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The intellectual capital of schools: analysing government policy statements on school improvement in light of a new theorization

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Ideology without competence is a dangerous vice. But competence without ideology is a limited virtue. (D. Miliband, Minister of State for School Standards, DfES)

Opportunistic attempts have been made by successive governments to establish—some would say impose—sets of criteria against which the effectiveness of not-for-profit organizations like schools can be gauged. Most have been subjective: the extent of staff involvement in decision-making, the appropriateness of the leadership shown by senior managers, the percentage of inspected classes regarded as ‘good’, and so on. Lately, UK government rhetoric, using a lexicon borrowed from Business and Economics, suggests a willingness to move to new systems of reportage; centred on improvement rather than blame, on critical friendship more than on confrontation. There appears no longer to be the puritanical tendency among policy-makers to adopt measures that cause pain in the belief that they alone can be right, but do they constitute (as critics like Thrupp suggest) a random collection of well-intentioned but poorly theorized policies, or can they be cogently conceptualized into a whole? Previously, improvement measures judged schooling simply, in terms of *external* stakeholder outcomes, but failed to capture the essence of what it was to be (or what it took to become) a successful improving school. This paper suggests that current government policy, whether knowingly or not, is essentially describing improvement from a different perspective—an *internal* perspective of ‘intellectual capital’. The paper knits together government policy statements on school improvement with a re-conceptualization of intellectual capital specifically designed for schools, offering an imposed coherence to government policy that could potentially change the way we think about inspection.

The concept of intellectual capital and the new business lexicon of education

Our ... task is to scrutinise the relationship between inputs to teaching and outputs of learning, for the benefit of pupils. I am not talking about warping educational practice to meet spurious productivity outcomes; I am talking about an honest debate about how best to use rising resources to maximum effect. To provide the service that pupils deserve ... we need to raise the productivity of our system. (Miliband, 2003a)

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Capital, at its most basic, is the wealth an organization has at its disposal to carry out its functions. Traditionally, it is a company's primary source of influence and advantage in the market-place. Intellectual capital is the resource that comes from relationships between stakeholders and partners, from the organization's ability to innovate and manage change, from its infrastructure, and from the knowledge, experience and transferable competencies of its staff. It is a language for thinking and doing something about the organization's potential for adding value (Roos *et al.*, 1997) and in recent years, due in part at least to fundamental changes in the nature of the global economy where services have replaced manufacturing as the primary source of wealth (Piore & Sabel, 1984; Block, 1990; Reich, 1991), it has considerably increased its role in value-creation. Knowledge is now acknowledged to be the single most important resource an organization has, and its value—in other words, what stakeholders think of it—reflects the public's perception of how well the management of intellectual capital has been integrated into the organization proper.

The problem of measuring the value added by a school in the education process has been something of a holy grail for policy-makers and researchers in recent times: if the extent of a school's contribution to student achievement, or lack of it, could be quantified, it would immediately resolve all problems of accountability. The government clearly regards the demand for accountability as a surrogate for free-market regulation: 'We need central and local government to speak up for the fragmented voice of the consumer, and make good the market failure that allows underperformance to continue' (Miliband, 2004c). But couples it with what seems like a flight from questioning:

Accountability is in some ways the foundation of public services today. Without accountability there is no legitimacy; without legitimacy there is no support; without support there are no resources; and without resources there are no services. Accountability should not be a necessary evil. Instead it should be a valuable tool. In the new relationship with schools, we need to move beyond defending the need for an accountability framework, and respond to those who want it to work better to promote high performance. Intelligent accountability serves two functions: it helps the system learn from itself; and it shows the public that they are getting value for money. (Miliband, 2004a)

While the concept of intellectual capital does not offer an immediate denouement to the drama of measuring the educational worth of schooling, it does represent a new approach which is a fusion between the two theoretical perspectives that have traditionally sought to make a contribution in this field: one that focuses on generating and exploiting knowledge and intangibles in the manner of school improvement; and one that focuses on measuring output in the manner of school effectiveness.

Education as social enterprise: reflecting the new post-industrial business environment

Education represents the best hope for a fair society and a productive economy. The delivery of this vision of course takes investment. The Government is committed to raise the share of national income devoted to education. But while extra investment is necessary, it is not sufficient. Spending more money in the same ways will not deliver the rising returns

we need. We have to work together to spend additional resources in new ways if we are to add sufficient value to the learning experience of young people. We need to spend smartly as well as spend more. (Miliband, 2003a)

In the age of manufacturing, the value of a company was measured principally in terms of its hard plant assets. The most highly valued companies were therefore the ones that kept production turn-around time to a minimum, balanced stock and sales, got the best return on financial reserves and hedged investments to provide a prudent mixture of debt and security for the future. The equivalent for schools meant measuring worth in terms of examination results, pupil–teacher ratios, value for money quotients and the quality of the built environment:

We know [that] school buildings are vital to educational standards—a fact recently reinforced by PriceWaterhouseCoopers. Their research, ‘Building Better Performance’, demonstrates that pupil-learning outcomes are influenced by the quality of the school capital stock. Put simply, improving buildings increases attainment. (Miliband, 2003d)

But the location of value in organizations is shifting. In the new knowledge economy, the most highly prized companies are now the ones that best manage soft intangible assets like intellectual capital. In the post-industrial economy, where the principal agent for change is not so much globalization as the way information determines the progress of enterprise,¹ knowledge and its utilization are increasingly important routes to improvement (Sawhney & Parikh, 2001).

The inherent value of today’s improved worldwide communications technology lies in the twin innovations of access and speed. Technological advances in the way information is stored and processed has both caused and facilitated this change. Modern computers can process data at such speed and at such relatively low cost that knowledge is now more widely available and access to it more routine. Furthermore, better communications technology has diminished the significance of ‘separation’ and has created a greater demand for information for a sophisticated and demanding public. This fact has not gone unnoticed among education policy-makers; indeed it seems to drive the rationale in some respects:

It is self-evident that our children are growing up now in a global world, which is far more immediate in every moment of their experience than anything I discovered when I was at school. Just through the television screen, whether it’s situations from the other side of the world, conflict situations, development situations, relocation of industry situations, whatever it might be, children know today that they are growing up in a world in which we are all interdependent in our different ways. And they’re growing up in a world where they know that things that happen across the other side of the planet can impact on their own lives in a very immediate and dramatic way, whether it’s economically, environmentally, culturally, or whatever it may be. (Clarke, 2004)

Education policy is simultaneously a victim and an advocate of this global economic shift: schools must prepare a workforce for the new economy, but in doing so, they create an artificial demand for it. Over time and with a deliberate (if once-removed) steer from government, education has developed a more demanding customer base to parallel the consumer sophistication of commercial markets (Morris, 2001). In this quasi-market, supported by the social change that results from

increased consumerism, parents and students now have access at minimal cost to information that would once have been confined to teachers and heads, or would have been expensive and troublesome to obtain. The fact that the government, in response, has engineered schools to be more closely linked to each other—by sector, by government initiative, by funding and by research—means that what one school achieves affects how others are perceived. So informing individual choice through national performance is both a cause and a consequence of a policy that is ultimately beyond the power of government to reject, even if it sometimes feels obliged to champion it:

Parents themselves rightly resent being robbed of information about how their children are doing against clear national standards. The national tests are a powerful tool to engage parents in dialogue about pupil progress. (Clarke, 2003)

Managing intellectual capital in a school system

The strength of the schooling system lies in its teachers, its support staff and its governing bodies. If they are left to themselves, many will prosper, but our history shows that some will struggle. That is why the role of central and local government is not to run schools but instead to help them build capacity to meet student need, tackling underperformance where necessary and supporting improvement where possible. (Miliband, 2004a)

The practicalities of managing intellectual capital are complicated by the fact that intangible assets obey different economic laws to those of traditional, hard, visible assets. For one thing, employees can be both a decreasing and an increasing return factor, depending on whether they are regarded as labour or as a source of knowledge. If policy is to encourage managers to realize the full intellectual potential of employees, it must be prepared to alter ways of thinking. It must come to regard collective knowledge, experience and innovation as sources of sustainable competitive advantage.

Systems management: the contribution of Senge to government policy

At the institutional level, one of the essential skills of intellectual capital management is the ability to manage and respond quickly to change, something which is more easily achieved within what Senge (1990), Garratt (2000) and others have called a 'learning organization'. In his book, *The fifth discipline*, Senge (1990) outlined the five 'competent technologies' that underpin the idea of an organization in which innovative patterns of thinking are nurtured and learning to learn is encouraged. What distinguishes learning organizations from traditional controlling ones is their mastery of these five basic disciplines.² And what distinguishes leadership in such organizations is its transformational nature—its metanoia—based on designing policies and systems, and understanding how they best fit together:

Leadership is about: framing and communicating a clear vision; motivating and inspiring staff; building teams and team skills; understanding and practicing [*sic*] pedagogic leadership; developing the whole school as a learning community; and brokering partnerships with parents and the wider community. (Miliband, 2003e)

The link with the concept of intellectual capital and the management of intangibles is clear: in a traditional controlling organization, people only learn what they know they need to learn; in a learning organization, committed to the management of its intellectual capital, they learn how to learn.

Senge *et al.* (2000) adapted their theories to education as a counterbalance to the culture of 'quick fixes that fail to recognise the forces that shape schools'. The impetus for improvement might come from small groups of schools, but the momentum to sustain it comes from a 'bias for action' within the whole system. For teachers and heads, that means developing a collaborative culture which converts tacit to explicit knowledge; for policy-makers, it means accepting the chaos and conflict that is inherent in a system which is pulled towards stability by collegiality and context, and towards instability by individuality and consumerism. From a policy-maker's viewpoint, then, success in managing the intellectual capital of schools lies in continuous adjustment: maintaining organizations on the cusp of opposing tendencies. Or as Roos *et al.* put it:

Managers [of intellectual capital] have to resort to navigation instead of planning. Abandoning all hope of going straight towards the goals, managers need to learn to set a clear direction and then stay as close to it as they can. It is not an easy task. (Roos *et al.*, 1997)

Consumerism, context and partnership

Whether or not barriers to improvement exist in a school system depends on circumstance as much as on corporate intention or style of leadership, but government policy is that cooperation with external organizations—'links to services beyond', as the government terms it (Miliband, 2004c)—offers a clear route to overcoming them:

I was delighted to be able to announce in December [2003] an historic agreement with Microsoft that will save schools up to £46 million in ICT over the next three years. The agreement means that schools will benefit from significant savings and discounts on ICT from Microsoft from the start of this year [2004]. We think there is need to get still greater value from partnerships with industry; the Microsoft deal was not exclusive. (Clarke, 2004)

In education, as in commercial enterprise, there is growing recognition that success in the market-place can today most easily be achieved through cooperation and partnerships because knowledge-based organizations are closely related to one another. Yet school-to-school cooperation is under-exploited as a result of the accountability structures that promote decontextualized inspection and pit state schools against one another without conferring any real advantage on the consumer. A high-achieving school helping an under-performing one is guaranteed only to pull itself back towards the median, which is why improvement has stalled recently 'except in the worst inner-city schools' (Bell, 2004), and why (non-competing) state-private school partnerships thrive as part of the 'Leading Edge' programme (Miliband, 2004c).

In respect of external collaboration, Pollard (1996) and others have long argued for schools to engage in outside-education liaisons as a way of refreshing knowledge and avoiding 'routinization'. The government hints at coming round to this view—for

example, in its rationale for the Excellence in Cities programme (Barber, 1999)—but continues to defend comparative, non-contextual measurement as ‘intelligent accountability’:

Ofsted inspections are not the only judgement on school performance. The performance data published on a raw and value-added basis is and will continue to be an important feature of our system. I believe parents have a right to information about the performance of individual schools, in a form which allows them readily to make comparisons with other schools. Intelligent accountability requires that schools and parents be confident that performance is being compared on a like-for-like basis. (Miliband, 2004a)

The conceptual basis for a theory of intellectual capital for schools

As the practical importance of knowledge management increases in the commercial sector, various theories have developed to underpin it. Some have now coalesced to form the concept of intellectual capital, but two distinct schools of thought, which have parallels in education, are still recognizable within it: an improvement approach that concentrates on knowledge generation and utilization; and an effectiveness approach that concentrates on measurement and the link with output.

Knowledge generation and utilization, and staff development

The improvement approach to intellectual capital management focuses sometimes on knowledge creation and sometimes on knowledge utilization: how individual teacher and corporate school knowledge is generated, and how experience is used through teaching and management competencies to add value to the processes undertaken by the school. Senge’s (1990; Senge *et al.*, 2000) concept of five organizational disciplines falls into the category of knowledge creation, whereas work by Hargreaves (1990), Ainscow *et al.* (1994), and others, has concentrated on knowledge utilization, capacity building and how best to leverage improvement in schools. Government policy tends towards the latter, namely the problem-solving approach:

Data helps teachers, Heads of Department and the Senior Leadership Team identify underperformance, and do something about it. In this sense it is the most valuable currency in school improvement. Where possible this data should simply be material that schools produce for their own purposes: ‘collect once, use many times’. (Miliband, 2004a)

A school can develop expertise organically and internally through staff development, or by importing it through targeted recruitment. Although it advocates both (Barber, 1999), the latter approach is the one most favoured by government and local education authorities for failing schools because its effect is immediate. In theory, the imported *Übermensch* brings expertise to the school that did not exist there previously, or at least not in sufficient quantity, and trickles it down through the organization with the aim of transforming a moribund culture. It is an immediate (and costly) response to an emergency situation, though the extent to which the school and its teachers benefit from it in the long term is less certain (Levine & Lezotte, 1990). Much depends on the accuracy of the assessment of the school’s

perceived needs, in the first place, and the extent to which the recruits possess the 'right' skills.

Internal staff development is no less expensive, being spread over a longer period of time and involving larger numbers of staff, but 'it can be more effective in supporting school improvement' (Bell, 2004). It is a commitment rather than an undertaking and much depends on the thoroughness of its design, the quality of its delivery and how well integrated it is (Mortimore *et al.*, 1988). Either way, for the government, 'We need to ensure that [staff development] is always focussed on delivery of improvements in specific skills; that there is measurement of impact or value for money; and time to embed new practice' (Miliband, 2004b). Knowledge generation and staff development both involve the coming together of individuals: without sharing, knowledge cannot be created (Roos *et al.*, 1997). So the essential task of intellectual capital management is fusion: bringing people and ideas together in a deliberate manipulation to create knowledge and facilitate its subsequent transfer from one form to another. The simplest typology of knowledge forms, and the one implicit in government policy, categorizes knowledge as either tacit or explicit (Polanyi, 1956), though an autopoietic view of epistemology would dispute such a dichotomy, holding that all knowledge is necessarily private and tacit and that explicit knowledge is by definition merely data (Varela *et al.*, 1992). Explicit knowledge is that which can be fully described and stored in transmittable algorithmic form; tacit knowledge is individual and personal to its holder. An intellectual capital conceptualization holds that when there is a transfer from one category to another (see Figure 1), additional knowledge capital is generated:

- Tacit–tacit transfers generate additional internal knowledge through critical reflection, a defining characteristic of teaching as a profession (Schön, 1983) and one strongly promoted by the government through the Teacher Training Agency.
- Tacit–explicit transfers generate knowledge through research, its dissemination to practitioner audiences and the documentation of own experience, such as occur with evidence-based development and training from agencies like the National College for School Leadership.³
- Explicit–tacit transfers are what define a change in the actual practice of teaching, by codifying the experiences of others and personalizing them. They are critical to the success of government policy, but they require practitioners to buy into the 'knowledge agenda'. And the latest evidence from the Schools Inspectorate suggests that this has some way to go (Bell, 2004).
- Explicit–explicit transfers are not possible because knowledge cannot be generated by (or transferred between) computers or documents without a human intermediary.

Applying created knowledge to classroom teaching (mainly from explicit–tacit transfers) holds the key to effecting improvement and adding value. For the knowledge that effects positive variance in performance to accumulate over time in a school's reservoir of experience, there must be some form of institutional memory; that is, some systemic mechanism by which practical knowledge is codified and stored

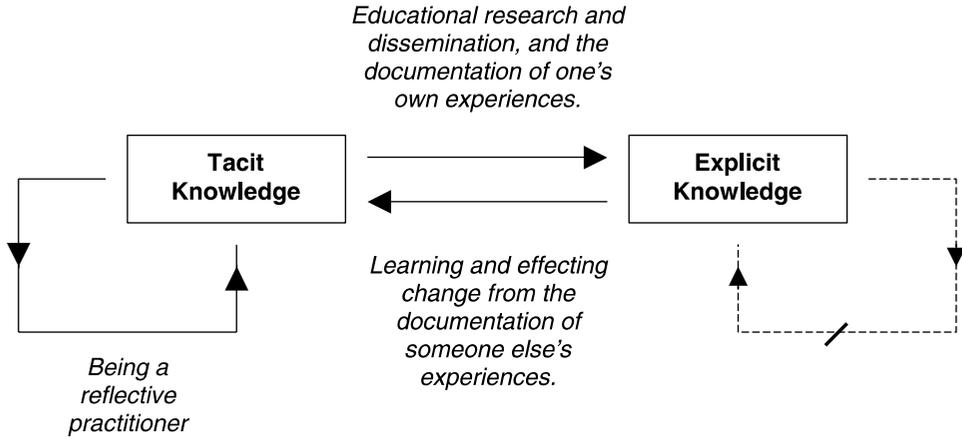


Figure 1. The transfer and generation of knowledge: a simple typology

for future use. The government is clear about the importance of effecting improvement in teaching—improved standards of education can only come about as a result of improved classroom practice—but not about how memory and stability are to be introduced into the system:

We have ruthlessly, in my opinion, to focus our minds on that explicit question: how do we ... improve the teaching and learning experience in each school, each college, each subject, at whatever age? ... Commitment ... must always be qualified by a determination to focus on this pedagogical question. (Clarke, 2004)

Knowledge measurement and intellectual capital

The measurement of intangibles is by definition difficult and inexact—the ‘bean counters’ have long since despaired of it—but some progress has been made in the commercial sector as a result of increased customer awareness and market demand for a better-quality service as standard (Eccles, 1991; Fornell, 1992). In education, too, the market has become increasingly demanding, even if the current application of data to teaching and learning is less than ideal:

The monitoring and evaluation of teaching and learning remain the weakest aspects of leadership and management and are unsatisfactory or poor in almost one school in five, but the monitoring and evaluation by co-ordinators are significantly worse in some, mainly non-core, subjects. (Bell, 2004)

The mechanisms by which data on intellectual capital are collected (in a school or in a schooling system) should be reliable, attributable, flexible, sensitive to change and accurate. Good data are wide-ranging, ‘multi-focused’ (Kaplan & Norton, 1997), and:

[help] teachers develop themselves; [help] school leaders promote high performance; [help] parents support their children’s progress; [help] LEAs target resources; and [help]

the DfES fine-tune its interventions to spread good practice ... A combination of qualitative as well as quantitative data is the foundation for any intelligent conversation about public service improvement. (Miliband, 2004a)

According to the government, schools should now follow the lead given by new-economy companies by reporting on processes not traditionally shown on a balance sheet. The government wishes data on intangibles to be part of every school's accountability report:

Statistics do not tell us everything. To supplement the data contained in performance tables, parents also have a right to a broader and deeper understanding of what a school is doing. We think the answer lies in an annual School Profile, which would replace the annual statutory report to parents and increase flexibility around the statutory elements of the school prospectus. The School Profile would contain ... information provided by the school on its own view of its priorities and performance. It will place new and challenging information in the public domain. We want to see the Profile become an important part of educational discussion in the home and the school, as well as in Whitehall. (Miliband, 2004a)

Clearly what is being advocated for schools is that they learn to report on soft assets such as reputation in the community, staff flexibility, acquired competencies in the management of parent-teacher, teacher-pupil and community relations, and experiential know-how from links with outside agencies like examination boards. They are all aspects of value creation that form a legitimate part of the report schools should give stakeholders and by which they should ultimately be judged.

Conceptualizing intellectual capital for schools

Government policy and commentary on school improvement, then, suggests a willingness to move to a new system of reportage based on a concept of intellectual capital specially adapted for schools. Such a conceptualization could, if achieved, give coherence and academic legitimacy to government policies. In constructing such a generalization of abstract forms, the most basic distinction to be made is that between *hard asset (or financial) capital* and *intangible asset capital* (see Figure 2). Hard asset capital—the replacement value of an organization—can be subdivided into *fixed* hard asset capital such as buildings and equipment, and *liquid* hard asset capital such as monetary reserves and borrowing facilities. The management of hard asset capital in schools is well developed (Levacic, 1989; Blanchard & Lovell, 1989; Coleman & Anderson, 2000) and needs no further exposition here. The management of intangible asset capital, on the other hand, is not. Intangible asset capital is intellectual capital in its broadest form and consists of all the processes and intangibles of a school. It can be subdivided into *human (or thinking) capital* and *structural (or non-thinking) capital*.

Human (thinking) capital

In traditional commercial organizations, the human side of intellectual capital consists only of employees: customers are incorporated into the structural side

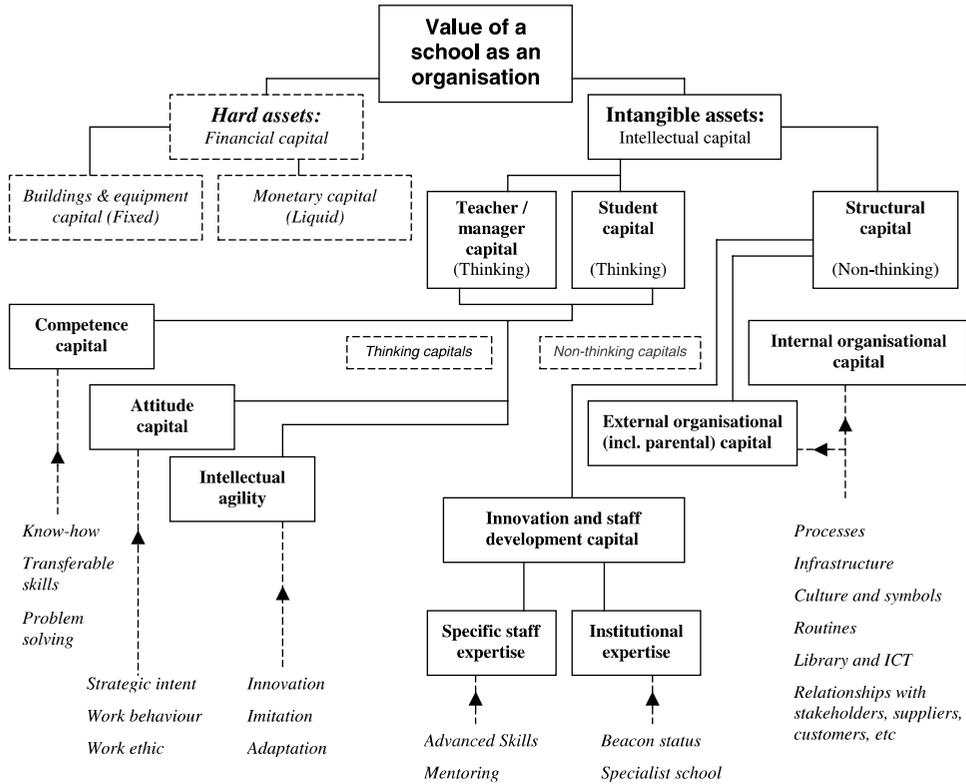


Figure 2. A typology of intellectual capitals

because they are by definition external to the company. That distinction is too crude for schools because it is not always clear who the customer is—sometimes it is the pupil, sometimes the parent and sometimes the state—and the student voice (Fielding, 2001) is of such intrinsic importance that it would be difficult to externalize it anyway. Thus, in the typology represented in Figure 2, thinking capital is sub-categorized into teacher/manager and student capitals.

Managers, teachers, teaching assistants and students generate capital for a school through their competence, their attitude and their intellectual agility: *competence capital* is the sum of (generic and transferable) skills and know-how; *attitude capital* is the behavioural component of work, comprising motivation, work ethic, and the like; and *intellectual agility* is the ability of teachers, managers and students to innovate and change practice, to think ‘outside the box’ about problems and come up with novel solutions.

The intellectual capital of a school, like the share value of a commercial company, is predicated on its key personnel. When highly esteemed individuals leave, the stock falls; when new ones arrive, the stock rises. For schools, this at once demonstrates both the importance of thinking capital in the shape of managers, teachers and students, and the somewhat despairing fact for heads that most of a school’s value is

beyond their control, because a school cannot retain or dispose of its own thinking capital as and when it pleases. Student capital and teacher/manager capital rest on slightly different footings here. Retention and disposal of student capital is completely beyond a school manager's control in one respect, but easily managed in another: while a school cannot unreasonably detain or dispose of students against their will, it does have what might be called 'predictive control' over the length of their stay, determined typically to a five- or seven-year period. On the other hand, teachers and managers leave at times of their own choosing; in fact, the more essential they are, the more likely is their move in many ways.⁴

Competence capital. Competence is generally related to level of education. It cannot be acquired by trial-and-error, but requires formal instruction. Competence capital generates value through individual and collective know-how. Know-how is the hard part of thinking capital. It is a combination of problem-solving ability, technical/academic knowledge, and managerial and human relations skills. Problem-solving is the extent to which know-how is required to solve a job's problems. Since people think with what they know, problem-solving is a subset of know-how. Technical/academic knowledge ranges from simple familiarity with school routines to externally recognized expertise and professional eminence in the field of education. It is not embedded in the school. Embedded capital is structural and explicit; technical/academic knowledge is neither. Managerial skills range from doing or directing routine activities to managing disparate groups of varied jobs, and human relations skills range from the basic ability to deal courteously with colleagues, to motivating, understanding and influencing reluctant colleagues and outsiders to act in the interest of the school rather than themselves.

If knowledge is a theoretical consideration, skill is its practical counterpart. Teaching skills—the practical application of pedagogic knowledge—cannot be transmitted by formal instruction, only through the practicum of experience, but they are relatively easy to communicate because they can be codified and shared within a school and between schools. Skills are distantly related to knowledge—they usually increase and decrease in line with each other—but a teacher with a high level of technical knowledge can have a low level of practical skill, and vice versa. For example, most people have the skill to operate a television set, but few have the technical knowledge that comes with knowing how it works or the academic knowledge of knowing why.

Attitude capital. Merely having know-how and competence is not sufficient to guarantee success. Teachers must be capable and motivated to use their competence capital to the advantage of the school, and not just themselves. If competence is the hard component of thinking capital, attitude is its soft counterpart. Schools can do little to manage attitude capital. It depends mostly on individual personality traits, and policy-makers should understand that there is not much that can be done by heads to improve it across schools. At best, they can only create a supportive work environment, or hire teachers with the 'right' attitude and develop know-how later, in-house (which is what generally happens in the commercial sector).

Strategic intent, work behaviour and work ethic are among the significant contributors to attitude capital. Strategic intent (Hamel & Prahalad, 1989) is the willingness to persevere in pursuit of whole-school goals, and the desire and ability to imagine a future, convince others to work towards it and eventually create it. It implies an ability to refine and redefine strategies, to learn quickly from failure and to manage change. It is largely an amalgam of motivation and vision:

Its key components try to learn from experience—strengths and weaknesses—of professional power and market forces. It depends on flexibility at the front line, choice for the learner, and incentives for innovation. (Miliband, 2004c)

Good work behaviour leads to enhanced productivity as it helps create a dynamic work environment and enthuses others. It needs to be sustained and consistent over a period of time for it to be of long-term benefit to a school. It should encourage contact and generate activity—the term ‘contactivity’ describes it—which, in turn, can harness employee enthusiasm to create a desired future.

Whereas work behaviour is strategic in outlook, work ethic is judgemental. It judges behaviour not from the standpoint of future success, but from the point of view of existing ethical values. It is by definition value-laden and depends on external societal judgements, so a school has little control over it. It is not so much an important source of capital when it exists as an important drain on capital when it is absent:

But there is another part to the reform argument. In all the sectors I’ve mentioned we underpin the drive for reform and advancement with long lasting values. Be it the professional ethical values that underpin Doctors’ commitment to their patients ... or our lasting ideals for a fair, tolerant and just society ... But we must accept the challenge to update our values and make them relevant to each new generation. That’s what we have to do in education too. Recognise and cherish our long held principles while accepting that reform can revitalise and renew them ... We must be clear about the enduring strength of [our] ideals ... and we must recognise some of their failures in practice that have put those ideals in jeopardy. (Morris, 2002)

Intellectual agility capital. Intellectual agility is the ability to jump knowledge between contexts and between situations, and to innovate and transform ideas critical to the success of the school. It is neither a competence nor an attitude, but a mixture of both. It relies on an ability to detect commonalities in distinct pieces of information and piece them together in an original way. It is at the core of innovation and adaptation, and in a commercial environment, diversification.⁵ For a school, intellectual agility depends on the ability of teachers and managers to apply their competence to practical situations and to learn from failure. It is the normative side of knowledge and its features include innovation, imitation and adaptation.

Innovation is the ability to generate new knowledge by building on experience, and by absorbing an existing body of know-how and adding to it. It is the ability to turn an idea into a service and represents a link between human and structural capitals. It is fundamental to a school’s ability to generate renewal and manage change, which aspects in turn are necessary for sustaining success. But as minister Miliband says, conditions have to be right:

For system-wide improvement, the underlying conditions also have to be right: priorities for reform—school leadership, workforce reform, specialism and collaboration, and partnerships beyond the classroom—[should be] agreed and consistent; [there should be] strong and purposeful relationships; public confidence [needs to be] strengthened by clear signs of progress; [there should be] effective feedback from the classroom to ensure intentions are informed by reality. (Miliband, 2004a)

An increase in the store of innovation capital in a school may come in an evolutionary way (incremental change) from codifying experiential insights, or in a revolutionary way (step change) through a fundamental reassessment of operational processes. In commercial companies, innovation comes about through research and development, which are formally and explicitly catered for in the structure of the organization. In not-for-profit organizations like schools, on the other hand, innovation typically comes as a result of outside imposition, which is tacitly catered for by the mechanisms that make them accountable to society but is not sustainable in the long term. Government policies appear not to recognize this distinction, even if the commentary advocates a flight to action:

Nothing is possible without strong institutions that are the champions of high performance, and have the confidence to innovate and collaborate, thus generating further momentum of reform ... In the best schools, regular appraisal ... and how the core systems of the school are working, is part of the routine of good management. These schools then use this information to ... raise standards. (Miliband, 2004a)

Imitation is the ability to replicate in one's own school the good practice taking place in another, and to adapt and improve upon it. Imitation sometimes has negative connotations because it suggests an inability to invent for oneself (Roos *et al.*, 1997), but this is unfair: not everything that comes out of imitation is inferior. Imitation usually leads in the longer term to something new or something better. It can create the need for structures, such as exist in collegiate universities, that facilitate the cross-fertilization of ideas.

Adaptation comes about as a result of changes in the competitive environment, in the dominant technology, in government regulation, in the nature of the market and in consumer demand. Adaptation can be said to be *reactive* if a school is compelled to change by circumstance or imposition; *anticipative* if it is voluntarily adapting to take account of forecasted changes; and *creative* if it is trying to manufacture its own future by imposing itself or its new service on the education market. Creative adaptation offers the greatest opportunity for staff to share ownership of change—something which Fullan (1991) and others tell us is necessary for long-term improvement—but it is relatively rare to have such connectedness in education:

There is one thing I have learnt since becoming Schools Minister five months ago; it is that there is a great danger of seeing problems, and solutions, in isolation, when in fact in education they are all connected. Michael Fullan's new book, *Leading in a Culture of Change*, talks about how it is vital to establish a shared understanding of the reform process for it ever to be successful. (Miliband, 2002)⁶

Systems for developing creative capital in schools are improving, but from a position of weakness. Creative capital both demands and creates strong organizational

systems, and its absence results in a loss of motivation among staff. For government policy on school improvement to work, there needs to be a widespread shift away from reactive adaptation.

Structural (non-thinking) capital

The non-thinking component of intellectual capital is structural capital, which consists of all the value-adding institutional processes, routines and infrastructures that remain in the school when students, teachers and staff have gone home. It is the value that is added to the school by the organization itself. It is not about the physical environment of the institution, but rather the organizational structure that facilitates internal and external relationships and supports innovation, adaptation and staff development. It includes: ICT and library resources, student, alumni and parent databases, organizational charts, and mentoring and training manuals; codified expertise, both collective and individual, and advanced teaching and mentoring skills; relationships built over time with students and parents, between teachers, between managers and governors, and with suppliers, examination boards and local community groups; intellectual property rights such as school textbook authorships; and organizational culture and ethos.

Unlike thinking capital, which is increased just by people living their lives, structural capital is possessed by a school and needs to be proactively updated by employees themselves. It is proprietary, but not self-renewing, and its three components are *external organizational capital*, *internal organizational capital* and *innovation and staff development capital*. Both internal and external organizational capitals consist largely of the codified experience and routines of those who work in the school. Innovation and staff development capital, on the other hand, represents the ability of the school to renew itself. It is what creates future success. It consists of institutional expertise, such as beacon or special school status, and individual teacher expertise, such as advanced teaching skills.⁷ For the government at least, innovation and staff development capital holds the key to improvement:

Trainee teachers need to develop the capabilities to learn from the good practice they see in schools, to be able to reflect on their experiences with outstanding mentors in ways that promote mastery of the craft of teaching. (Miliband, 2003a)

External organizational capital. External organizational capital is the external component of structural capital and consists of the value generated by parents and external agencies. Relationships with parents, external suppliers, local education authorities, the schools inspectorate, examination boards, community groups and alumni are increasingly important and schools need to take a long-term view of their development. As minister Miliband puts it: ‘[The] processes that make [twenty-first-century education] possible [depend on] ... links to services beyond the classroom, involving the wider community and families, parents providing strong support, and the engagement of LEAs’ (Miliband, 2004a). At the core of this extended notion of external organizational capital is loyalty. It is difficult to put a value on it, even in a commercial

company, though everyone recognizes its importance: generations of a family bank with the same company, however cost-ineffective it might be; shoppers continue to shop with certain retailers for no good reason; and travellers fly with the same airline out of habit. Some of this inertia, though not all, can be put down to a natural reluctance to engage with the difficulties associated with change. Commercial companies have long recognized the bottom-line value of loyalty, a fact evidenced by the proliferation of store loyalty cards, cash-back credit cards and frequent flier air-mile schemes: apart from enhancing the reputation of an organization, it increases the life expectancy of its external organizational capital and makes it easier to instil confidence (Fornell, 1992) and extend brands.

It is more difficult to put a value on the extent to which a school depends on the loyalty of 'customers', how well it is regarded in the wider community⁸ or the extent to which it has long-term satisfactory relationships with key external agencies like examination boards. At least in commercial organizations, the effect of loyalty can be fairly judged in terms of market share and profit at the end of a trading year. It might seem that pupil recruitment could serve as a suitable surrogate, but since parents often have no choice about where they send their children, this is fundamentally flawed. There can be no customer loyalty without freedom of choice. As long as schools recruit only from prescribed catchments and as long as those within catchments are forced to attend only designated schools, there can be no true measure of customer loyalty in education.⁹ The government appears to gloss over these difficulties when it expects 'schools to engage with their local communities. If we are to meet the talents of every child then we must build powerful coalitions of support and expertise with the school at its centre' (Clarke, 2003), even if it acknowledges that:

Choice between services helps raise the quality of those services; it promotes innovation and improvement; but it is most effective when it is combined with voice for individuals over their services, to help shape it to their need. (Miliband, 2004c)

In the commercial sector, symbiotic alliances between companies and external suppliers are now considered an integral part of business. As a consequence, competition is typically between client-supplier chains rather than between individual suppliers or between individual companies. Strategic alliances are possible and desirable in education too, the obvious ones being between schools, and between schools and further education colleges and universities: 'We need much more collaboration, not just school-to-school but in the form of strong higher education and school partnerships' (Miliband, 2002). Less obvious, and certainly less common, are the possible alliances between schools and awarding bodies, between schools and businesses, between headteacher organizations and curriculum associations, between awarding bodies and teacher unions, and so on. It is mostly unexplored terrain, but it is one ripe for exploitation according to the government:

I think it is a duty which we should accept, as those responsible for the education of the growing generations ... an understanding of the global world within which we live. That's why, with the British Council and other colleagues we are developing the Global Gateway idea, which is essentially a dating agency for schools, colleges, other institutions to come

together, so that [schools] can go onto the Global Gateway ... and find [other] schools who are interested in a relationship. And we are steadily asking colleagues [in other countries] whether they are ready to make strategic partnerships with us [to] encourage their schools, their colleges, their universities to come onto this Global Gateway website. I announced last year the relationship between a school in this country, and France and Germany, a three-way agreement, where the teachers met electronically every week, to plan the lessons for the coming week, as to how they come together, what classes they put in touch, what bits of work they do together. (Clarke, 2004)

And alliances with business can be more than philanthropic:

[It] is striking to hear company Chief Executives explain that they gain too [from partnerships], because ... when their companies open themselves up to pupils they create in the next generation the passion and excitement for business that is vital to the company and the country. Education is a joint enterprise—between teachers and students but also between schools and the wider community. Business can sponsor Specialist Schools and Academies. Business can contribute to curriculum enhancement. Business can offer work placements and work experience. Business can offer mentoring and governor support. Business can just pick up the phone to the local head teacher and ask how it can help. (Miliband, 2003f)

External relationship capital can be a powerful weapon in a school's struggle to achieve its strategic objectives. Existing relationships beget new relationships without any great effort on the part of teachers or managers necessarily, so it replenishes itself. Parents have an obvious role to play: they support the school's efforts in terms of supplying pupils, helping with homework, fund-raising, acting as unpaid assistants and generally providing the liaison between school and home that school effectiveness research suggests is a prerequisite to educational success (Levine & Lezotte, 1990; Rowe *et al.*, 1994).¹⁰

Internal organizational capital. Internal organizational capital is proprietary, but unlike external relationship capital, it is not self-replenishing. To survive, it needs proactivity on the part of management and the day-to-day support of teachers. Internal organizational capital comprises all the non-thinking capital related to the internal structure and day-to-day operation of a school. Sources include student databases, internal networks and intranets, mentoring guidelines, teaching manuals and intangibles such as school ethos and style of management. Internal organizational capital is usually the result of effort on the part of the school to turn human capital into explicit knowledge, and to spread that knowledge among employees and stakeholders.

Apart from the contribution of relationships to organizational capital in general, there are three main constituents of internal organizational capital: infrastructure, including organizational routines; processes and resources; and culture. Infrastructure capital is the value coming from the structure of the school and its intellectual property assets—mailing-lists, student and alumni databases, and process, mentoring and training manuals. The infrastructure of a school must be flexible enough to grow organically, but bureaucratic enough to offer teachers security and predictability.

If the infrastructure of a school is its hardware, process and resource capital is its operational software; it is what makes the school tick. It is passed from colleague to

colleague by word of mouth or through documentation, the latter being preferable because it guarantees that the school has explicit memory of its own procedures. All internal activities contribute to a school's internal capital as long as they are shared.

Culture is the soft, evolving part of internal organizational capital: a series of rights, symbols and norms that define a school every bit as much as its physical counterpart. Culture—a school's underpinning system of beliefs and attitudes—is its 'way of doing', created by the constant interaction of its employees.¹¹ It is simultaneously a cognitive activity and a metaphorical creation, the sum of all the individual biographies of the people who live and work there. Symbolism has an important influence on culture, especially school culture. It affirms the school's vision of itself; a mix of recognition and history used to influence the sense-making activities of teachers, pupils and others.

Innovation and staff development capital. Innovation and development capital comprises the intangible side of anything that has the potential to generate value in the future but does not yet have an impact. Planning for investment and renewal in school buildings and equipment is part of innovation and development capital, though it becomes fixed hard-asset capital when it is built or installed. Similarly, investment in in-service training for teachers is staff development capital as far as planning is concerned; after the training takes place, it becomes human (thinking) capital. Curriculum development, restructuring processes, the development of new mentoring schemes and teacher in-service programmes are all examples of innovation and development capital.

Innovation and development capital represents the conceptualization of the inevitable time delay between planning and implementation, between inception and realization. The challenge for the government, partly met by the 'Power to Innovate' initiative in the 2002 Education Act, is to balance the need for future investment with the need for immediate prosperity, something that is particularly true in terms of its proposals for inspection reform:

Inspection should value innovation. Not all innovations will be successful and it is very important not to penalise schools for taking a risk with a particular innovation. But where innovation does succeed, Ofsted can help to identify that and spread new ways of working round the school system. So in these ways the process of inspection itself must move towards a regime that encourages, rather than discourages, professionalism in school. (Clarke, 2002)

Summary

It has been said that the government's education policies lack coherence and represent an under-theorized (Thrupp & Willmott, 2003) flight to doing. That may be true operationally, but in strategic terms the criticism is not fully warranted. Whether by accident or design, government policy on school improvement does have cogency, if viewed from a perspective of intellectual capital. The government believes that the greatest potential for school improvement lies with staff and the effective use of data;

it believes that students, parents and communities are consumers of education and are thus entitled to information about schools additional to the reportage that comes from inspection; and it believes that schools have an obligation to facilitate the dissemination of information about how they view their own priorities and performance. These are all salient features of intellectual capital as a theorization, as is the government's explicit and repeated causal linking of education to economic prosperity. As with other public services, the government believes in private sector involvement as part of its social democratic settlement. Some might dissent from that as a philosophy,¹² but it is none the less a legitimate approach.

In practical terms, intellectual capital has increased in popularity and prestige since Skandia and Dow Chemicals first published official reports on intangible assets in the mid-1990s. There are now parallel developments in education. The proposals for School Profiles, for example, borrow heavily from the whole intellectual capital rationale: they seek to provide stakeholders with a broader and deeper understanding of what schools are doing; they seek to increase flexibility around the statutory elements of school prospectuses; and they seek to provide parents, students and communities with new and challenging information on how schools go about their business. At a time when the government's school improvement measures appear exhausted, intellectual capital as a theorization offers refreshment. It represents the difference between an inspection report of a school and its true worth, coming as it does from the school's ability to innovate and manage change, from its organizational infrastructure and from the transferable skills of its staff. If intellectual capital does indeed form the conceptual underpinning of government policy, it represents a shift from the 'one-size-fits-all' mentality of previous inspection regimes to a more contextualized system: if the value of schooling is vested in the process rather than the output of teaching, then the struggle to devise comparatives no longer serves any great purpose.

Intellectual capital brings people and ideas together in a deliberate manipulation to create value from the transfer and codification of knowledge. Few would deny that reporting on its development and management should form a legitimate part of the story schools tell their stakeholders and by which they should ultimately be judged. It is a concept which is capable of reconciling the aspirations of government with the expectations of educators, and going some way towards conceptually underpinning government policy.

Notes

1. Despite the hype, globalization is not the defining feature of the post-industrial economy. Markets were always global for some organizations, even as far back as the seventeenth century. Lloyd's Insurance Company, for example, was founded in 1688 to insure ships and cargo for a worldwide market. What is different today is that information is *no longer precious*, the possession of the privileged professional few, but feely available to everyone and *available in real time*.
2. The discipline of continually clarifying the mission, the discipline of challenging assumptions that influence how people think and act, the discipline of sharing visions and motivating others, the discipline of learning in teams and the discipline of systems thinking—the 'fifth discipline' that gave its name to the book and which Senge suggests underpins the other four.

3. 'To help create capacity [for reform] in the system, we will encourage schools to join networks, for example, through the National Colleges for School Leadership, to enable them to share best practice and learn from others' (DfES, 2001).
4. This is the most noticeable in private (fee-paying) schools, where the most important members of staff—heads of boarding-houses—typically move to new schools every few years because heads usually have a pastoral (as opposed to a curriculum) background. (Most heads in the state sector have a curriculum background.)
5. In the commercial sector, Richard Branson's Virgin Group, for example, has achieved success by jumping its specialist knowledge of the youth market to diverse industries like travel, music, insurance and online banking.
6. Of course, the minister's 'appropriation' of Fullan's (1991) ideas (and the fact that they are quoted here) should not be taken as indicating Fullan's agreement (or disagreement) with the substance of government policy
7. 'Advanced Skills Teachers have a very positive effect on the quality of teaching and learning in the majority of schools in which they work' (Bell, 2004); 'ASTs spread best practice, build role models for new recruits, re-inspire experienced teachers, and enable them to develop a leadership role whilst remaining in the classroom' (Miliband, 2003c).
8. External organizational capital includes the value accruing from a school's reputation. For example, some of England's leading private schools—Shrewsbury, Harrow and Dulwich College—have franchised their brands (names, coats of arms, traditions, perceived expertise, and so on) in Thailand in return for a percentage of tuition fees. Thailand has no obvious colonial connection with England, so the reputation being 'branded and sold' is not just some sentimental relic of empire, but a genuine franchise extension.
9. This is unfortunate because brand extension is something schools do all the time: they ask parents to trust them when it comes to curriculum change, when it comes to changing from one examining board to another, when it comes to sixth-form choices and university entrance, when they say that an overseas trip will be educationally beneficial, and so on.
10. However, the nature of general involvement is critical. There are positive effects to parents helping in the classroom, and such like, but negative effects (or none) from run-of-the-mill involvement in parents' associations and extracurricular activities (Mortimore *et al.*, 1988; Teddlie & Stringfield, 1993; Sammons *et al.*, 1995; Teddlie & Reynolds, 2000).
11. Whereas ethos is the outward expression of culture, which manifests itself in how the school feels to visitors, its friendliness, the helpfulness of its staff, and so on.
12. 'The fundamental obstacle in the way of education in England is simple. It is that education is a spiritual activity, much of which is not commercially profitable, and that the prevailing temper of Englishmen is to regard as most important that which is commercially profitable, and as of only inferior importance that which is not' (Tawney, 1917).

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