teaching, and how they themselves were taught in school), the nature and quality of their teacher education (including the extent of their subject knowledge and pedagogic content knowledge, their practical acumen, their support and mentoring experiences, and their sense of self-efficacy and degrees of satisfaction with regard to all of these), the school context and culture (including their and the school's expectations, workloads and resources, and relationships with school leaders, teacher colleagues, learners and parents), and government and professional organisational policies and regulations (from norms and standards and professional control of specialised knowledge through induction mechanisms to curriculum requirements).

Motivation to teach

Within the extensive international literature on initial teacher education, there is a small but growing literature on **what motivates people to choose to become teachers** in the first place:

> Intrinsically motivated teachers are focused on teaching and the activity related to the job itself. The inherent satisfaction or the joy of teaching is viewed as the driving force. The extrinsically motivated teachers focus on the benefits of teaching, such as salary, vacations or other external rewards connected to the job. Finally, the altruistically motivated teacher views teaching as a socially worthwhile and important job, and has a desire to be part of young peoples' growth and development (Roness 2011: 629).

Of these three categories of motivation (to which some add a fourth category: wishing to work with, and interest others in, a particular subject or discipline – Roness 2011: 632), much international research suggests that most prospective teachers "enter teaching primarily motivated by altruistic and intrinsic motivation and favorable views of teaching" (Thomson et al 2012: 332). "There is general agreement that perceived intrinsic rewards (such as working with children, intellectual fulfilment and

contributing to society) play an important part in attracting new recruits to the profession" (Ashby et al 2008: 4), with the McKinsey survey of 25 of the world's schooling systems concurring that the foremost reason for becoming a teacher was “the desire to help a new generation succeed” (Mourshed and Barber 2007: 20).

Nevertheless, intrinsic motivation and altruism, even when the predominant motivations, are inevitably accompanied by or nuanced with **a range of other motivations** (Thomson et al 2012: 332; Richardson and Watt 2006: 27; Löfström et al 2010: 168). An overview of the wider literature suggests that people are

> attracted to teaching by one or more of 10 factors. These factors or motivators include a ‘love’ of or desire to work with and benefit students; altruism or aiming to make a difference in communities and society; and the influence of others including family members, past teachers or members of the wider community. Other factors include the perceived benefits and/or convenience of teaching such as work schedules, work hours, vacations, career security and salary; a ‘calling’ to teach; and a love of teaching or particular subject, or a desire to impart knowledge; and, the nature of teaching work, especially the opportunities teaching provides for creativity and satisfying interpersonal interactions with others. Finally, a desire for a career change as a result of dissatisfaction with a previous career or a stressful life event such as divorce, unemployment or geographic relocation (more common in second career teachers); the perceived ease of entry into initial teacher education courses, or of the job of teaching; and, the status teaching provides, including opportunities for career and/or social advancement also attract people to teaching. Most commonly, research reports student teachers being attracted to teaching by a desire to work with students, altruism, the influence of others, and the perceived benefits of the job (Sinclair 2008: 81).

In **more developed countries**, such as Australia, Belgium, Canada, Cyprus, Estonia, France, the Netherlands and Slovakia, the most common motivations to teach are usually intrinsic and altruistic (Thomson et al 2012: 325; Kyriacou et al 1999: 374). A survey of over 70 000 teachers in the UK "reported three factors which motivated teachers to enter initial education courses: working with young people; a sense of personal achievement; and the stimulating nature of the teacher’s role" (Taylor 2006: 453). Student-teachers from Stavanger, Norway, and York, England, reported being "strongly influenced by enjoying the subject they would teach, liking to work with children, and the fact that teaching would enable them to use their subject" (Kyriacou et al 1999: 373). Among all (1 653) first year student-teachers at three Sydney and Melbourne universities, the "[h]ighest rated motivations for choosing teaching included perceived teaching abilities, the intrinsic value of teaching, and the desire to make a social contribution, shape the future, and work with children/adolescents …. The lowest rated motivation was choosing teaching as a ‘fallback’ career, followed by social influences of others encouraging them to undertake teaching as a career" (Richardson and Watt 2006: 44).

In the US, a study of undergraduate student-teachers identified three distinctive typologies or clusters of motivations to teach, with Cluster 1, the largest single proportion (93 out of 215 student-teachers), being labelled "Enthusiastic, because [their] most salient characteristic was altruistic and intrinsic motivations, and [clearly expressed] in their interviews … enthusiasm for teaching and visionary actions". Cluster 2 (70 out of 215) was labelled "Conventional", because while altruistic and intrinsic motivators also predominated, these student-teachers rated "professional opportunities the lowest among all clusters, focusing throughout interviews on customary classroom teaching actions"; whereas Cluster 3 (52 out of 215) was deemed "Pragmatic, because altruistic reasons were the least influential in their teaching choice and mostly pragmatic aspects of teaching were emphasized in their interviews" (Thomson et al 2012: 328).

In **less developed countries** such as Brunei, Cameroon, Jamaica and Zimbabwe, on the other hand, research into the reasons why people choose to become teachers has found that extrinsic factors, such as salary, job security, and career status, hold greater sway than intrinsic ones (Watt and Richardson 2008: 409; Thomson 2012: 326). A 1999 study of 34 college of education student and novice mathematics teachers in South Africa found that "most of the participants had extrinsically motivated reasons for choosing mathematics teaching as a career" (Chuene et al 1999: 25); moreover, more than half said that they do not have mathematics teaching in their future career plans (Chuene et al 1999: 27). Another South African study, of 300 college of education first year student-teachers, showed that the reason mentioned most frequently for choosing teaching was that 'education facilitates success' (24%), illustrating the importance attributed to higher education (though not necessarily teaching itself) as a personal upward mobility mechanism. This is arguably an intrinsic motivation (intellectual advancement) but with extrinsic objectives (career mobility potentially outside of teaching). Other frequent responses included more clearly intrinsic and also altruistic motivations, such as 'contact with children' (19.8%), 'imparting knowledge' (17.5%) and 'contributing to the development of my country' (16%). The least frequent responses included aspects such as job security, a degree of freedom, having failed in other avenues or being the only other possibility to continue studying, suggesting that these kinds of extrinsic motivations did not figure prominently (Lemmer 1999: 44-6).

These findings can be compared to others, more recently, such as the **views of learners still at school** and only contemplating teaching as a career: 11.6% of a sample of approximately 1 000 Grade 11 learners in Western Cape schools in 2005 indicated that they were considering becoming teachers and, apart from holding positive views of their teachers and teaching, emphasised the intrinsic rewards of teaching; their fellow-learners not wishing to become teachers pointed instead to poor working conditions, lack of remuneration and lack of job satisfaction (Park 2006: 152-4). The apparently extrinsic, career-mobility orientations noted by Chuene et al (1999) and Lemmer (1999) appear to be corroborated by a survey of over 20 000 Grade 12 learners in 2005, who were of the opinion that "studying education significantly enhances employability" – but not necessarily as a teacher: "commitment to the notion of studying education … [is] far

stronger than commitment to the notion of entering the teaching profession" (Cosser 2009: 84, 106; also cited in DBE/DHET 2011b: 38).

In Malawi, a (very small) purposive sample "derived the following themes from the trainee teachers' reasons for joining a teacher education course: a) as a result of a failure to follow a desired career choice; b) a springboard to a career elsewhere; c) a means to upgrade qualification; and d) teaching as a vocation" (Mtika and Gates 2011: 428). In Ghana, a 2002 study found that "over 80% of newly qualified teachers expected to move on to further study within the first five years" in order, on this basis, "to become more marketable for jobs which are outside of the teaching profession" (Mtika and Gates 2011: 426, 430). (This last phenomenon is not confined to less developed countries, however; 25% of a population of 283 Norwegian PGCE students in 2006 did not know if they were going to enter the teaching profession, having taken the "PGCE course primarily because they want more options in the job market" – Roness and Smith 2009: 111).

While it may be assumed that, amongst those already studying to become teachers, these varied and generally positive motivations to teach must outweigh any of the more common perceived **negative or discouraging features of teaching** – such as high workloads, inadequate resources, low pay, pupil ill-discipline and declining status (Ashby et al 2008: 5; Löfström et al 2010: 169; HSRC 2005: ix-x; MacBeath 2012: 11; Sinclair 2008: 79) – such deterrents may nevertheless reassert themselves or become more salient at various points in the process of becoming a teacher and beginning to teach, such as a student's first practical experience in an actual classroom, or a newly qualified teacher's first year in a school. The **nature and quality of a teacher education programme** may have a direct bearing on student-teachers' motivation to enter the profession thereafter, or even to complete the programme. In some cases, teacher education programmes are said to paint "a glowing picture of teaching", with adverse consequences for those prospective teachers whose motivation to teach is insufficiently robust to weather the realities of the first few years of teaching and who needed either greater reinforcement or counselling out of the system (Thomson et al 2012: 333). It may be that new teachers with altruistic motivations are especially vulnerable to being rudely awakened to the practical challenges of everyday teaching, and, without additional intervention, "may be doomed to burn out" (Friedman 2006: 738); that aside, "more could be done to harness and support altruism as a motive", by identifying, supporting and counselling right from the start those teachers already willing and "motivated from the outset to work with disadvantaged pupils" or "in schools with significant social problems" (Ashby et al 2008: 4; Chuene et al 1999: 32-3). Furthermore, teacher educators need to recognise that "not all who enter teaching do so for positive reasons" – some drift into teaching "because of a lack of suitable alternatives, or to escape 'less palatable jobs'" (Ashby et al 2008: 5) – and adjust their support accordingly.

A prospective teacher's motivation to teach may also have **age- and gender-related dimensions.** In some countries with lengthy teacher preparation programmes, or where additional or 'alternative certification' routes into teaching, involving on-the-job

training or short courses, have opened up (Ladd 2007: 212; IALEI 2008: 40-6), comparatively more people who are older than the traditional student are either entering or being attracted to teaching. This in turn has impacted on the age of those entering traditional routes into teaching; in the UK, for instance, "[t]he age range of those entering teaching has widened: in 2006 it was reported that nearly a third of people entering ITT [initial teacher training] were over 30 years of age" (Ashby et al 2008: 6). Older student-teachers may have motivational advantages in that they may be more mature and have more work experience, but may also have family responsibilities and may be less flexible or less willing to relocate to distant schools.

Motivation to teach may also vary according to **gender**, although research in this area is far from conclusive. Female prospective teachers may be "more motivated by the perceived intrinsic aspects of primary teaching" or value "the ability to combine teaching with parenthood" more than males, who may instead emphasise "perceived extrinsic aspects" and may be deterred by associations of teaching, especially at primary level, with mothering (Ashby et al 2008: 6; see also Guarino et al 2006: 183). This last is indirectly supported by a finding, in a study of a number of African countries, that some student-teachers perceived lower primary teaching as of low status, "a woman's job" (Akyeampong et al 2011: 30; see also MacBeath 2012: 14).

Finally, just as not everyone who studies teaching plans to be a teacher, some who plan to be teachers **do not intend to teach forever**. In a study of 510 Australian student-teachers, slightly more than half (225) intended to spend their whole career in teaching (Watt and Richardson 2008: 417). However, a substantial proportion of students (132) showed similarly high planned effort, professional development and leadership aspirations as those intending to make a career out of teaching but nevertheless only wanted to teach in the short-term. The researchers noted that their finding that these prospective teachers, characterised as 'highly engaged switchers', were not planning to persist for long in the profession, was not necessarily a bad thing: "Although there is a problem of teacher shortages at this point in time in Australia and elsewhere, for the time these commencing teachers plan to remain in the profession they aim to exert high effort, undertake professional development, and aspire to school leadership positions" (Watt and Richardson 2008: 425). They recommended that these 'highly engaged switchers' be encouraged to enter, persist and develop in the teaching profession, by providing opportunities for them to "achieve leadership roles and have their desire for new challenges and opportunities, as well as their engagement and effort appropriately rewarded" (Watt and Richardson 2008: 426).

Student-teachers' perceptions of teaching

Since "[teacher education] trainees' preconceptions about teaching and student learning can impact on their experience of ITP [initial teacher preparation] and their early professional development", a better understanding of these perceptions may help teacher educators to provide more appropriate support, or highlight potential obstacles in advance, and thus both improve the quality of the teacher education programme and

reduce dropout or later withdrawal from the profession (Ashby et al 2008: 13; Hammerness et al 2005a: 369).

A strong – perhaps the strongest – influence on student-teachers' preconceptions of teaching is **the way in which they themselves were taught when at school**: in Europe and Australia as much as in Africa, Lortie's (1975) suggestion that "young people's long 'apprenticeship of observation' during their schooling may have a greater influence on them than their subsequent formal preparation to be professional teachers" still applies (Ashby et al 2008: 14; see also Akyeampong et al 2011: 71; Hammerness et al 2005a: 366; Feiman-Nemser 2001: 1016; Sinclair 2008: 92). Initial teacher preparation can go a long way towards counteracting this 'apprenticeship of observation' simply by acknowledging it; but because the knowledge, skills and attitudes needed for optimal teaching cannot be fully developed in preservice teacher education programmes, student-teachers need to be "equipped for lifelong learning" (Hammerness et al 2005a: 358).

In this regard, an important

> challenge for pre-service education is to help neophyte teachers to deal with the dissonance between their own conservative experience as pupils and the transformational demands of the teacher, between their own lack of agency as a pupil and the authority of the teacher. Induction into the profession means 'rendering visible' previous experiences, the unconscious and latent models that students bring with them when they start their training programmes (MacBeath 2012: 17).

Learners at school observe what teachers are doing, but have no pedagogical framework within which to locate and explain teachers' actions (Hammerness et al 2005a: 363-7). Nevertheless, research has found that **inspiring, caring and respected teachers, and teachers who employed effective instructional strategies**, dominate student-teachers' characterisations of 'good teachers' (Ashby et al 2008: 14); negative recollections of former teachers also play a role, if only as models to be avoided (Flores and Day 2006: 223). In addition, some student-teachers bring to their teacher preparation "ready-made identity projects they want to enact, being essentially concerned with presenting an appearance of competent performance to pupils, mentors and tutors", and these projects, whether positive or negative, need to be critically interrogated (Ashby et al 2008: 15), together with the images student-teachers may have of themselves teaching and the metaphors they might use to describe their roles as teachers (Feiman-Nemser 2001: 1016; Findlay 2006: 511).

Teacher standards

Throughout the world teachers are expected to meet certain standards of competence, and although these standards usually delineate only the minimum of what is expected of teachers, they are sufficiently common and uniform to constitute a basic benchmark of

what constitutes a quality teacher and quality teaching. All such standards make reference to the need for teachers to have **expert knowledge** of the subjects they teach, to be aware of the characteristics, needs and **learning capabilities of the children** that they are teaching, to employ **appropriate pedagogical techniques** and ways of **managing the learning environment**, and to utilise various forms of **assessment** which ensure that learning takes place; they invariably also refer to the need for teachers to **reflect** on and improve their everyday practices, to work alongside of and in concert with others and to **conform to official and professional norms** (Deacon 2010: 27; Feiman-Nemser 2001: 1016-19). Examining how the professional identities of student-teachers and new teachers, in particular, are constructed and evolve in response to these standards and other expectations is key to promoting teacher quality and effecting innovation (Robinson and McMillan 2006: 1).

An overview and comparison of official **teacher standards documents** from six different countries or states (Australia, California, England, New Zealand, Northern Ireland and Ontario) between 1997 and 2008 reveals a surprising degree of uniformity and agreement over the kinds of things teachers are expected to know, do, embody or uphold (AATE 2002; CDE 1997; GTC 2005; NZTC 2008; OCT 2008; TDA 2007). The fact that all these countries are developed, Western and English-speaking, and have shared histories, no doubt has a lot to do with the similarities in their standards for teachers, but the fact remains that these standards are replicated in many other parts of the world (including South Africa) and, as such, represent the international norm.

All the countries' teacher standards refer to **who, what, where and how**: who is taught, and who it is that teaches; what is taught; where teaching and learning occurs; how one teaches, and plans to teach, and how learners (and teachers) learn, and how they are assessed. Interestingly, there is very little on 'why' one teaches – it appears to be assumed that one does not prepare to become a teacher if one does not desire to be a teacher. 'What to teach' is much higher up in the standards pecking order in Australia, New Zealand and Northern Ireland than in California, England and Ontario, whereas 'About the profession' is much higher up in the order in Northern Ireland and England than in Ontario, California, Australia and New Zealand (in that descending order). A slight but insignificant degree of variation is apparent if one compares what, for each document, is the first thing teachers should know or do: In Australia, they 'know their students …'; in New Zealand, they 'know what to teach …'; in California, they 'engage students in learning …'; in England, they 'have high expectations of children …'; in Northern Ireland, they 'understand and uphold core professional values and commitments …'; while in Ontario, they are 'committed to students and student learning …'.

Overall, California appears more concerned with the everyday practicalities of teaching – 'engaging students', 'creating environments' and 'designing experiences'; Ontario and England prefer to emphasise ethics and values; and the other three countries stress what is to be learned and how. England veers between emphasising the well-being of the young and stipulating how professionals should conduct themselves: a seemingly gentle, learner-centred initial exhortation for teachers to 'Have high expectations of children' is

quickly followed by a state-centric caution to 'Be aware of the professional duties of teachers and the statutory framework within which they work'.

Only the England and Northern Ireland documents clearly incorporate specific **progression or developmental elements** into their standards (i.e., they have standards applicable to new teachers, and other – or rather additional – standards applicable to more experienced teachers). England has 33 standards for (newly) Qualified teachers, 41 standards for Core teachers (on the main pay scale), 10 standards for Post Threshold teachers (those on upper pay scales), 15 standards for Excellent teachers and 3 standards for Advanced Skills teachers. Northern Ireland does little more than repeat the same standards for both beginner and experienced teachers, adding that experienced teachers should support and assist other educators, and parents, at whole school and community levels. The English standards, however, reveal some rather subtle nuances in the ways in which the same competences are described for beginner and more experienced teachers. For example, the Qualified teacher must 'demonstrate the ability to manage the learning of individuals, groups and whole classes, modifying their teaching to suit the stage of the lesson', while the Core teacher must 'manage the learning of individuals, groups and whole classes effectively, modifying their teaching appropriately to suit the stage of the lesson and the needs of the learners'. Note that the Qualified teacher need only demonstrate the *ability* to manage, while this skill is assumed for the Core teacher, who must actually manage *effectively* and also take learners' needs into account.

Other examples from England of slightly different standards for beginner and experienced teachers can be seen in the area of 'Team working and collaboration', where there are graded shifts in focus (1) from the individual to individual colleagues, groups, the school as a whole and then beyond, (2) from involvement in a team, to promoting teamwork, to working with leadership teams to being part of a leadership team, and (3) from sharing work, to managing work, to taking a 'leading' role and finally taking a 'leadership' role.

Finally, reflecting briefly on how teacher standards in these countries compare to South Africa's *Norms and Standards for Educators* (DoE 2000) (particularly the seven educator roles) and the more recent "minimum set of competences required of newly qualified teachers" (DHET 2011: 55): the differences are so slight as to be insignificant. The structure, wording and form of presentation may differ, but the meaning and the intention, with regard to what it means to be a competent teacher, is almost indistinguishable.

These **commonalities in teacher standards** suggest more that efforts are being made internationally to shape (from without, as it were, via policy and regulation) the kinds of competences expected or desired of teachers, rather than that most teachers do actually or strive (from within, as it were) to conform to these standards. There is no general or generic or actually existing ideal-type of 'teacher', let alone of 'new teacher'; rather there are teachers who are experientially-, preparation-, context- and institution-specific. Nevertheless, even though there may be no "model teachers", but instead "individual

teachers with a range of characteristics" (Ashby et al 2008: 15), the question remains: what various kind/s of teachers, with what kinds of professional identities, motivations, knowledge, self-perceptions and degrees of effectiveness, are being fashioned in South Africa today?

Teacher knowledge

Teacher knowledge – **what teachers know or can be expected to know, and what they can do with what they know** – is central to teacher identity. Like teacher identity, teacher knowledge is interpreted, re-interpreted and transformed under the impact of numerous agents – not least by teachers themselves, who may be seen as "characters in their own stories of teaching that they author" (Whelan et al 2001: 143) – and across a range of contexts. From existing disciplinary knowledge bases, that which is to be taught in schools is first extracted and recontextualised by government bureaucrats and their advisors, often in the form of an official or national curriculum and usually under the auspices of an agreed set of teacher standards. This curricular knowledge is further recontextualised by teacher educators and others, and supplemented with research into how both this knowledge, and disciplinary knowledge itself, might be best understood, organised and imparted in classroom settings, in order to provide prospective teachers with subject knowledge for explicitly teaching purposes. In addition, all these layers and forms of knowledge need to be knowledgeably and adeptly relayed using appropriate techniques in the context of varied school and classroom and teacher and learner characteristics and abilities. In these terms:

> teacher professional knowledge can be said to comprise three components: disciplinary knowledge, subject knowledge for teaching, and classroom competence; or, put another way, content knowledge of the respective school subject; theoretical and research findings concerning the nature of the subject and methods of teaching it; and the practical ability to convey the subject to learners in real classrooms (Taylor and Taylor 2012: 3).

Underpinning this breakdown of teacher knowledge is decades of research, much of it influenced by Shulman's (1986) distinction between three main categories of content knowledge: **subject matter content knowledge**; **pedagogical content knowledge**; and **curricular knowledge**.

Subject matter content knowledge refers to "the amount and organization of knowledge per se in the mind of the teacher", which in turn relates to how a particular discipline structures and validates itself, or how it both defines what its content is and why this is the case (Shulman 1986: 9). Next, **pedagogical content knowledge** refers to subject matter knowledge for teaching, or "ways of representing and formulating the subject that make it comprehensible to others", together with an awareness of learners' common difficulties with the subject (Shulman 1986: 9-10).

Lastly, **curricular knowledge** refers to the officially specified curriculum and instructional materials for a subject, as well as 'lateral and vertical curriculum

knowledge', so as to relate this particular subject to other subjects being learned before, after and at the same time (Shulman 1986: 10). In addition to these three categories of content knowledge – which may themselves be organized in the forms of "*propositional knowledge, case knowledge,* and *strategic knowledge*" (Shulman 1986: 10, emphasis in the original) – Shulman also makes mention of the need to consider the pedagogical knowledge of teaching, or the principles of classroom organization and management, as well as the importance of other kinds of knowledge, such as knowledge of learners, of school organization, and of educational foundations (Shulman 1986: 14), to which one might add kinds of knowledge specific to particular times and places, contexts and cultures (like South Africa today): for example, knowledge of the language of teaching and learning, of diversity, of HIV/AIDS, of poverty and of the environment (DHET 2011: 11). Shulman concludes that to assess a prospective teacher's competence in all these areas is to assess "the capacities of a *professional*" (Shulman 1986: 10, emphasis in the original).

Teacher knowledge is also increasingly linked to the **quality and effectiveness of instruction**, or the outcomes of what teachers do with what they know: "to enhance student learning requires teachers to have both a wide body of *knowledge* and the *ability* to use this knowledge appropriately in a variety of institutional contexts" (IALEI 2008: 24, emphasis in the original).

> [P]rofessional teacher knowledge is constructed when student teachers draw on their knowledge and understanding of the content … to make informed pedagogical choices around other facets of their teaching practice (including their preparation, selection of appropriate teaching strategies, managing their classrooms as safe learning environments and the ways in which they monitor learning) (Rusznyak 2010: 128).

The institutional contexts in which knowledge is deployed may not only require modifications to formal academic knowledge of teaching, but themselves give rise to less formal, more practical, often tacit, craft knowledge specific to particular teacher 'communities of practice' in or across schools, which will also influence how new teachers are expected to teach in that particular milieu (Burn 2007: 446-7; Burnett 2006: 324; Loughran et al 2003: 871). It may be, too, that a certain quantum of automatised teaching schemas and routines are required, on the basis of which innovation and adaptation (even of those same automatised schemas) can then take place (Hammerness et al 2005a: 363-4); it may also be that "strong disciplinary knowledge is a prerequisite for developing proficiency in [content knowledge for teaching]" (Taylor and Taylor 2012: 5). However, even disciplinary knowledge is not fixed, but shifts through paradigms and is debated and revised (Ellis 2007: 450-2); and teacher knowledge must also develop and extend (and not just accept as ready-made) this disciplinary knowledge, by "building on existing knowledge, creating links to related ideas, processing information and reorganising and synthesising that knowledge, and developing students' metacognitive skills" (Loughran 2010: 218).

Teachers will always need to know something about the subject matter they are teaching, in terms of both content, pedagogy and curriculum, and about how, and with what techniques and tools, it can best be taught to diverse learners under particular circumstances and for specific purposes (Guyver and Nichol 2004: 3; IALEI 2008: 24; Turner-Bisset 2001: 13-19). Moreover, leaving aside the perennial swings in emphasis in teacher knowledge at different levels – such as between 'knowing what' and 'knowing how', or between the 'theoretical' and the 'practical', or between subject knowledge and pedagogical knowledge, or between positivism and constructivism (Burnett 2006; ***Schön*** 2001; Téllez 2007), what teachers know or are taught to know will impact not only on how they see themselves but also on how they are seen and are expected to act by policymakers, principals, parents and the public at large, not to mention their colleagues and learners. And, across the world, teachers' knowledge and their ability to use it is a matter of concern, especially in a context in which the **quality of teaching** has come to be seen as the single most important influence on learner achievement (Darling-Hammond 2000; Rice 2003; OECD 2005; Hanushek and Rivkin 2006; Mourshed and Barber 2007).

In the US during the 1990s, questions were raised about the **adequacy of teachers' disciplinary or subject matter knowledge and about their ability to impart it**, with some research suggesting that even teachers who majored in the subjects they now teach have difficulty explaining basic concepts (Feiman-Nemser 2001: 1020). In South Africa, the Higher Education Quality Committee (HEQC), reviewing the country's teacher education programmes in 2007, pointed out that "a student's undergraduate academic majors in relevant subjects are no guarantee of sufficient disciplinary knowledge as a basis for building pedagogical content knowledge" (CHE 2010: 48).

Also in South Africa, many teachers have a poor grasp of the knowledge they are required to teach and of how to teach it (DoE 2007: 4-5): "in our context a prevalent deficiency in teaching (not only school teaching) is the lack of an adequate understanding of the content being taught" (Morrow 2007: 85). This view, stated in the mid-1990s, has not changed, despite a series of qualification and programme restructurings and substantial monies being spent. As recently as five years ago it was found that many teacher education programmes – from initial teacher education programmes like the Bachelor of Education (BEd) degree and Postgraduate Certificate in Education (PGCE) through to continuing professional development qualifications like the National Professional Diploma in Education (NPDE) and the Advanced Certificate in Education (ACE), as well as professional development short courses – are not providing either the disciplinary knowledge or the pedagogical subject knowledge which teachers need and government standards expect (ELRC 2009: 142). Only 40% of 15 BEd programmes and 32% of 22 PGCE programmes were deemed worthy of **full accreditation** after being reviewed by the HEQC in 2007 (CHE 2010).

For instance, citing Feiman-Nemser's (2001) finding (mentioned above) that a typical weakness of PGCE-type programmes is that "the students' subject knowledge is poor – they often cannot explain basic concepts of the discipline in which they majored", the HEQC review found that "South African PGCEs are not immune to many of these

problems" (CHE 2010: 48-9). With regard to the BEd programmes reviewed, it found that "the greatest problems in programme design result from institutions' incapacity to meet minimum standards of internal coherence, alignment with purpose, and intellectual credibility in terms of the relationship between theoretical, practical and experiential knowledge" (CHE 2010: 95). It should be noted that the HEQC review was more than just a formal assessment; it not only identified actions that institutions needed to undertake if they were to reach minimum quality standards but also followed up on and checked to see that such actions were in fact undertaken. Hence, the HEQC's review process was "a quality assurance methodology that had a direct impact on the improvement on the quality of provision", in that by the time the review report was published, in 2010, i.e., three years later, it could be said that "almost all programmes that participated in this review have by now achieved full accreditation" (CHE 2010: viii). Nevertheless, revisions to teacher education programmes continue, in that the HEQC review has led to the formulation of the *Policy on Minimum Requirements for Teacher Education Qualifications selected from the HEQF* (MRTEQ), which expects all programmes to be revised by July 2014 (DHET 2011).

Teacher education programmes

Teacher education programmes aim to shape and develop a prospective teacher's identity across all areas in which competence is expected. However, for various reasons – changing social and economic needs, greater awareness of the relative standing of national educational systems, demands for more accountability and efficiency, teacher shortages and difficulties in attracting new recruits into the profession – **teacher education programmes are the focus of intense scrutiny**, especially with regard to their quality and relevance, and the capacity and skills of the teachers they are educating.

In many countries, **teacher education programmes are too often seen as failing** to meet the ever-higher expectations of graduates, not to mention employers and society at large (and in this regard they are not unlike many other university programmes). An OECD survey in 2005 found that almost all countries were concerned about "whether enough teachers have the knowledge and skills to meet school needs", "the limited connections between teacher education, teachers' professional development, and school needs"; and "a need for university-based preparation programmes to be more evidence-based and responsive to school and practitioner needs in terms of their relevance and currency" (OECD 2005: 4; IALEI 2008: 50). In Sweden, for instance, a longitudinal study found that both the 1996 and 2006 cohorts of student-teachers at one university experienced a lack of correspondence between the teacher education programme and the work they were being educated for, while 52% of the student-teachers at another university expressed hesitation about their programme's relevance for future work (Dahlgren and Chiriac 2009: 3, 8).

A study of how the initial teacher education of some 4 699 student-teachers from Ghana, Kenya, Mali, Senegal, Tanzania and Uganda impacted on their eventual teaching practices in schools (Akyeampong et al 2011: 7) concluded that "in every case there is a

discrepancy between what is required of teachers to teach the primary school curriculum and the preparation that they receive to do this from their initial training" (Akyeampong et al 2011: 22). With regard to **mathematics**, it was found that "work on mathematical knowledge is rarely about deepening conceptual understanding of the topics which are taught at primary level, being rather concerned with taking trainees further into more advanced mathematics or reinforcing and repeating the senior secondary curriculum" (Akyeampong et al 2011: 20). None of the mathematics teacher educators had any "special training for teaching primary mathematics at ITE level", and instead relied on tips and experiences from fellow tutors, and on textbooks. They focused largely but superficially on "how instructional materials could be used to teach basic mathematical concepts" (Akyeampong et al 2011: 38).

With regard to **reading**, according to the same study, "very little time anywhere was devoted to learning to read despite its acknowledged importance to learning globally in primary education", with "a larger proportion of time … allocated to subject knowledge in language than to learning how to teach it" (Akyeampong et al 2011: 18).

> What was missing in all six countries was tutor knowledge and practice of realistic strategies to teach reading in an unfamiliar language – French, English or Kiswahili – to pupils whose understanding of those languages is negligible (Akyeampong et al 2011: 28).

In South Africa, too, many teachers "do not possess the language proficiency required to assist their pupils to negotiate … text comprehension" (Taylor and Taylor 2012: 15). Across the six African countries mentioned above, "[reading] tutors assumed that trainees would be able to adapt the knowledge they received into pedagogical content knowledge appropriate for the youngest children and teach to an idealised version of the primary classroom rather than contextualising this within large, resource-poor multilingual classrooms" (Akyeampong et al 2011: 29).

An analysis of **South African teachers' mathematics and language knowledge** drawn from the Southern and Eastern Africa Consortium for Monitoring Educational Quality's (SACMEQ) latest data (2007) concluded that "the subject knowledge base of the majority of South African grade 6 math teachers is simply inadequate to provide learners with a principled understanding of the discipline", with much the same applying to language teachers, whose "performance fell off as soon as the higher cognitive processes were required to answer a question", especially "questions involving interpretation and evaluation" (Taylor and Taylor 2012: 21). It appears that "the majority of teachers do not seem to possess the kind of professional habitus which would drive them to study their subject for its own sake and in the interests of improving their classroom effectiveness" (Taylor and Taylor 2012: 22).

Research in South Africa and elsewhere has shown that "student teachers frequently underestimate the importance of content knowledge in their lessons and in developing teaching practice" and tend instead to "focus their efforts on planning fun-filled activities for the lessons they teach" (Rusznyak 2011: S107). At the same time, however,

university tutors or supervisors do not always pay sufficient attention to how student-teachers organise and present **content knowledge**: an analysis of 893 reports on lessons given by BEd student-teachers, written by 48 university tutors, found that "only 34 per cent contained comments on the student teachers' understanding and presentation of their content knowledge of the lesson" (Rusznyak 2011: S98, S106).

A comparative study in 2004 of **two BEd mathematics teacher education programmes** at an urban and a rural university in South Africa found that "the distribution of educational knowledge and practices, mediated by higher education institutions and across starkly different contexts, produces differentially specialised pedagogic identities" (Parker 2012: 27; see also Parker 2009a: 533). Some of the differences had to do with the level of available resources. While the urban university was wealthy, with plenty of staff (allowing substantial contact time) and replete with all necessary technologies, its well-stocked library was scarcely used by student-teachers; the much more limited library stocks at the poor understaffed rural institution were constantly in use. More importantly, the teacher identities being forged amongst the best-prepared students at each institution differed significantly. Though both institutions assumed that any mathematics matriculant, regardless of their level of achievement, could be rendered competent and confident to teach secondary school mathematics, the urban university considered students to be mathematically weak, allocating significant time to re-teaching them; by contrast, the rural programme believed that students were only mathematically unpracticed and left them to hone their skills in their free time. As a result, the urban students, well drilled in deep mathematics learning as well as in the new curriculum, remained relatively dependent on their lecturers for input and enjoyment of mathematics, and prone to blaming their own deficiencies on their circumstances or on significant others. The rural students, procedurally fluent but possessing mathematics learning seldom put to the test, received very limited coverage of the new curriculum, yet the confidence shown in them by their lecturers empowered them to take responsibility for their own learning; steeped in the idea of life long learning, they treated the realisation of how much they still had to learn as an opportunity to grow (Parker 2012: 24-5).

The study concluded that **neither set of teacher identities** being produced at these two relative extremes of the teacher education system **seemed particularly desirable** in itself nor capable of generalisation across the system as a whole. The rural institution was producing strong teacher identities likely to be able to cope well within largely rural and under resourced realities, but their limited knowledge resource base suggested that, at least initially, they would be sternly challenged in more urban – indeed, more urbane – and less traditional schools. The urban student-teachers, on the other hand, would be thoroughly prepared for well resourced and flawlessly functioning schools with relatively informal authority structures, but their individualistic ethos would be tested in poorly resourced rural or township contexts (Parker 2012: 26).

An earlier, two-year **longitudinal study of seven students** from their one-year Higher Diploma in Education secondary mathematics method course into their first year of teaching in South Africa concluded that "the mathematics method course influenced

[student-teachers'] professional argot rather than [their] classroom practice" (Ensor 2001: 316). In other words, the mathematics teacher-educators gave student-teachers "access to a way of discussing teaching through visualization, and a number of discrete tasks that encapsulated this, but not to the means to produce such tasks themselves" (Ensor 2001: 315); in Bernstein's terms, students were provided with 'recognition rules', or a language to describe best practice, but not sufficiently provided with 'realisation rules', or opportunities to produce their own tasks and subject these to evaluation within these best practices (Parker and Deacon 2004: 15-16). This was because the "[s]tudent teachers … did not watch their teacher educators teach in school classrooms, nor did they have the opportunity to put their own practices up for evaluation by mathematics specialists while they were on teaching practice" (Ensor 2001: 315).

Because the student-teachers were able to appropriate the professional mathematics argot and recognition rules of best practice, the effects of the mathematics method course were not simply erased or 'washed out' by real-world school or classroom exigencies (as is often the case) but instead "transformed" (Ensor 2001: 316). While both the existing school settings and practices, and student-teachers' educational biographies (or how they were primed to teach in part according to the way they were themselves taught at school), certainly shaped "the ways in which beginning teachers draw from their preservice courses", they did not do so "decisively". Rather, or in addition, "[a]ttention needs to focus on teacher education, whether preservice or inservice, what it makes available to teachers, and whether they are able to gain access to recognition and realization rules" (Ensor 2001: 317). This deduction gives renewed emphasis to "the **importance of modeling best practice in the classroom**, either by teacher educators or by cooperating teachers, to assist student teachers in acquiring [appropriate] 'habits of mind'" (Ensor 2001: 317). It also suggests that teacher educators themselves need to be more cognisant, reflective and explicit about what and how they teach, and why (Hammerness et al 2005a: 368).

This last finding is often echoed by other research in the field, which highlights both that teacher-educators need to model effective instruction and that student-teachers need explicit instruction in curriculum and curricular materials (Coady 2010: 299; IALEI 2008: 52; Massey 2006: 82), supported, wherever possible, "through expert and collegial mentoring in classrooms" (Bertram 2011: 19-20). If teacher education programmes can be more closely linked to the realities of classroom practice, and if student-teachers can be more directly exposed to school curriculum materials in the process of developing their understanding of how to teach (Akyeampong et al 2011: 45), this would go some way towards narrowing any perceived gap between theory and practice. Ideally, more effort needs to be spent teaching subject content knowledge to student-teachers in the context of and together with actual teaching and learning practices in school classrooms, where teachers are trying to teach subject content knowledge and learners are trying to learn it; this will better equip new teachers both to **deal with the realities of resource-poor large classes**, and to exploit the possibilities offered by carefully planned and developed curricula, and will help boost their confidence (Akyeampong et al 2011: 65).

It must be borne in mind, however, that any such modelling of effective curriculum-related and classroom-linked instruction requires both **expert modellers and appropriate models**, which in turn are dependent on the existence of quality teacher education practices (Morrow 2007: 86; Bertram 2011: 15; Henning and Gravett 2011: S30). In addition, more than just preparing teachers for real-world situations, teachers need to be prepared for a world which is not only complex and changing, but also **imperfect**: the constraints of everyday classroom, curriculum and school environments on efficient and innovative teaching must be acknowledged (Hammerness et al 2005a: 365). There is also a plethora of pedagogies in teacher education, as well as various different styles of teaching practice, each with strengths and limitations, with their effectiveness dependent more on their intended goals than on any intrinsic value (Hammerness et al 2005b: 407); it follows that modelling effective instruction, for instance, may not always be appropriate to the task at hand.

Recent US studies of **strong teacher education programmes** – those deemed by both graduates and their employers to significantly better prepare beginning teachers – is that they are conceptually coherent, having "integrated clinical work with coursework" (Hammerness et al 2005b: 392). Other features of strong programmes include: being a collective endeavour; having dedicated full-time staff – including many former teachers – and shared leadership; being longer term programmes (when a consistent focus is maintained); offering repeated experiences with repeated opportunities to practise skills; providing student-teachers with a cognitive map or 'big picture'; providing clinical experience early and throughout; developing readiness for learning on the basis of student-teachers' prior knowledge; emphasising context- and content-specific rather than generic knowledge and learning; modelling good practice; close analyses of other teachers' practices (including of how other teachers, and fellow student-teachers, learn); reading and writing of cases and of autobiographies; using technology in an innovative and supportive fashion; learning from peers and in professional communities (including the local community); practitioner inquiry; and performance and portfolio assessment Hammerness et al 2005b: 393-441).

In South Africa, the HEQC review of 2007 also identified conceptual coherence and strong links between theory and practice as marks of good quality teacher education programmes (CHE 2010: 59, 95-6). But the review questioned the **overall quality** of most existing programmes, finding also that: too many teacher education programmes did not meet minimum standards in the areas of programme design, coordination and work-based learning; the quality of programme staff was weak with respect to staff development, research output and orientation; many students had insufficient opportunities to engage in practice learning, a problem exacerbated by weak university-school relationships, poor communication, and inadequate supervision and mentorship arrangements; there was insufficient professional screening of applicants prior to admission; programmes often only complied with government regulations in fragmented and mechanical ways, or else paid mere lip-service; and some programmes seemed insufficiently aware of the extent and depth of the country's educational problems (DHET 2011: 6-7).

As mentioned above, as part of ongoing efforts to improve the quality of teacher education in South Africa, and particularly in response to the HEQC review results, in 2011 government introduced its ***Policy on Minimum Requirements for Teacher Education Qualifications selected from the HEQF*** **(MRTEQ)** (DHET 2011). The MRTEQ replaces the *Norms and Standards for Educators* (DoE 2000) and requires that all teacher education qualifications be revised so as to comply with its requirements by July 2014.

First, as a result of the HEQC finding that few teacher education programmes met minimum standards in the areas of programme design, coordination and work-based learning, the MRTEQ explicitly "provides **clearer and more specific guidelines** with regard to minimum requirements for the development of learning programmes, with the additional aim of seeking to reduce the large gap, identified by the HEQC, between enrolments and throughputs in initial teacher education programmes" (DHET 2011: 6). The required **minimum allocation and distribution of credits** in initial teacher education programmes are now such as to give particular emphasis to what is taught (subject or disciplinary content knowledge) and how it is taught (pedagogical content knowledge), as well as to practice teaching. Taking forward the notion of 'applied and integrated competence' described in the *Norms and Standards* (DoE 2000), but seeking to foreground "knowledge, reflection, connection, synthesis and research", the MRTEQ specifies five "**types of learning** associated with the acquisition, integration and application of knowledge for teaching purposes": disciplinary learning; pedagogical learning; practical learning; fundamental learning; and situational learning; with each of these broken down further into sub-components: educational foundations and disciplinary subject matter; general pedagogical knowledge and specialised pedagogical content knowledge; learning from and in practice; languages, ICT and academic literacies; and learning, policy and social contexts (DHET 2011: 9-10).

Second, given the need to improve the overall quality of those **staffing** initial teacher education programmes, especially in areas like "staff development, research output and orientation of part-time staff", the MRTEQ mooted the possible future development of "minimum requirements for qualifications in teacher education" or, in other words, qualifications specifically tailored for teacher educators. "In the meantime", however, it was hoped that "greater involvement in curriculum design on the part of teacher educators will encourage, and be promoted by, improved staff research and development activities" (DHET 2011: 6).

Third, in response to the HEQC's finding that initial teacher education programmes are especially weak in the area of **practice teaching** and work-based learning – to the extent that students are given insufficient opportunities to practice their craft, along with "weak institutional-school relationships, poor communication, few and inadequate supervision and mentorship arrangements and sometimes no deliberate student placement policies" – the MRTEQ offered "direct and specific regulations with regard to practical and work integrated learning structures, liaison, supervision and mentoring" (DHET 2011: 6). These include an insistence that "proper supervision and suitable school placement" must be guaranteed (DHET 2011: 16), and specifications of the

minimum and maximum time to be devoted to practice teaching, including learning in-and-from-practice. With regard to the Advanced Diploma in Teaching (which will replace the PGCE qualification), "[s]tudents should spend a minimum of 6 weeks and a maximum of 8 weeks on supervised school based practice over the one year of the Advanced Diploma in Teaching. At least three of these weeks should be consecutive" (DHET 2011: 28). With regard to the B.Ed degree, "[s]tudents should spend a minimum of 16 weeks and a maximum of 24 weeks on supervised school based practice over the four years of the degree. In any given year, a maximum of 10 weeks should be spent in schools and at least three of these should be consecutive" (DHET 2011: 25).

Fourth, the DHET expressed concern that preparing students for a career in teaching, and with the capacity to adapt to future curriculum change, was severely under-emphasised in most initial teacher education programmes. Accordingly, the MRTEQ identified firm and clear **career pathways** in the teaching profession – a teaching and learning pathway, a management and leadership pathway and an educational planning, research and/or policy development pathway (DHET 2011: 4) – which, associated with particular sets of qualifications, are intended to provide opportunities for teachers to advance their careers within the teaching profession and within the school context. The aim is to improve teacher retention, both within the profession and more especially within the classroom.

Fifth, picking up on a range of issues raised by the HEQC with regard to poor student selection, inadequate provision for all languages of learning and teaching, rigid and technicist institutional responses to policy interventions, insufficient staff research engagement, and programme irrelevance, the MRTEQ has:

- directed universities to undertake better "professional **screening** of applicants prior to admission", to be "more selective during admissions processes" and to "give more support once students have been admitted and are in the system" (DHET 2011: 6);

- specified that, as of July 2014, all new teacher graduates will be expected to be able to teach in at least one official **language** *and* also be partly proficient (able to converse) in "at least *one* other official language (including South African Sign Language) *other than* English or Afrikaans" (DHET 2011: 16);

- attempted to moderate its minimum specifications with provision for a degree of **flexibility** in order to both avoid "fragmented", "mechanical" and "mere lip-service" institutional responses and encourage "teacher educators to become more involved in and engaged with curriculum design and policy implementation" and develop these as focused **research** areas, in this way linking their teaching to their research (DHET 2011: 6-7); and

- insisted that initial teacher education programmes demonstrate greater awareness of the challenges facing education in South Africa, by deliberately incorporating **situational and contextual elements** to help teachers deal better with diversity and transformation (DHET 2011: 7).

Flowing out of its criticisms and policy prescriptions, the DHET listed the "minimum set of competences required of newly qualified teachers":

1. Newly qualified teachers must have sound subject knowledge.

2. Newly qualified teachers must know how to teach their subject(s), and how to select, sequence and pace content according to both the subject and learner needs.

3. Newly qualified teachers must know who their learners are and how they learn, understand their individual needs, and tailor their teaching accordingly.

4. Newly qualified teachers must know how to communicate effectively, in general and in relation to their subject(s), in order to mediate learning.

5. Newly qualified teachers must have highly developed literacy, numeracy and IT skills.

6. Newly qualified teachers must have knowledge of the school curriculum and be able to unpack its specialised contents, and be able to use available resources appropriately, so as to plan and design suitable learning programmes.

7. Newly qualified teachers must understand diversity in the South African context, in order to teach in a manner that includes all learners, and must be able to identify learning or social problems and work in partnership with professional services to address them.

8. Newly qualified teachers must be able to manage classrooms effectively across diverse contexts in order to ensure a conducive learning environment.

9. Newly qualified teachers must be able to assess learners in reliable and varied ways, and to use the results of assessment to improve teaching and learning.

10. Newly qualified teachers must have a positive work ethic, display appropriate values, and conduct themselves in a manner which befits, enhances and develops the teaching profession.

11. Newly qualified teachers must be able to reflect critically, in theoretically informed ways and together with their professional community of colleagues, on their own practice in order to constantly improve it and adapt it to evolving circumstances (DHET 2011: 55).

It should be noted that, while downplaying the **seven educator roles** that since 2000 have with varying and limited success infused and regulated teacher education and teacher qualifications (DoE 2000), the MRTEQ does not relinquish these roles; rather, these seven roles – specialist in a phase, subject or practice; learning mediator; interpreter and designer of learning programmes and materials; leader, administrator

and manager; scholar, researcher and lifelong learner; assessor; and a community, citizenship and pastoral role – are retained and reinterpreted as "functions carried out by the collective of teachers in a specific school", and as such "can continue to be a useful tool to assist in the design of learning programmes which lead to the development of teachers able to contribute to differing extents to the collective work of educating children in a school, at different points in their careers" (DHET 2011: 5, 9).

For decades now, teachers across the world have been under pressure to alter their knowledge and their practices in conformity with a range of official and professional expectations, standards, regulations and performance measures. In South Africa, the *Norms and Standards* of 2000 and its official replacement, the MRTEQ, are part of these efforts to **shape and manage how teachers think and act**, and what they know and do, within classrooms and without; to this extent they seek to transform the quality of the schooling system in part by normalising the quality of teaching and the professional identities of teachers. Yet, as the DHET itself acknowledges, the state can regulate, but it cannot itself teach (DHET 2011: 7); for this it relies upon competent teacher educators and quality teacher education programmes. But much more than this, if teachers and teaching are to be transformed for the better, teachers themselves need to **accept and internalise** what they are to do and how they are to do it, using which tools; they need to make certain kinds of professional identity, at the heart of which are certain forms of professional knowledge, their own. A hundred years ago, a sociologist commented on similar efforts to introduce a paradigm shift into the teaching profession by means of a revised curriculum and, indeed, a new, systemic, country-wide educational programme:

> It is essential that the teachers entrusted with the task of transforming the [new, reformed, educational] programme into a reality approve of it and take an interest in it. Only if they themselves live it, will they be able to bring it to life. Thus it is not enough to prescribe to them in precise detail what they will have to do: they must be in a position to assess and appreciate these prescriptions, to see the point of them and the needs which they meet. In brief, they must be familiar with the problems for which these prescriptions provide provisional solutions. This means that it is essential to initiate them into the great problems involved in the education for which they will be responsible, no less than into the methods whereby it is proposed to solve them, so that they may be able to make up their own minds with a knowledge of the issues involved (Durkheim 1977: 3-4).

Efforts to shape and manage how teachers think and act might begin with changing what teacher educators, and teacher education programmes, do, but, ultimately, "the restructuring of the work of teacher educators will have little lasting impact if it is not interwoven with **teacher educators' existing strands of identity**" (Robinson and McMillan 2006: 3-4). At the end of the paragraph quoted above, Durkheim added: "Such an initiation can only come from a study of educational theory …" (Durkheim 1977: 4). 'Educational theory' as used here ought not to be considered in a narrow sense, however, particularly where it pertains to how teacher educators help prospective

teachers learn and develop as professionals. It will be necessary to simultaneously develop new teachers' *visions* of their practice, *understandings* about teaching, learning and children, *practices* whereby they put their understandings to work, *dispositions* about how to use these understandings, and *tools* that support their understandings and practices (Hammerness et al 2005a: 385-9).

Student-teachers' experiences of teacher education

Perennially present in student-teachers' experiences of teacher education programmes are perceptions of a **theory/practice dichotomy**, whether between teacher education programmes (such as one-year post-degree 'capping' teacher qualifications like the PGCE and multi-year integrated teacher qualifications like the BEd), between teacher education institutions (such as universities or colleges), or between the programme milieu and the schools in which students are placed (IALEI 2008: 51-2). Since the 1960s, studies have suggested that "trainees placed high value on the practical and school-based components of their programmes while holding negative attitudes towards higher education-based components, particularly the study of the academic 'foundation disciplines' of history, psychology and sociology of education" (Ashby et al 2008: 21; see also Flores and Day 2006: 224-5). The **practice teaching** component, or practicum, is commonly identified in the literature as "the factor that has the strongest impact on teaching" (Roness 2011: 633; Rots et al 2007; 544; Feiman-Nemser 2001: 1020), being viewed by the majority of student teachers as a positive experience (Akyeampong et al 2011: 30; Arends and Phurutse 2009: 17; Sinclair 2008: 93).

It is also likely that "trainees' continuing perceptions of a dichotomy between theory and practice may be unconsciously reinforced by the teachers tasked with their support" (Ashby et al 2008: 23). In South Africa, for instance, it is not just student-teachers and new teachers who perceive a gap between theory and practice in their teacher education programmes (Henning and Gravett 2011: S27), but also many school managers, who feel that new teachers have had insufficient practical preparation (Arends and Phurutse 2009: 28-9). Nevertheless, the question arises: are there different points or stages in the course of initial teacher professional development when student or novice teachers are most receptive to theoretical insights (or most primed for practical engagement), and, if so, how might these moments be most productively utilised (Ashby et al 2008: 22; Hammerness et al 2005b: 402-3)?

Partially overlapping with the theory/practice dichotomy discerned in teacher education is a **research/teaching dichotomy**, illustrated in the form of two quotations (the first from a final-year BEd student and the second from a BEd lecturer) derived from a recent study of the quality of teacher education provision at four South African universities:

> some lecturers know a lot about their subject but they have no idea how to communicate it to an audience. They would rather be academics and researchers because they are terrible to listen to (Mutemeri 2010: 170, 295).

> they [students] want it [lectures] to be interactive but they often do not read the text so you cannot have a communication with people who are not on the same page as you are (Mutemeri 2010: 272).

These two statements capture not only the tensions between the different desires and expectations of students and lecturers, but also between the need to teach students well so that they can then teach better in schools and the need to satisfy policy and institutional imperatives to conduct research and publish. In the ideal world, teacher educators should be both up to date with the latest research and research what they teach; but few such fully developed teacher/researcher educators exist, much as few teachers exist who fully embody all seven of the educator roles envisaged by South Africa's *Norms and Standards for Educators* (DHET 2011: 7-8).

This raises the issue of what kind of professional identity ought to exist or be developed amongst teacher educators themselves, and not just amongst the students that they prepare for teaching in schools. Teacher educators are a very special, indeed unique, kind of university scholar, who arguably require (but have seldom received) specific kinds of training to enable them not only to teach at a tertiary level but also to teach prospective or existing teachers. Teacher educators in university faculties of education presumably ought to (but do not always) possess a carefully crafted and developed **self-identity *as* teacher educators**, though it is not always clear that a specific teacher educator professional identity adequately emerges from the tensions between research and teaching at universities. Such an identity, which should concern both government regulators and university administrators, not to mention teacher educators themselves, will be shaped, on the one hand, by the amount and kinds of research that might be expected of teacher-educators-as-academics, and on the other hand, by the specific kinds of teaching skills that might be expected of teacher-educators-as-pedagogues. The construction or strengthening of a specific teacher educator professional identity (and perhaps also of university tutor/supervisor and teacher mentor identities) would go a long way towards focusing, rather than diverting, the energies of teacher educators and in this way better ground and shape the evolving professional identities of the new teachers they are educating.

Research indicates that **student-teachers' perceptions and concerns change** over the course of a teacher education programme. Student-teachers are said to be more concerned about themselves at the beginning of a programme; this shifts to concerns about situation and task, such as their ability to perform or deliver in front of a class, or to meet their supervisors' expectations; and later they begin to pay more attention to who they are teaching and how effectively (Ashby et al 2008: 25; Dahlgren and Chiriac 2009: 3; Hammerness et al 2005a: 379-80; Veenman 1984: 160-1). Other more enduring student-teacher concerns include the extent to which a teacher education programme manages to prepare them to work with second-language learners, children from various ethnic groups, or those with special needs (Ashby et al 2008: 25-6).

It is important to take account not only of the cognitive but also the affective aspects of student-teacher preparation and preparedness. Ideally, student-teachers must be both

well-prepared to teach in a school environment and *perceive* themselves to be well-prepared, for this perception (along with the various stresses and emotional shifts associated with the student's teaching and academic workload, and school and programme expectations of their tasks), directly affects their confidence (Ashby et al 2008: 29-30). Establishing good relationships with other teachers and with pupils also helps to ease the student-teacher into their new role (Ashby et al 2008: 31; IALEI 2008: 54).

Mentoring of student-teachers

In addition to and in conjunction with the importance of the practice teaching experience, "the **school-based mentor or teacher tutor** is one of the most powerful sources of influence on student teachers undergoing pre-service training" (Ashby et al 2008: 26), playing a significant role in facilitating student-teachers' professional identity formation and stimulating self-reflection and self-regulated learning (Rots 2007: 10). Student-teachers particularly appreciate and value "supportive, reassuring mentors who are prepared and able to make time for them, to offer practical advice and ideas relating to their teaching, and to provide constructive feedback on their teaching attempts" (Ashby et al 2008: 26).

Since 'approachability' is what student-teachers deem to be an especially desirable characteristic in a mentor (Ashby et al 2008: 26), careful attention needs to be given to the **selection** (and, ideally, the **training/educating**) of the right teachers as mentors. An attempt should be made to match mentors and student-teachers, so as to avoid potential clashes of personality or approach; and there is also a need to make sufficient **time** available for mentors to work with student-teachers (Ashby et al 2008: 27). Like student-teachers and newly qualified teachers, mentor teachers may themselves pass through a series of stages, such as from guide to instructor and finally 'co-inquirer' (Ashby et al 2008: 28). This suggests that the mentoring of student-teachers can be enhanced by paying more attention to the knowledge and skills, and also the professional identities, of the mentors themselves, which can go a long way towards ensuring "the proper recognition and valuing of existing expertise" on the part of both mentors and new or student-teachers (Burn 2007: 461).

Among potential obstacles to the effective mentoring of student-teachers is a tendency for the mentor's **assessment** role to overshadow their other roles (such as providing support, advice and instruction), and in so doing "impede the development of the student teacher's learning, the very object of the assessment" (Ashby et al 2008: 28). Nevertheless, the assessment role remains indispensable, with research finding that the extent to which mentors take on their role as evaluator is positively associated with student-teachers entering the profession: "student teachers who received an explicit evaluation of their teaching qualities, may feel more confident about teaching which in turn may enhance their motivation for the teaching profession" (Rots et al 2007: 553). Another study, of beginning teachers, found that "those who benefited from 'high guidance' from their higher education mentors, demonstrated lower levels of burnout

and were less likely to leave teaching than their colleagues who experienced 'low guidance'" (MacBeath 2012: 18).

Student-teacher retention

Given the multiple and varied motivations to teach, and how these motivations may change over time and be influenced by a range of factors, both positive and negative, recruitment into initial teacher education programmes needs to consider how these motivations can be identified and harnessed so as to maximise the attraction both of the programme and of teaching as a profession (Sinclair 2008: 95; Chuene et al 1999: 32). This will also go a long way towards improving the **retention** of student-teachers and also of newly qualified teachers, in a global context in which both the demand for teachers, and new teacher attrition, are high (UNESCO 2009; Jensen et al 2012: 3).

Among the many **reasons for student-teacher dropout** in the UK are workloads, stress, lack of confidence, lack of commitment, financial difficulties, family responsibilities, shortcomings in subject knowledge, poor relationships with mentors, and/or an inability or disinclination to cope with imposing discipline, preparing lessons or managing time (Ashby et al 2008: 62, 65). These factors result in large-scale 'wastage' at the teacher education and take-up stages. In the UK, up to 45% of those applying to become teachers are not accepted for training, up to 15% of those accepted do not complete, and up to 30% of those completing do not take up a teaching post; as a result, "approximately 40% of those who entered training did not become teachers" (Gorard et al 2006: 76). Apart from dropout rates being said to be highest during the first year of studies (Löfström et al 2010: 170), research has also found that student-teachers are more likely to withdraw from a programme "during or immediately after 'block teaching' placements", and that males, older students, as well as those studying scarce subjects (and who thus have greater employment opportunities), are more likely to withdraw (Ashby et al 2008: 62-3). Comparative figures for student-teacher dropout or retention in South Africa are not readily available, though dropout rates in higher education generally may be as high as 40%.

Given these indicators, it follows that efforts should be made to **support** those student-teachers most at risk of withdrawal, especially at those times when withdrawal is likeliest. Prior to that, of course, **selection** mechanisms could be improved so as to 'get the right people to become teachers' (Mourshed and Barber 2007: 13). Selection interviews at the start of teacher education programmes should thus rigorously assess candidates' motivation, commitment and perceptions of what teaching entails; and a period of school observation might assist candidates in making a decision (Ashby et al 2008: 63; Löfström et al 2010: 182). The 'right people' are not just those with a preference and a motivational suitability for teaching but also those who are themselves high achievers, in their prior school, academic or professional careers. It is from the ranks of the top third of school-leavers that educationally high-performing countries like Finland, Singapore and South Korea select their teachers (Mourshed and Barber 2007: 16). In South Africa, Funza Lushaka Bursary Scheme data suggests that "quality [teacher education] entrants tend to be more successful" and that "[i]nstitutions with

the highest failure rates (in bursary students) were institutions that did not apply academic criteria for selection and awarded students without the minimum entry requirements the bursary" (Parker 2009b: 14).

New teacher placement

There are a number of issues in relation to the **take-up of newly qualified teachers**, and their placement in or hiring by schools. Significant proportions of new teachers do not enter the profession immediately, and some never enter. New teachers' preferences for being placed in proximity to their home or where they studied may have implications for the supply of and demand for teachers at a regional or national level. At the same time, where new teachers are placed may well have a bearing on whether or how long they remain in the profession (Ashby et al 2008: 33); in addition, paired or multiple placements (two or more new teachers being assigned to a single school), whether deliberate or not, may make it possible for newly qualified teachers to meet together and share ideas and experiences, and may help with support (Ashby et al 2008: 51; Wilson and Bolster 2011).

In the UK, "30 per cent of those [new teachers] qualified over the last ten years had not entered teaching by the March following their course completion, although many did enter at a later stage" (Ashby et al 2008: 67; see also Gorard et al 2006: 76). In Australia, 30% to 35% of teaching graduates are unlikely to work as teachers within a year of qualifying (MCEECDYA 2005: 93).

Globally, **teacher hiring practices** may be either centralised (where new teachers are matched against lists of district-, state- or even national-level vacancies) or decentralised (with individual teachers applying directly to individual schools) or both. In England, the Netherlands and Hong Kong, individual schools hire new teachers; in the US, schools and school districts are responsible; while in Australia, Japan and Singapore, state or national governments tend to do most of the hiring (ETS 2003: 31-2).

In a longitudinal study of 57 'promising' primary and secondary teachers from their third to their seventh years of teaching in New Zealand, 13 (or 23%) found it difficult to obtain employment, or found their first positions to be unsatisfactory (Cameron et al 2006: 22). A survey of 486 first-year and second-year K-12 public school teachers, in California, Florida, Massachusetts, and Michigan, found that most hiring was decentralised, with 45.9% of respondents experiencing a highly decentralized process (Liu and Johnson 2003: 14). Across all four states, 33% of new teachers were hired after the school year had started:

> In California and Florida, approximately one in three new teachers is hired after the start of the school year. In Massachusetts, the proportion is closer to one in eight, and in Michigan, the proportion is approximately one in ten (Liu and Johnson 2003: 22-3).

Reasons why many new teachers in these US states were **hired late** included difficulties predicting learner enrollments, which determine school staffing levels; budgetary delays and fluctuations; collective bargaining agreements requiring tenured teacher transfers to be completed before new teachers can be hired; and "poorly organized, inefficient, or dysfunctional" district offices and systems (Liu and Johnson 2003: 29). Shortages of teachers, especially in scarce subjects, also encourage employers to appoint out-of-field or under-qualified teachers: in 1999, more than 10% of the entire California teaching force (about 28 500 teachers) were unlicensed (Hirsch 2001: 5).

In South Africa, despite acknowledged shortages of teachers, particularly in scarce subjects, **posts for teachers** are sometimes both difficult to come by and difficult to fill, for a number of reasons. Vacancy lists may be produced tardily by provincial departments of education; some schools or SGBs may reject provincial placements; some new teachers resist being placed in particular areas, or decline posts offered to them; ineffectual or inappropriately qualified teachers may continue to occupy valuable posts; teachers declared in excess may refuse to redeploy; and un- or underqualified teachers may be appointed to posts in lieu of available newly qualified teachers, who must also sometimes compete for posts against new teachers with provincial bursaries or foreign teachers (CHEC 2009: xxxvii-ix; Chisholm 2009: 27-9; DBE/DHET 2011b: 40-1; DoE 2009b: 14; DoE 2009c: 25, 37; DoE 2009d: 14; DoE 2009e: 5; DoE 2010: 2-9).

Even **Funza Lushaka graduates** are not being efficiently taken up by the system: by July of 2009, only 68% of Funza graduates on the placement database for that year had been employed in provincial posts, mostly temporary positions. Funza placement rates vary between provinces, and also by subject, with 25% of mathematics graduates and 41% of Foundation Phase graduates still unplaced six months after qualifying (DoE 2009e: 4-8; DoE 2010: 2-9; DBE/DHET 2011b: 40).

Early teaching experiences

The nature and quality of a beginner teacher's **first formal teaching experience** is critically important, given that it is commonly described as a 'reality shock' or 'transition shock' (Ashby et al 2008: 37; Flores and Day 2006: 219; Rots et al 2007: 543-4; Veenman 1984: 143). This 'shock' may be compounded by the fact that the first year of teaching may also be a time of personal transformation, and "an initiation into the adult world with its responsibilities (living away from home, looking for new accommodations, making new friends, raising a family)" (Veenman 1984: 148).

A common though not uncontested theme in the literature is that, under the impact of "the collapse of the missionary ideals formed during teacher training by the harsh and rude **reality of everyday classroom life**", the effects of teacher education programmes tend to be 'washed out' by everyday experience in the schools (Veenman 1984: 143, 147). Accordingly, new teachers may substantially change their behaviour and attitudes (often in a more authoritarian direction) during their first few years of teaching, as compared to how they felt during teacher educating; one result of these changes may be withdrawal from the profession (Veenman 1984: 144-6).

Research suggests that those areas in which new teachers commonly feel **least prepared** by their teacher education programmes are classroom management techniques, and how to deal with behaviour problems and discipline-related issues (Ashby et al 2008: 37; Flores and Day 2006: 226-7; Haigh and Anthony 2012: 2; MacBeath 2012: 16; Veenman 1984: 153). Across OECD countries in 2008, "18% of new teachers' class time was spent trying to keep order in classrooms compared to 13% for more experienced teachers", with a quarter of new teachers spending a quarter of class time keeping order and 10% spending at least 40% of their class time keeping order (Jensen et al 2012: 9-10). A South African study found that 26% of new teachers indicated 'classroom management and discipline' as the second most important area (after 'counselling', 36%) in which they would like to have had further preparation (Arends and Phurutse 2009: 18).

Apart from classroom management and discipline issues, a review of 83 studies (mostly from developed countries, especially the US, over the period 1960 to 1983) of problems faced by beginner teachers found that **other problems** included (in order of importance) "motivating students, dealing with individual differences, assessing students' work, relationships with parents, organization of class work, insufficient and/or inadequate teaching materials and supplies, and dealing with problems of individual students" (Veenman 1984: 143). Among 34 new teachers surveyed in 2009 in South Africa, the areas of practice where they felt inadequate included "pedagogy in multilingual classes, the identification of the special needs of learners and the problem of how to support them" (Henning and Gravett 2011: S28).

New teachers often have a need for reassurance, especially about whether their teaching is effective or 'making a difference' (Ashby et al 2008: 49). However, they also confront the "recurring dilemma of being aware of their lack of knowledge about the tasks they had to perform while, at the same time, needing to be perceived as professionals who were aware of and knowledgeable about their duties as teachers" (Flores 2010: 47); consequently, they may be reluctant to reveal their **vulnerability** by confiding in senior colleagues when they experience difficulties (Ashby et al 2008: 49; see also Arends and Phurutse 2009: 19). This suggests that teacher education programmes need to try to inculcate into new teachers a propensity to seek rather than avoid feedback (Hammerness et al 2005a: 365); in fact, new teachers might be more willing than experienced teachers to accept the possibility that their poor instruction caused poor learning (Hammerness et al 2005a: 373). More critical self-reflection might help new teachers develop the technique of be able to "choos[e] what to abandon and what to keep or modify", and to know that changing what they are doing, because previous strategies did not work, does not necessarily imply failure (Hammerness et al 2005a: 363).

Beginner teacher reflections on their teacher education

Early teaching experiences also affect how new teachers in their first few years of teaching reflect back on and (re)value the teacher education programmes that prepared them. **New teachers' recollections** vary according to both the programme and the

teachers' own characteristics at the time or currently, such as their age or degree of maturity, their range of life experiences, whether or not they had had prior employment, and how effective they perceive their current teaching endeavours to be.

One study in the UK found, for instance, that "in their early teaching careers, primary BEd students felt better prepared, more competent and less stressed than their PGCE counterparts" (Ashby et al 2008: 18); while other studies suggested that new PGCE graduates were "relatively stronger on assessment and subject content" compared to new BEd graduates whose strengths lay in their "classroom skills of communication and management". Few of these differences were found to last more than a year or two, however (Ashby et al 2008: 18).

In South Africa, out of 530 new teachers, at 340 schools, who responded to a questionnaire in 2006, more than 90% felt that they were pedagogically competent in the classroom, being "more than adequate in lesson preparation, content knowledge, making key concepts explicit to learners, relating content knowledge to everyday experiences, helping learners to engage with texts, and creating a stimulating classroom environment"; "they also all felt that they were competent in classroom management" (Arends and Phurutse 2009: 18). More recently, in 2009, a study of some 34 new teachers found them feeling "confident about their subject content knowledge, with 62.5 per cent indicating that they teach knowledge and concepts 'well', and 25 per cent that they teach this 'very well'". Two-thirds of these teachers stated that they use a variety of teaching strategies 'well' or 'very well', and 77.8% indicated that "they 'develop curriculum' in the class adequately" (Henning and Gravett 2011: S28). These positive self-perceptions, however, run directly against the grain of most research findings in South Africa which indicate the poor quality of teachers' knowledge and classroom competence.

In Hiroshima, Japan, 304 beginner teachers in their first to third years of teaching rated the professional education provided at university in respect of developing their knowledge, skills and attitudes very poorly, and believed that the extent to which they developed knowledge and skills as a teacher at the end of initial teacher education was very low (San 1999: 25, 28); rather, they felt that their professional knowledge, skills and attitudes increased upon entering the teaching profession (San 1999: 27).

Eighty per cent of 225 Norwegian teachers in their second year of teaching, asked "whether they would choose not to take the [one-year PGCE] course in order to become teachers [,]…. reported that they would choose to take the course again, nine percent would go directly into the teaching profession without the course, … [and] 12 percent replied 'I don't know'". Furthermore, "51 percent say that the PGCE course had a 'major impact' on their development as teachers, 44 percent indicate 'some impact' and five percent express that the PGCE course had 'no impact' on their professional development". Nevertheless, "41 percent agree with the following statement: Being a teacher is very different from what we learned in the PGCE course" (Roness 2011: 631).

The results of a survey of 130 Ghent University teacher education graduates, two months after graduation, observed that their "feelings of self-efficacy, professional orientation and commitment to teaching" closely corresponded to "their perception of faculty support, mentor support, and preparation for teaching" (Rots 2007: 2-4). Unsurprisingly, it was concluded that "[g]raduates that look back more positively at their teacher education programme in terms of [how it provided them with and prepared them through] faculty support, mentor support, and preparation for teaching, are more likely to report higher teacher efficacy, a more extended professional orientation, and a stronger commitment to teaching" (Rots 2007: 9). A separate study suggests that the converse may also be true, with those already committed to teaching reflecting positively on their teacher education programme: "teachers who felt a personal commitment and desire to enter the teaching profession and who recognized the influence of 'significant others' (former teachers and/or relatives who were teachers as well) valued highly their training at university and their teaching practice at school" (Flores and Day 2006: 225).

Another survey at Ghent University, this time among 209 teacher education graduates, found that the extent of their "teacher education preparation for teacher's responsibility towards the educational community and the society" (i.e., their preparedness to participate as members of a school and educational community, rather than their preparedness to competently teach learners) was *negatively* significantly related to their entering the teaching profession: "graduates who did not enter the teaching profession view their preparation for teachers' responsibility towards the educational community and society more positively than their teacher counterparts". A reason for this may be that beginning teachers, exposed to real teaching conditions, look back more negatively at their teacher education than graduates who do not experience teaching itself; alternatively, teacher education programmes' broad focus on, for example, "communication skills, organizational skills, critical approach, [and] sense of cooperation", prepare graduates sufficiently well to increase their alternative occupational opportunities (Rots et al 2007: 546, 553).

School culture and context

In their new schools, "the skill with which student teachers learn to adjust to the **placement school's culture** will have a significant impact on their success" (Ashby et al 2008: 27). "**Subject subculture**" also appears to exert a significant influence on new teachers' attitudes, with "[y]oung science teachers [being] … more conservative/custodial in their pupil control ideology than teachers trained in humanities subjects" (Veenman 1984: 146).

"The way the school is organized shapes the prior experiences – norms, access to knowledge, and supports – students will have had before entering a given teacher's classroom, as well as their current experiences" (Hammerness et al 2005a: 378). To a significant extent, the process of becoming a teacher is a process of acculturation. New teachers need time and opportunities to come to understand the nature and function of

school policies and procedures, and also to learn how to use their time effectively and to prioritise (Ashby et al 2008: 53).

Among various forms of **professional teacher or school cultures** encountered by new teachers, the most common appear to be 'veteran-oriented cultures', which are those where

> experienced teachers value their independence and privacy and pay little attention to the needs or talents of the few novice teachers in their school. As a result the 'newness' of new teachers goes unrecognised … and they are expected to assume a full teaching load and other responsibilities from the start; mentoring is limited, observation tends to be evaluative rather than supportive, and the new teachers suffer from professional isolation (Ashby et al 2008: 38, citing Johnson 2004).

"[I]n most [OECD] countries [in 2008], new teachers assumed virtually the same responsibilities as more experienced teachers in schools" (Jensen et al 2012: 10). Research from Portugal and elsewhere has found that school administrators often "assume that new teachers already had the basic skills and knowledge to handle all the duties required of them" (Flores 2010: 50), with potentially negative outcomes when they don't. A case study of ten new teachers in a single private school in South Africa found that they struggled to "appropriate the discourse community of the school", being subjected to **'institutionalised bullying'**, given loaded timetables and more difficult classes, and being expected to be more heavily involved in administrative and extra-mural activities than other teachers (Whitelaw et al 2008: 26, 33-4). As a result they tended to avoid the staff room, isolated themselves in their classrooms where they could feel safer and more autonomous, and ended up becoming no more than "tentative members" of an otherwise polite and ostensibly consensual "pseudocommunity" of teachers (Whitelaw et al 2008: 26, 30). Under the pressure of often conservative school cultures and contexts, 'strategic compliance' and 'idiosyncratic coping strategies' may become more common, and initial enthusiasm and innovativeness tends to wane, according to a Portuguese study of 14 new teachers (Flores and Day 2006: 228-9); similar phenomena have been observed in South Africa (Arends and Phurutse 2009: 33; for the US, see Veenman 1984: 146). In some instances, however, new teachers may succeed in 'strategically redefining' a school situation in their favour (Veenman 1984: 163).

By contrast, 'novice-oriented cultures' are those where "school ethos and modes of work tend to be determined by the high proportion of young teachers. With a shortage of experienced colleagues, mentoring, observation and feedback are at best limited, and advice based on practical experience can be hard to come by". A third form of professional culture, the 'integrated culture', is more inclusive and supportive of new teachers, in that it contains structures that are deliberately aimed at integrating staff, such as "formal one-to-one mentoring, direct help with classroom instruction, and opportunities to be observed teaching and to observe others" (Ashby et al 2008: 38-9, citing Johnson 2004). Mentoring and induction have been found to be more successful

when the school culture is itself more collegial and collaborative, with support offered to all staff, not just beginner teachers (Flores 2010: 48-9).

Thus it cannot be assumed that for the most part schools can readily and appropriately **accommodate new teachers**. In developed countries like the UK, support for new teachers varies significantly between richer and poorer schools (Ashby et al 2008: 51). In a country like South Africa, where the majority of schools can be considered to be poor, a third of school managers are unable to "observe a considerable number of beginner teachers' lessons", in part due to high workloads and large classes of their own (Arends and Phurutse 2009: 24).

It cannot even be assumed that in most schools teachers work together in a shared and cooperative enterprise. It has been argued that, in fact, "[t]eaching is not a collaborative profession" (Whitelaw et al 2008: 27): "in many schools the prevailing culture is **individualistic rather than collegiate**, encouraging conformism and inhibiting the acquisition by probationers of their own teacher identity" (Ashby et al 2008: 41). Some studies have found that new teachers may be treated as "a separate category from their more experienced colleagues, pointing to hierarchical, formal relations" (Flores 2010: 48); it is thus important that "newly qualified teachers are adequately prepared to work within a school environment where issues of power relations are often central" (Whitelaw et al 2008: 37).

The school context may have a direct effect on a new teacher's efficacy, but this effect may be variable: case studies of teacher induction from New Zealand suggest that a lack of resources might undermine one teacher's confidence but stimulate another teacher to develop alternative materials themselves; and high levels of support from school leadership might improve a teacher's confidence, but only if other factors do not counteract it (Haigh and Anthony 2012: 17).

Finally, no matter how integrated and supportive a school culture, "the imperative to ‘survive’ their first year and a limited range of opportunities for development within a school context over which they have little influence, may lead new teachers to narrow the range of instructional strategies that they actually employ" (Ashby et al 2008: 39).

New teacher attrition

"In some [OECD] countries, up to half of **new teachers leave the profession** in their early years of teaching" (Jensen et al 2012: 3). In the US, more than 30% of new teachers leave within five years (Ashby et al 2008: 69). Internationally, "from 25 to 50% of new teachers [leave] the profession early in their career" (Haigh and Anthony 2012: 1). In South Africa, a 2004 ELRC study of teacher supply and demand calculated that, apart from teachers approaching or at retirement age, young teachers aged 25 to 29 experienced the highest attrition rates, though these declined from 38% attrition in 1998/99 to 21% in 2002/03 (ELRC 2005: 38).

It must be bore in mind, however, that more than half of ordinary teacher turnover in the US consists of **teacher migration** from one school to another, rather than attrition per se (Guarino et al 2006: 184-5); in South Africa, a survey of Western Cape teachers found that most teachers who leave a school, leave to take up a job outside the profession or else retire, but the third highest proportion of teachers who leave leave to take up posts at other schools (CHEC 2009: xxxv), including school governing body posts (Crouch 2001: 27).

Beginning teachers in the UK usually **leave the profession on grounds of** workload, and thereafter due to factors related to the new challenges they find themselves facing, the school situation, salary and personal circumstances (Ashby et al 2008: 68). Oddly enough, while older students are seen as more likely to withdraw from teacher education programmes (Ashby et al 2008: 62-3), it is the younger among new teachers who are more likely to leave the profession after only a few years of teaching (Ashby et al 2008: 70). Other newly qualified teachers in the UK deemed prone to leaving the profession are teachers of low-performing learners, and teachers who are less effective in raising learner achievement (Ashby et al 2008: 70). New teachers sometimes leave the profession due to their concerns about their ability to repay student debt vis-à-vis their current salary (Ashby et al 2008: 71). Gender, race, ability, field and qualifications may also affect attrition (or, conversely, retention) rates, as well as school size, location, wealth and learner composition (Guarino et al 2006: 185-9).

Given that attrition rates are high among new teachers, "many teachers who drop out are likely to have worked full-time only in one school"; it follows that “the experience of early success and satisfaction in a teachers’ first appointment is crucial for retention” (Ashby et al 2008: 73; Rots et al 2007: 544).

Teacher induction

Teacher induction programmes are becoming more and more common around the world, but are not yet ubiquitous, even in more developed countries. Interest in induction has increased in tandem with growing debates over the importance of national curricula and centralised teacher education planning, and concerns about diminishing teacher quality, the unsatisfactory work-readiness of newly qualified teachers, and high rates of attrition among new teachers (Feiman-Nemser et al 1999: 21). Teacher induction can be seen as intended to **improve the quality of education**, but it may also limit the replication of current (bad) practice: “Induction will happen with or without a formal program” (Dexter et al 2005; Feiman-Nemser 2001: 1030), and this is one good reason to invest in efforts to ensure the best possible quality of teaching and learning outcomes.

Teacher induction ranges from a brief and informal welcome by a principal, through perfunctory school orientation activities, to comprehensive mentoring and feedback and professional development programmes (Feiman-Nemser et al 1999: 20; Jensen et al 2012: 49). Formal induction programmes are not always mandatory – they are in England and most Australian states, but in Denmark induction is at the discretion of the

individual school and in France it is part of the final year of initial teacher education (INTO 2007: 56-8; DCSF 2008: 3) – but invariably include **orientation, support, mentoring, development and assessment** aspects. Orientation focuses on familiarising teachers with district and school, and professional and instructional, policies and practices (Feiman-Nemser et al 1999: 20). Support concentrates particularly on classroom and curricular matters (Dexter et al 2005; MDoE 2007; OMoE 2009). Mentoring is extremely common, and carefully selected, trained and accountable mentors are deemed essential (Feiman-Nemser et al 1999: 25-6; OMoE 2009: 14; Dexter et al 2005). Development may be subject to assessment or performance evaluation, and may be tied to the final certification and/or licensing of teachers (Feiman-Nemser et al 1999: 22-4; INTO 2007: 57-8). Reduced workloads, and/or release time, for both new teachers and mentors, and funding for their activities, may or may not be available (Moskowitz and Stephens 1997: 3; INTO 2007: 57-8; DCSF 2008: 9; OMoE 2009).

While **mentors** are usually teachers, the best teachers are not necessarily the best mentors. Typical responsibilities of mentor teachers include "modeling lessons; observing and coaching; modeling the use of technology to enhance instruction; analyzing assessment, curriculum, and instructional planning; gathering resources; guiding teachers to implement effective behavior management strategies; enhancing teacher understanding of data analysis; and demonstrating a reflective approach to teaching, self-evaluation, and implementation of new ideas" (Dexter et al 2005).

Induction programmes are seen to have benefits for practising teachers as well, not least for teacher mentors who gain new perspectives in the process of working with new teachers: "It is widely acknowledged that building strong professional learning communities through programmes such as the induction programme will benefit schools as learning organisations in the long-term" (INTO 2007: 32). Teacher induction in countries like China, Japan, New Zealand and France emphasises acculturation, collegiality and professionalisation, making induction "the responsibility of the whole [school] building, not just the mentor teacher" (Wojcikiewicz 2005: 5), whereas many US programmes are said to be sporadic, narrow and individualistic (Wong et al 2005: 383-4; IALEI 2008: 62-4).

Induction programmes can be said to be **successful** if they help improve teachers' sense of (and actual) efficacy and satisfaction, apart from improving retention (Jensen et al 2012: 48). In the UK, a three-year longitudinal survey of 620 second- and later third-year teachers and their mentors in schools in twelve local authorities found that "levels of reported effectiveness increased and its benefits became more widespread throughout the teacher sample: while 61 per cent of participant responses in year 1 suggested a considerable impact, this rose to 74 per cent in year 2 and 77 per cent in year 3" (Ashby et al 2008: 58). In a large-scale longitudinal study of New Zealand teacher education graduates, teacher satisfaction increased over time, at least partly as a result of a mandatory induction programme: "At [6, 12,] 18 months, [76, 79,] 81 percent of teachers expressed satisfaction with their role as a teacher" (Anthony et al 2008: 28).

Teacher induction programmes are said to reduce (short-term) **teacher attrition** rates by up to two-thirds, and the retention gains may also outweigh the induction costs, which are said to be comparatively low when weighed up against the expense of educating a teacher who leaves the profession prematurely (Salinitri et al 2007: 2; NCTAF 2002: 12; Feiman-Nemser et al 1999: 30). However, there is little direct empirical evidence to either support or refute these claims (Feiman-Nemser et al 1999; Johnson 2009). Even **mentoring arrangements** have their limitations, with the favoured (US) strategy of one-on-one mentoring tending to reinforce an individualised and rather isolated approach to teaching (and thus inadvertently heightening the new teacher's stress levels), and also uncritically reproducing – for good or ill – the beliefs, values and practices of the mentor teachers (Feiman-Nemser et al 1999: 29).

In South Africa, most participants (including both beginner teachers and school managers) in a study of beginner teachers "were **not aware of any support** specifically meant for beginner teachers", neither from education district offices nor from schools or their governing bodies (Arends and Phurutse 2009: x, 32). District officials themselves may be insufficiently equipped to support teachers' development needs. The Integrated Quality Management System (IQMS), intended to simultaneously promote teacher development and hold teachers accountable, has been treated with suspicion and resisted by teachers' unions, and also seen as time-consuming and imposing unnecessary paperwork on teachers (DoE 2009a: 41, 43, 52, 60). Officials have been found to seldom follow up on evaluations, and in many cases they lack the capacity to provide support in the first place (DoE 2009a: 58). These views have been corroborated by teacher focus groups at the Teacher Development Summit in 2009 and in reports from provincial IQMS coordinators (DBE/DHET 2011b: 13, 73-4, 95, 157; see also Jansen 2004: 57).

Currently, education district and circuit offices are expected to handle the selection, appointment, induction and management of all school personnel, including new teachers (DBE/DHET 2011b: 161). The *Integrated Strategic Planning Framework for Teacher Education and Development* (DBE/DHET 2011a) intends new teacher induction to be more than just perfunctory, seemingly picking up on a view expressed in documents at the Teacher Development Summit which argued that, since "initial education prepares teachers for beginning a career in teaching", "continuing teacher development should begin in the first year of work as a teacher" and that "the first year or two of teaching should form part of an induction programme into the career of the teacher and full registration and fully qualified teacher status should culminate at the end of the induction period" (ELRC 2009: 154). The *Integrated Strategic Planning Framework* explicitly calls for targeted **teacher development** opportunities to allow experienced teachers and subject advisors to be trained to become mentors for new teachers as well as lead teachers/facilitators of envisaged curriculum- and subject-focused 'professional learning communities' amongst all teachers (DBE/DHET 2011a: 9-10). However, it is not yet clear what will be entailed by these initiatives, or the extent to which a distinction might be made between new teacher induction (and/or early professional development) and continuous professional development (or even between completing an initial teacher programme and achieving 'full registration').

Early professional development

Though there is relatively little research dealing specifically with **post-induction early professional development**, as opposed to the more common continuing professional development for all teachers (Ashby et al 2008: 55), what literature there is points to the value of having teachers, in addition to or instead of outside experts, developing new teachers – so long as these inducting teachers are actually inspirational and not cynical and negative (Whitelaw et al 2008: 37); allowing new teachers sufficient autonomy to be able to select development opportunities, and sometimes also to select their mentor; and scheduling time for new teachers to collaborate with colleagues (Ashby et al 2008: 57-8).

Early professional development in most countries is **sporadic**, but considerably more developed in OECD countries than in, for example, African countries. The 77% of new teachers in OECD countries who participated in professional development in the 18 months prior to the TALIS 2008 survey, completed on average 19 days worth of such development, which was most likely to consist of informal dialogues (Jensen et al 2012: 50, 52). By comparison, in the six African countries investigated by Akyeampong et al (2011), the majority of teachers surveyed had not received any professional development and, within that, "[s]pecific [professional development] programs on early reading were rare and on mathematics even more so" (Akyeampong et al 2011: 50).

Conclusion

Given the close correlations between teacher quality and learner achievement, and between the quality of initial teacher education and teacher quality, this broad review of the literature pertaining to the initial professional development of teachers highlights a number of aspects which need further investigation, both theoretical and empirical, in the South African context.

The first step in the process whereby prospective teachers are selected, prepared, placed, inducted and begin to teach in schools, starts with an individual's decision to enter a teacher education programme, which also sets in motion the formation of their professional identity as a teacher. An individual's motivation to teach is likely to be a combination of intrinsic, extrinsic and altruistic factors (the inherent satisfaction of teaching or working with children, the desire for external rewards like a salary and job security, and/or the wish to contribute to society), which are overlaid by age- and gender-related factors. In less developed countries like South Africa, research suggests that extrinsic factors, including the possibility of studying further or using a teaching qualification as a stepping stone to another career, hold greater sway than intrinsic and altruistic ones.

Apart from the initial motivation to teach, teacher professional identity formation is negotiated and directed in relation to a range of significant others and significant contexts. These include the length and quality of teacher preparation; the perceived autonomy and self-regulated status of the profession; remuneration, working conditions

and responsibilities; subject, pedagogical and curriculum expertise and skills, both real and perceived; learners, colleagues, principals, parents and available human and material resources; and professional and policy imperatives.

Thus, whatever the reasons for becoming a teacher, they are undoubtedly accompanied by other desires and motivations, the basis of other possible identities, deriving from personal predilections and backgrounds through past and current educational experiences to specific school and extra-school contexts. Teacher education programmes need to be aware of and able to direct or manage these various motivations, at appropriate times and places, paying especial attention to prospective teachers' preconceptions about teaching and the teaching profession, which are strongly influenced by the ways in which they were taught when at school.

To better understand the kinds of teachers and teacher identities which are being fashioned in South Africa today, attention must also be given to official expectations of new teachers' competence to teach the subjects they teach and the children who need to be taught, to utilise appropriate pedagogical techniques and forms of assessment, and broadly to conform to professional norms. Across the world, there are discrepancies between what is required of teachers and the preparation that they actually receive, particularly with regard to their capacity to teach even core subjects (like mathematics and languages) in large, resource-poor multilingual classrooms. Research points to the need for teacher educators or mentor teachers to model best practice in actual classrooms, and to be more cognisant of what and how they teach, and for student-teachers to receive explicit instruction in the curriculum and in utilising teaching and learning materials.

Effective teacher education programmes are characterised by conceptual coherence, the integration of theory and practice, dedicated staff, shared leadership, constant and varied times and places to practice and hone context- and content-specific skills, opportunities for reflection and to learn from others, and supportive technologies. In South Africa, the *Policy on Minimum Requirements for Teacher Education Qualifications* is intended to initiate a process whereby such issues can be addressed, in response to findings that too many teacher education programmes were not meeting minimum standards.

In all initial teacher education, the practical teaching component has a strong and mostly positive impact on students' perceptions of teaching. However, this tends to reinforce perceptions of a dichotomy between theory and practice, despite efforts to narrow, bridge or otherwise reconceptualise the supposed 'gap'. Other issues of which teacher education programmes must take account are the kinds of professional identity that ought to exist or be developed amongst teacher educators themselves, since these impact on the students they are preparing; and the fact that student-teachers' perceptions and concerns may change over the course of a programme, such as from being initially self-centred to becoming task-centred and eventually learner-centred.

Since school-based mentors are powerful influences on student-teachers' professional identity formation, consideration needs to be given to the selection and training of the right teachers as mentors – particularly those who are supportive, reassuring and provide practical advice and constructive feedback – and to ensuring that sufficient time is allocated for mentoring. It is also important, for recruitment and retention purposes, that initial teacher education programmes understand which student-teachers might be more vulnerable to dropping out and why, so that they can try to address these issues in advance.

Another step in the process of teacher initial professional development which is subject to 'wastage' and thus requires attention is the take-up and placement of newly qualified teachers in schools. Some new teachers do not enter the profession immediately, and some never enter, and teacher hiring practices need to be rendered more effective and efficient, taking into account both local and national supply and demand issues, timing and budgeting, specific school needs, new teacher preferences, and resistance to or competition for particular posts.

With large numbers of new teachers leaving the profession within their first few years of teaching, newly qualified teachers' first formal teaching experiences and their integration into the school environment must be rendered as conducive and as smooth as possible. While the extent of their preparation as student-teachers ought to dovetail closely with the actual realities of everyday teaching, new teachers commonly feel insufficiently prepared in the areas of classroom management and discipline, and may also require more support to deal with individual differences between learners, especially those related to language and special needs.

New teachers' reflections on their teacher education programmes vary widely, depending on both the programme and the teachers' own characteristics and proficiencies, but in South Africa new teachers' commonly positive perceptions of their own subject and pedagogical competences run directly against the grain of most research findings, and this needs to be investigated further.

The process of becoming a teacher is a process of acculturation, needing time and opportunities, and in this regard school cultures, as well as subject sub-cultures, play a major role. New teachers encounter various forms of professional teacher or school cultures, but the most common appears to be 'veteran-oriented cultures', which emphasise individual rather than collegial approaches and may provide little support to novices, expecting them to immediately assume full teaching responsibilities. In response, new teachers commonly adopt coping strategies which, even if successful, tend to drain their initial enthusiasm and innovativeness.

Efforts to include and support new teachers are particularly important in the context of teacher attrition (some of which, however, is migration from one school to another). New teachers commonly leave the profession on grounds of high workloads, lack of preparedness and perceived low salaries, but attrition is also affected by age, gender, race, ability, subject specialisation, qualifications, school size and location, and learner

composition and achievement. In partial response to these factors, teacher induction programmes aim to improve teachers' sense of (and actual) efficacy and satisfaction and thus reduce attrition rates, as well as limit the replication of current (bad) practice. While formal induction programmes may or may not be mandatory, they invariably include orientation, support, mentoring, development and assessment aspects, and they may be accompanied by targeted early professional development programmes, though these are sporadic in most countries.

Induction programmes may have benefits for practising teachers as well, and not least for teacher mentors, whose responsibilities may include modelling lessons and technology, as well as coaching, guiding, evaluating and supporting. However, mentoring may reinforce individualised approaches to teaching, and also uncritically reproduce the beliefs, values and practices of the mentor. More empirical evidence is required on all aspects of teacher induction. In South Africa, the little induction and support for novice teachers that exists is exacerbated by a lack of school and departmental structures and capacity to provide quality support, and this is one of several areas which the *Integrated Strategic Planning Framework for Teacher Education and Development* of 2011 aims to address.

With the poor quality of learner achievement in South African schools being at least partially a consequence of the poor quality of teaching, a thorough longitudinal study of the initial professional development of teachers will go a long way towards determining what other or additional programmes, policies, practices, support, resources or interventions might be required if the country's educational inputs and outcomes are to be brought into closer correspondence.

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