Evidence-Based Policies:  
The Effect of Key Performance Indicators  

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Abstract

This paper argues that Key Performance Indicator (KPI) systems can hinder the adoption of Evidence-Based Policies. This is based on an assessment of the findings from a survey of English and Scottish schools on the behavioural and organisational effects of KPIs in terms of a ‘learning organisation’ culture, which it is posited, is a necessary prerequisite for the adoption of evidence-based policies. A number of the issues surrounding performance measurement and future developments are discussed.

Introduction

In principle the government appears to support the notion that policies should be based on evidence. Davies et al (1999) suggest that the government's mantra of 'what counts is what works', indicates a new willingness for evidence to take centre stage in the decision making process. The government does give support to the production of evidence-based research, for example the Cochrane and Campbell collaborations, and more specifically in education the new centre for Evidence-Informed Policy and Practice in Education (EPPI). Furthermore, based on the DfEE's own research (see Hillage et al 1998), Judy Sebba (2000) from the DfES Standards and Effectiveness Unit, points out that policy and practice are insufficiently informed by research. However, in spite of the widespread availability, and the apparent support, there are still many barriers to the effective adoption of evidenced based policies.

Graham Leicester (1999) in his article, ‘The Seven Enemies of Evidence-Based Policy’, brings together a number of factors, which he suggests inhibit the adoption of evidence-based policies. These include; Bureaucratic logic, Consensus, Politics, Civil service culture, Cynicism, Lack of Time, and The bottom line. This paper considers the last point – The Bottom Line, by making reference to research on Key Performance Indicators (KPIs), which are in effect public sector ‘Bottom Lines’. The research looks at the organisational and behavioural effects of KPIs in English and Scottish schools, in terms of a ‘Learning Organisation’ framework. It is argued that a ‘Learning organisation’ culture will allow and encourage the adoption of evidence-based policies.

The government's use of research evidence

Although the government may claim to use and value research evidence, Levačić and Glatter (2001) highlight the often difficult relationship between ‘research’ and government. Nutley and Davies (2000a) point to the large gap between rhetoric and reality, in which it seems that research has little or no impact on practice, and that researchers and practitioners appear to live in different worlds. As Davies et al (1999) point out, even when relevant research is available, there are many other significant factors which contribute to policy;

To date, research evidence on what works has been just one, relatively minor, ingredient in the process from which policy decisions emerge. In practice there are enormous forces of inertia which operate to preserve the status quo, influenced not only by party ideology, but also by the policy preferences of the bureaucracy and professional groupings…

(p.3)

Although, research that supports the government’s underlying principles and political philosophies will tend to be well received, as Ball (1998) points out, it does not follow that it will necessarily contribute to policy;

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National policy making is inevitably a process of bricolage: a matter of borrowing and copying bits and pieces of ideas from elsewhere, drawing upon and amending locally tried and tested approaches, cannibalising theories, research, trends and fashions and not infrequently flailing around for anything at all that looks as though it might work. Most policies are ramshackle, compromise, hit and miss affairs, that are reworked, tinkered with, nuanced and inflected through complex processes of influence, text production, dissemination and, ultimately, re-creation in contexts of practice.

(p.126)

Ideally the evidence for policy formulation should come from many different areas, including 'up the system' however as Davies (1999) argues it appears to be increasingly top-down, and from 'safe' or benign sources;

Increasingly, the direction of change in educational thinking and practice is top-down from central governments, think tanks, opinion formers, educational regulators (such as OFSTED), the media, and academic departments whose research is often selective, unsystematic, and prone to political or scientific bias (or both).

(p.108)

In a similar spirit Fitz-Gibbon (1996) argues that the social sciences can easily be distorted by, “opinion and selective reporting and sheer wishful thinking” (p.216). Davies (1999) goes on to point out some of the dangers of not using ‘proper research’ when implementing new policies. He gives a number of examples, such as the introduction of the National Curriculum and the widespread use of tests and league tables with the espoused aim of raising standards. However, very little coherent research on the effectiveness of these policies has ever been carried out, which he argues should be the task of evidence-based research.

Although the term evidence based is widely used, increasingly it is being replaced by, evidence informed. This is more then just semantics, in that it reflects the government’s caution towards ‘awkward’ evidence, and their desire to keep research and policy separate. Sebb (1999) points out that informed rather than based enables, “policy-makers [to] translate evidence in the context of the policy process taking into account resource and political implications” (p.3). In practice, Wallace (2001) highlights the desire of government to be able to ‘pick and choose’ the evidence;

The term ‘evidence-informed’ (rather than ‘evidence-based’) is likely to be attractive to ministers, trainers and practitioners alike. It implies that they are entitled to play safe by retaining the ability to choose whether to heed or ignore evidence of which they are made aware.

(p.21)

Although the difference between these two terms is important, and the surrounding arguments are indicative of the many tensions between research and policy formation, the issues considered by this paper are nevertheless broadly applicable to both.

The Bottom Line - Key Performance Indicators

Leicester (1999) describes the Bottom Line as the ‘business logic’ of the government giving numerical pledges, in terms of apparent performance, when in reality these pledges say nothing about the quality or effectiveness of the service. It has been an aim of the various governments, since the 1980s in particular, to identify ‘bottom lines’ for all public sector organisations, and to use these to ‘drive up’ overall standards (eg. DFE 1994, HOC 2000). Much of the rational for this lies in the belief that public sector organisations can only be improved by using more business-like principles, and that as businesses have ‘bottom lines’, (ie profit) so too should the public sector. In effect public sector ‘bottom lines’ are the equivalent of business profit measures (Jackson 1998).

The government’s KPIs are to all intents and purposes the ‘bottom lines’ for public sector organisations. These include; for schools, test and exam results; for hospitals, waiting times, and for the railways, punctuality. These KPIs are both proxy and high stake, in that they are used to make judgements about overall performance, and if this is poor there may well be serious consequences for those concerned. Many of the KPIs originate from the Public Service Agreements (PSAs) between the treasury and individual
government departments. For example, in education PSA targets are agreed with the DFES (Treasury 2000), and then cascaded down to form targets for local authorities, schools and individual teachers. The performance measured by these KPIs is made public in performance and league tables.

Although this ‘bottom line’ principle of holding individuals and operational units accountable has been borrowed from the commercial sector, many of the warnings regarding such indicator systems appear to have been ignored. For example, Argyris (1960) found that indicator systems could increase the level of fear and mistrust in an organisation, and encourage a blame culture, which would not seem conducive to the development of a ‘learning culture’. Learning organisations need to take a broad and long term view, however as Hopwood (1976) pointed out, measures such as KPIs are only partial representation of overall performance, and Johnson and Kaplan (1991) argued that concentrating on key indicators encourages short-termism. In terms of league tables, which are an increasingly common way of presenting KPIs, Keasey et al (2000) who draw parallels between the public and private sector, found that with a hypothetical supermarket scenario, store managers focused on their league position, at the expense of overall performance. Again this would seem to discourage a ‘learning climate’. Increasingly, similar arguments and findings and are being made in the public sector, (eg. Smith 1995, Davies and Lampel 1998, Collier 2001, Wiggins and Tymms 2002).

Learning Organisations - The right climate?

There is much support for the notion that organisations with a ‘learning climate’ are receptive to the principles of evidence-based policies (eg. Nutley and Davies 2000b). Organisations that learn have of course existed for hundreds or thousands of years, however it is only more recently since the 1980’s, that the term ‘learning organisation’ has gained common usage in management theory. Two books in particular helped set the scene; The Fifth Discipline: The Art and Practice of the Learning Organisation (Senge 1990) and The Learning Company: a strategy for sustainable development (Pedler et al 1991). Many of the principles build on other work, such as that of Argyris and Schön’s (1978) who looked at different types and levels of learning. Indeed the importance of learning has been highlighted by many others, for example, Peters and Waterman (1982) in their best-selling book, In search of excellence, stated succinctly that, "The excellent companies are learning organisations”.

There is no simple unambiguous definition of what a learning organisations is, indeed the there are many definitions and interpretations, with much depending on the particular context. However, to help set the scene the following quotes aim to illustrate some of the fundamental principles;

"Organisations where people continually expand their capacity to create the results they truly desire, where new expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together". (Senge 1990)

"A Learning Company is an organisation that facilitates the learning of all its members and continuously transforms itself". (Pedler et al 1991)

"Creating an environment where the behaviours and practices involved in continuous development are actively encouraged". (Mumford 1996)

A common theme from these is the importance of a climate that allows learning to take place at all levels of the organisation. In education, as with much of the public sector, what constitutes the organisation can be unclear. For example, does the education system consist of a number of autonomous self-managing schools, or is it a unified or national system, where individual schools are in effect ‘sub-branches’? Principles such as ‘Local Management of Schools’, suggest that schools should be discrete organisations, and therefore able to learn and develop, and from this adopt evidence based policies on an individual basis. On the other hand, the organisation and control structures which have been imposed as a result of the ‘New Educational Management’ (Chitty 1989, Power et al 1997), suggest that the education is far more of a unified or centrally managed system, and therefore the whole system has to learn. In practice this largely takes the form of ‘learning’ being
passed down the system, rather than percolating up, and consequently evidence-
based policies being implemented on a
national rather than local basis. This can
however lead to frustration and potentially a
reduction in learning at the most important
level of the organisation, ie, the schools. An
example of this can be found with the literacy
strategy. Although individual schools do not
in theory have to adopt the national strategy,
in effect all do and they follow it to the letter.
This would seem likely to reduce the
freedom and opportunity to develop possibly
better systems that may be more appropriate
to particular circumstances. Even successful
schools which receive Beacon status and
extra funding to share their expertise have
little opportunity to depart from the
‘approved’ methods and practices.
Furthermore, their ‘success’ tends to be
defined narrowly in terms of exam or test
results, rather than in terms of the
educational value and benefits, in the
broadest sense.

Similar quandaries in terms of national and
local learning can be seen in other sectors.
For example, in the Health service, Nutley
and Davies (2000b) highlight the potential
conflicts of individual organisations learning
too much!

Developing learning capacity may lead
to more flexible healthcare services and
may enable providers and health
authorities to meet parts of the
government’s quality agenda. However, there is no guarantee that
learning will lead healthcare
organisations in predictable directions.
Indeed, the growth of capable and
reflective organisations may highlight
dissonance between what
organisations perceive as appropriate
goals (and the means of achieving
them) and the directions stipulated by
national policy or overseeing bodies.
Managing these conflicts will require
care.

(p.1001)

Although this section has questioned the
degree to which individual schools, and the
education system as a whole can become
‘learning organisations’ and from this adopt
evidence based policies, at a more
pragmatic level, there is opportunity to use
evidence throughout the system, and not
necessarily just as a top-down process. For
example, at the national level it can
contribute to overall policy, and at school
level, it can contribute to specific practice.

To assess the influence of KPIs on
organisational learning at the school level,
research which was carried out in 1999 on
the organisational and behavioural effects of
KPIs, is considered with reference to a
‘learning organisation’ framework. Although
this six point framework is not a
comprehensive definition of what learning
organisations are, it aims to incorporate most
of the main and relevant principles;

A Learning organisation should:

- Encourage innovation and
  experimentation
- Have a relatively blame free culture
- Encourage participation in policy and
  strategy formation
- Ensure effective internal and
  external communication and co-
  operation
- Create supportive information
  systems
- Encourage a long term and holistic
  view of the organisation

The Research on KPIs

Questionnaires that covered various aspects
of the educational KPI systems were sent to
randomly selected primary and secondary
schools in England and Scotland. At the
secondary level the English and Scottish
systems are quite similar, being primarily
based on exam results (eg. GCSE and
Standard grade), which are reported in the
public performance or league tables. At the
primary level the tests are again quite
similar; in England, Maths English and
Science are assessed by the Key stage
tests, and in Scotland, Maths, Reading and
Writing are assessed with the 5-14 National
tests. However, only the English results, or
KPIs are made public, Scottish primary KPIs
are confidential to the school and education
system¹.

A total of 64 primary and 76 secondary
responses were received (a 30% return
rate), with a good spread, from high to low, in
terms of KPI performance. In all the schools
KPIs are used in similar ways for target

¹ Significant differences were found between English
and Scottish primary school in terms of their perceptions
towards KPIs, these are reported in Wiggins and Tymms
2002.
setting and assessing performance, both for schools and individual teachers. KPIs were found to be of significant importance to schools, with the vast majority (87%), indicating that they were under great pressure to meet their KPI targets. To evaluate the degree to which the schools appear to be ‘learning organisations’ two questions from the survey have been used to assess each of the six points from the ‘learning organisation’ framework. The responses are reported here as either agreeing or disagree with the particular question.

Results

Innovation and experimentation

Central to the principle of learning organisations is the ability to innovate and experiment with different approaches. 63% of the respondents indicated that KPI systems discouraged innovation, and 79% indicated that KPIs had a narrowing effect on the curriculum. A narrower and more constrained curriculum, may for example, discourage learning from cross-curricular initiatives; although some respondents indicated that they had become more innovative in finding ways of meeting their KPI targets (which does however seem to miss the point).

Blame free culture

Effective learning needs to occur in a relatively blame free climate. For example, trying new methods may or may not be successful, and linking failure to blame will inhibit this learning process. 83% of respondents indicated that KPI systems encouraged a blame culture and 60% reported some degree of mistrust towards KPIs. However, there were significant differences in the responses from English primary schools who reported a far higher level of ‘blame culture’ than their Scottish counterparts. Overall, this questions the English government’s view (Barber 1999) that there is now less of a blame culture at all levels, because of the educational reforms.

Participation in policy and strategy formation

74% of respondents felt that KPI systems encouraged central as opposed to local control of the education system. This supports the argument that policy making is very much a top-down process, which will substantially limit ‘bottom-up’ organisational learning. In spite of this, 73% felt able to participate, to an appropriate degree, in setting their targets. However, this question was asked before the government announced that targets would, in the near future, be imposed directly on English primary schools (Hackett 2000).

Effective internal and external communication and co-operation

Good working relationships between staff in individual schools and more generally with other schools is an important feature of a learning organisation; indeed the Beacon school initiative is designed to encourage such inter-organisational learning. However, just over half, 58% of respondents found that KPI systems worsened relationships between staff and 67% found the system undermining. The issue of external relations was not specifically considered, although the ‘market principle’ of one school’s failure being another’s success, would seem likely to discourage much meaningful co-operation, (see Power et al 1997, and Adnet and Davis 1999).

Supportive information systems

Good information and reporting systems are by definition vital to learning organisations. 90% of the respondents felt that their school needed good quality objective performance data, and 63% found their target setting systems beneficial. This questions the government’s view (Sebba 2000) that schools do not routinely use data to inform practice. Furthermore, the widespread investment by schools in information systems such as, PIPS, YELLIS and ALIS, from the Curriculum Evaluation and Management (CEM) centre at the University of Durham (see, Fitz-Gibbon 1996; Tymms 1999), strongly support the notion that schools do want, and do use, good quality information.

Long term and holistic view of the organisation

The effective provision of education requires a long term and broad view of the entire process, which may last between 11 and perhaps 111 years. It is therefore important to look beyond short-term targets, and consider the fundamental aims and values of
the process. 65% of respondents felt that there was conflict between their aims and targets, and 54% indicated that their schools concentrated on targets at the expense of other important objectives. However, again there were significant differences between English primary schools, which were far more likely to report conflict between their long-term aims and short-term targets, than their Scottish counterparts.

Discussion and Conclusions

These findings suggest that the current KPI systems inhibit the development of a ‘learning organisation’ culture, which will in turn, it is argued, limit the adoption of Evidence Based Policies. However, it would be wrong to simply look at KPIs in isolation, they are a part of, and interact with, other aspects of the organisation and management processes (Pollitt 1993), and these may have had some effect on the respondent’s perceptions. KPIs have other functions besides the espoused aim of indicating performance and providing benchmarks for improvement. Broadbent et al (1999) point out that performance indicators can be used as control mechanisms; examples include, performance management schemes for individual teachers, targets for schools and local authorities, and Public Service Agreements for the DfES. This function may increase the perception of ‘top-down policy formulation’, and reduce the ability of individuals to innovate and experiment. In addition, the finding that many of the respondents, particularly in England, felt that KPIs encouraged a ‘blame culture’, may be in part due to the politicalization of KPIs, and the related adversarial nature of British politics.

The findings also point to the conflict between long-term aims and short-term targets. This may to an extent be as a result of the many changes that are occurring in education (and the rest of the public sector). An organisational climate awash with new policies and initiatives may well inhibit long-term thinking and planning, and replace it with a short-term fire-fighting culture. Even so, the government’s position regarding long-term aims and short-term targets does appear somewhat paradoxical. Michael Barber, as the Head of the Standards and Effectiveness unit, (now Head of the Prime Minister’s Delivery Unit) states that in a democracy with a fickle electorate; “a long-term strategy will only succeed if it delivers short-term results” (2000, p. 5). However, many of the most important aims of the education system cannot produce short-term (quantifiable) results, furthermore, the danger of linking short-term results and long-term strategy has been recognised in other areas of government policy. For example, the Bank of England Monetary Policy Committee, which was created by the current government, sets interest rates to achieve the government’s long-term inflation targets. They are independent of the government, and operate without any pressure to achieve politically attractive short-term benefits, such as lowering interest rates before an election.

Although the level of the responses strongly support the notion that KPIs do discourage the development of a ‘learning culture’, some caution should applied to the quantitative aspect of the research. Based on these numbers alone it is difficult to know how significant many of the results are without some form of comparison. It would therefore be desirable to compare these responses to those from other public and private sector organisations.

Looking to the future, there is little doubt that KPIs and performance measurement will continue to play an important part in the management of the education system. However, there would appear to be some confusion as to how indicator systems will develop. Talbot (2000) points to the conflicting government policy, with on the one hand ‘hard’ output orientated systems (ie. the bottom line measures) which on the basis of this research would seem to discourage organisational learning, and on the other, ‘soft’ process and outcome based systems (ie. balanced packages), which may be more conducive to the development of a ‘learning climate’.

The white paper, Modernising Government (Cabinet Office 1999) advocates a ‘balanced scorecard’ system based on the European Foundation for Quality Management (EFQM) Business Excellence Model (BEM). This approach, which is used by many successful private sector organisations, avoids many of the pitfalls of single high stakes output indicators (ie. bottom line), by using of a wide range of indicators, including process and outcome indicators. There is much support for such systems in the public sector (see Woodcock 1998, Gambles 1999). The EFQM system has been proposed for use in Scottish schools (Audit Unit 1999), and a
similar ‘balanced’ approach is used by the indicator systems from the CEM centre (Fitz-Gibbon 1996; Tymms 1999).

However, the Treasury’s Public Services Productivity Panel report (Mayo 2000) proposes a very different, (but rather familiar), system for education. This is based on the PSA targets, ie the current KPIs, with the addition of a relative value for money indicator, which would, for example, show the cost in financial terms of a GCSE. Similar figures in the ubiquitous league table format have already been produced for independent schools (Sunday Times 2001).

There is little doubt that these two approaches would have very different effects on the culture of the education system, which would in turn influence ‘organisational learning’ and the place of evidence in policy making. At present it would appear that the second ‘harder’ (KPI based) approach will prevail. The recent white paper Schools Achieving Success (DfES 2001), clearly equates success with performance measured by the KPIs, and makes no mention of balanced scorecards. The paper does however state that successful schools will be allowed greater freedom, although within and controlled by the current KPI framework; ‘Where schools are successful...The framework of performance targets and accountability….must remain in place” (p.42).

At a national level, two other factors would seem to point to the continuation of the current ‘bottom line’ philosophy. Firstly, looming over the DfES are the new PSA targets for 2004 and 2006, which have been ratcheted up from the 2002 targets. Given the political importance of education and the proximity of the next election, the government will want to keep everyone’s ‘eye on the ball’, to help achieve these new targets. Therefore, even if a national ‘balanced scorecard’ system is adopted, high stakes KPIs based on the PSA targets may well still, in reality, dominate.

Secondly, central to the government’s approach on the development of the public sector is the increased involvement of private sector organisations (eg, DfES 2001). Measuring performance is an important part in this process, and ‘hard’ unambiguous indicators are far more suited, and indeed essential, for the necessary contractual arrangements. For example, the contract awarded to Cambridge Education Associates (CEA) to run Islington education authority set targets in terms of GCSE passes. As these were not met CEA was ‘fined’ (Garner 2001); it would however have been far more difficult or impracticable to write similar penalty clauses in to a contract based on a ‘balanced score card’.

At an ideological and philosophical level, there is evidence that the current government would like to adopt a ‘learning organisation’ approach, with the inherent inclusion of evidence-based policies. However at a more pragmatic level, ‘hard’ KPI systems which largely reject the notion of organisational learning and evidenced based policies, appear to produce the results, and allow ‘objective’ claims to be made that the quality of the service has improved. This approach has political benefits, however whether it supports the realization of the many complex long-term aims of the education system is another matter.

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