

Quality Assurance in Education

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1. Introduction

The purpose of this chapter is to give an overview and critique of Quality Assurance (QA), its role, function and effectiveness as practised and researched in education organisations. To place contemporary QA in its historical context, some well-trodden ground will be revisited. There is nothing new about government and other authorities' inspectorial interest (some of it demeaning) in the effectiveness of teaching. Despite this, terms such as 'quality', 'quality assurance' and 'management' are still hotly contested, particularly in Higher Education (HE) since the increased focus on 'accountability' over the last three decades. Much antagonism both overt and covert is shown towards those responsible for quality – amply demonstrated by letters and occasional articles published in the educational press. This is a fact of life in universities, university colleges, further education (FE) colleges and schools, though to a less extent, perhaps, in schools and FE Colleges. What follows is an attempt to come to grips with some of the reasons, historical, conceptual, methodological and cultural.

2. An historical perspective

Generally speaking, when enterprises embark on quality improvement they start with **inspection** – a form of **quality control (QC)** – a reactive approach which identifies a weakness, non-compliance or whatever and endeavours to correct it ensuring it will not happen again. In outcome terms, of course, the damage has been done. The next phase is to move on to **quality assurance (QA)** – a proactive approach which attempts to identify problems and deal with them immediately, or even better prevent them from happening at all. The inspectors in white coats are replaced by problem solving groups, usually with some form of quality leader or leaders. Both QC and QA can be, and often are, led from the top down – i.e. they are managerial initiatives, clearly aimed at bringing down costs, improving processes, profitability and so on.

Obviously, QC is immediately applicable to manufacturing, where the outcomes are products of one kind or another. However, the fact is that quality assessment was applied to education before the industrial revolution was at its peak. In 1833 a Government Grant was given for elementary education provided to poor children by some church and non-denominational bodies. In 1837 the Government appointed the first school inspectors to monitor the effectiveness of the grant. So began Her Majesty's Inspectorate (HMI). Two key characteristics of inspection are clear from this elementary beginning: firstly, the importance

of size and, secondly, the concern for value for money. Enough was being invested in schools to make the appointment of two inspectors worthwhile. The passing of the Foster Education Act in 1870 brought state elementary education for all and with it the setting up of School Boards, an enlarged inspectorate and the introduction of the infamous 'Revised Code' - payment by results. Teachers' pay depended on the successful achievement of examination results including tests of reading and mental arithmetic. In the United Kingdom (UK), these small beginnings have developed into The Office for Standards in Education (Ofsted) which is now responsible for Children's Services, Early Years, Primary, and Secondary Schools, Sixth Form Colleges and Colleges of Further Education. It employs over 400 HMIs, though inspections are mostly carried out by some 2000 Additional Inspectors (AIs) commissioned by HMI, but employed by privately owned companies - Regional Inspection Service Providers (RISPs).

The huge expansion of business and manufacturing in Europe and the USA during the nineteenth and twentieth centuries encouraged interest in methods of improving production, the most interesting and influential of which, was the work of F. W. Taylor, an American engineer who invented the concept of 'Scientific Management' (Taylor 1911), which analyses what workers do, how they do it and how long it takes - the basis of contemporary, highly sophisticated 'time and motion studies', aimed at measuring each element of production tasks and reducing them to a minimum of repeatable actions. Taylor became the first independent 'Management Consultant' and his ideas had a tremendous influence on the organisation of manufacturing during the early part of the twentieth century. However, its present relevance is that this can be seen as an early form of quality control, the links between this approach and Statistical Process Control (see below in Quality Tools) being obvious. Incidentally, the law of unintended consequences brought opprobrium to both Taylorism and Payment-by-Results. On the one hand, the resulting de-socialisation and de-skilling of the work force and on the other the negative effects on education of 'teaching-to-the-test' did nothing for the successful achievement of the outcomes.

Consumers have always been interested in the quality of what they consume and the involvement of external bodies in taking responsibility for quality control can be traced back a long way - certainly to the Medieval Guilds. The British Standards Institute (BSI), now a huge international business and owner of the internationally recognised *kitemark* dates back to 1903. These days, the BSI works in close collaboration with the more recently established International Organisation for Standardisation (ISO). Achieving a standard, aimed at ensuring potential customers that quality is assured, is valued by business and manufacturing enterprises which are driven by the imperatives of market survival, competition, and the responsibility of making profits for their shareholders. Improving market share by driving up quality and driving down costs are very attractive goals, particularly for large firms. Per se they have nothing to do with education. These elements - quantitative measurement, control and compliance with their implied threat to autonomy - are what cause academics and teachers to be extremely suspicious of quality systems in general.

The Second World War accelerated the need for effective quality control - it is a good idea to ensure that the bombs explode when they are dropped, that the wings don't fall off your aircraft in a dogfight, that your rifle is a reliable weapon etc. Significant contributions to the

effectiveness of the USA's war machine were made by two American scientists and engineers - Walter A. Shewhart and W. Edwards Deming. Their influence on the development of Total Quality Control (TQM) and Total Quality Improvement (TQI) has extended far beyond engineering processes. Shewhart was the originator of Statistical Process Control (SPC) (Shewhart 1939; Neave 1990; 1993) and Deming extended statistical methods to non-manufacturing as well as manufacturing enterprises (Lambert, 1993) and became one of the original quality 'gurus'. Even more importantly, perhaps, he succeeded in conveying the statistical control methods in such a way that the worker on the shop floor could understand and use them. Unfortunately, after the war, American industrialists showed little interest in Shewhart and Deming. However, Japanese industrialists did. They invited them and another American, J.M.Juran a quality management consultant, to visit Japan and teach them how to make high quality products.

The Japanese did not spurn the message. During the following decades, their industrialists honed the tools, becoming leaders of the industrial world and competing annually for their W. Edward Deming quality award. Their best-known leaders are: Ohno, (1992); Ishikawa, (1986); and Taguchi (1986) They outline the quality tools and methods (see below), of which the most frequently used are: control charts, flow charts, paired comparisons, cause and effect analysis, force-field analysis, histograms, pareto analysis, quality function deployment (QDF), kaizen, quality circles and small step progression. The western nations were not swift to emulate the Japanese. However, by the seventies alarm bells were ringing. Firms such as Toyota, Nissan, Honda, Mitsubishi, Panasonic, Technics and Toshiba were making inroads into the automobile and brown goods markets. By the eighties other consultants were following in the footsteps of Deming and Juran - notably: Crosby; Moss Kanter; Peters & Waterman. Large management consultancies (e.g. A. T. Kearney) were becoming involved, and at least one firm, Rank Xerox, was mounting comprehensive and sophisticated TQM internal training programmes. Development over the last two decades has been exponential. Heavily based on TQM and TQI concepts and methodologies are Lean Management Systems and Six Sigma (originally developed at Motorola in 1986). The British Quality Foundation (BQF) was founded in 1943, more or less at the same time as the European Quality Foundation (EQF). Both institutions actively promote the European Quality Foundation Model (EQFM), a business excellence model to which all enterprises, large or small can aspire - education included. There is a much prized annual award, not unlike the Baldrige Award, founded in the USA in 1981 and subsequently (since 1991) administered by the American Society for Quality (ASQ). Thus the development of quality assurance systems is now thoroughly embedded in private sector enterprises throughout the world.

There have been to some extent similar developments in state education systems but nothing quite so dramatic. Education organisations are notoriously anxious to preserve the status quo. Change is slow, regarded with deep suspicion and usually resisted - the time is never ripe. Nevertheless, change does happen, particularly when governments are footing the bill. During the 20th Century in the UK, the school leaving age has been raised from 12 to 14; 16; and now 18. There are thousands of primary and secondary schools in the UK, the annual cost of which has risen to billions of pounds. This is replicated throughout the civilised world: hence government and, indeed, taxpayers' interest in having some assurance that their monies are being well spent. Ofsted-style school inspections are still generally the norm. Though there are considerable variations in responsibility and style

between nations – as, for instance, between the UK, Government controlled (via Ofsted) and RSIP conducted and the USA, where school inspection is contracted out to wholly private enterprises such as the American Society of Home Inspectors or even Tribal, a UK based provider.

In contrast, Higher Education (HE) remained relatively untouched by Government interference until some years after World War 11. In comparison with today, universities were tiny. Apart from Oxbridge, London and the Red-bricks (the large civic universities), undergraduate numbers were counted in hundreds, not thousands. Less than three percent of the post-eighteen population attended universities, making them truly elitist institutions. They were fee-paying, though some scholarships were available, including highly sought after State Scholarships. Government interest was represented by the University Grants Committee (UGC), but it was not until 1946, after the Education Act of 1944 encouraged significant increases in student numbers, that it assumed some responsibility for planning and development. As education costs rose, so did Government concern. In 1969 the then Minister of Education, Shirley Williams, put down 13 discussion points with the intention of encouraging economies in the university system. They were rejected out of hand by the Committee of Vice-Chancellors and Principals. This was the beginning of erosion of trust between Government and the HE system. The argument that the UGC had acted as an effective buffer between the Government and universities, mitigating financial cuts and more extreme Government policies, was well put by Elton (1992). However, 'erosion of trust' could be applied to the education system as a whole, not just the universities. In 1976 James Callaghan, the Prime Minister, made his famous Ruskin College speech initiating the 'Great Debate' about education. The root concerns were the maintenance of educational standards, education including HE and employability and the provision of 'value for money'. These concerns motivated and, indeed still motivate, both left- and right-wing governments to extend more and more direct control via the use of performance indicators, quality assurance and audit to HE. The UGC was replaced by the Higher Education Funding Council (HEFC) in 1987. This became the Higher Education Funding Council for England (HEFCE) in 1992.

In 1997 The Quality Assurance Agency (QAA) was set up as an independent, not-for-profit company. It is responsible for academic standards and quality in England and N. Ireland and is also separately contracted to Scotland and Wales and will accept advisory roles and take on overseas contracts. The QAA methodology will be discussed in a later section; however, its role and function is not loved by academics. For a detailed and comprehensive critique of the perceived flaws in the methodology, see Laughton (2003). Government concerns have not changed very much over the first decade of the 21st Century. Suspicions that the QAA lacks the necessary teeth to require improvements have been rife since the 1970s.

There are variations between national approaches to QA. The USA favours accreditation by private agencies as do many Nordic countries, including Germany. Others have a higher degree of Government involvement, sometimes, as with the UK and Ireland, through Government funded, but independent agencies such as the UK's Quality Assurance Agency (QAA) (Kis, 2005; Williams, 1993). Occasionally other stakeholders, e.g. students, graduates, employers, are involved as committee members or observers. Governments in the West, particularly in the UK and USA remain critical about school and HE performance, being

particularly concerned about declining academic standards, whilst emerging economies like China, Korea, Brazil and Chile commit more and more resources to education, especially HE, which they perceive as essential to the continued growth of their economies. For instance, despite their political and economic difficulties, the Arab States, identifying knowledge as a key element in overcoming poverty, improving peoples' capabilities and developing a competitive economy, have embarked on a comprehensive QA programme for universities. They are using QAA methodology (UNDP, 2006).

Negative reactions from academics and teachers in general to Government inspired external quality control have been consistent over the years. They are not confined to the UK. Academics repeatedly refer back to the loss of trust between academia and Government (Brennan and Silver 1992; Johnston 1992; Loder 1992; Hodges 1993) and also to the intractable conflict between academic values and the managerial ideology which underpins the QA approach (Gorbutt *et al* 1991; Becher 1992) The conflict is ongoing and regularly aired in *The Times Higher Education (THE)* for instance McNay (2006) on the counter productive results of QA processes or Ashworth (2009) on the irrelevance of the QAA. Thus, whilst QA methods are embedded in industry and commerce, they are heavily criticised and at best only reluctantly tolerated in education, especially in HE in the UK. Educationalists have become increasingly antagonistic towards what they perceive as the crude materialist and managerial values of policy makers who, in turn, have become increasingly exasperated by what they perceive as the educationalists' endless capacity for talk without action, rationalisation without results. Fred Inglis, Emeritus Professor of Cultural Studies at the University of Sheffield encapsulated the mood:

"There are no books on my desk, only quality papers. These are the dry thoughts of their dry season. Let virtues be forced upon us by their impudent crimes." (1993).

3. Concepts and definitions

Before discussing quality systems, it would seem important to know what we mean by quality. Unfortunately this is not as straightforward as it may seem. One of the reasons for the slow development of and resistance to QA in education is that academics are, of course, trained to ask questions, to be sceptical, if not challenging. In academia, quality has been a contested concept since ancient times, for instance:

"Goodness is not the same as being, but even beyond being, surpassing it in dignity and power." (Plato c. 380 BC)

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"Any kind of excellence renders that of what it is the excellence *good* and makes it perform its function *well*." (Aristotle c. 380 BC)

Plato's definition is utopian - something which has 'quality' is closer to its 'ideal' form than a similar thing that is of poorer quality. Aristotle is defining quality as fitness to purpose. The first is metaphysical: it cannot be measured; the second is realistic: it can be measured, so Aristotle might be regarded as the father of modern quality systems. This is not to say that 'fitness to or for purpose' is not still contested. A favourite writer of academics on quality is Pirsig (1976). His most quoted claim is:

“Quality is, how do you know what it is, or how do you know it even exists? If no one knows what it is, then for all practical purposes it doesn’t exist at all. But for all practical purposes it does exist.”

This is followed by a couple of hundred pages of fascinating metaphysical discussion attempting to gain some grasp of this elusive concept. Metaphysics, unfortunately, is of little immediate, practical use in assuring the ‘quality’ of a product whether it is an automobile, a school curriculum or a research degree; which is not to say that quality experts totally reject the elusive, subjective element in the experience of satisfaction. For instance, a past Chief Inspector of Schools commented:

“Quality is quite important and I, like others can recognise it when I see it – Maradonna’s second goal against England in the 19th World Cup...” (Melia, 1990)

or, perhaps even more surprising, given his considerable influence on the successful development of the Japanese model of excellence in the West, Tom Peters (1990): Quality is all about:

“...getting the customer to say WOW!”

This simplistic, apodictic, definition, ‘I-instinctively-know-it-when-I-see-it’ might be attractive but, like the utopian definition, it is subjective and therefore unmeasurable.

Fitness to purpose, however, is a much more useful concept, especially if ‘purpose’ can be defined as ‘satisfying the customer’. This is an easily acceptable concept for manufacturers. Generally speaking, if consulted, as market researchers aim to do, customers universally want well-designed, well made products at the cheapest possible price. The BSI/ISO Quality Management Standard (ISO9001 Series) quite clearly defines quality as “...satisfying customer wants and needs,* A company, of course, must further clarify this in the context of its mission, aims and objectives. The Japanese were clear from their original approach to Deming and Juran that they wished to transform the quality of their manufacturing industries so as to gain a world-wide reputation with customers for excellence. This they successfully achieved and the rest of the world has followed their lead. It is interesting to note in passing, that the Japanese seem to have avoided philosophical arguments about *quality* by concentrating on *outcomes*. ‘Improve the process and the quality will improve itself’ is the Japanese approach – TQI, perhaps, rather than TQM. This is not to say that their ‘gurus’ do not have interesting contributions to the ‘quality debate’. Taguchi (1986), for instance, exhorts designers to concentrate on the differences between *species* and *product* quality. There is no point in arguing about *species* when we should be focussed on *products* – in simple terms to attempt argue that a Bentley is a better quality motor car than a Mini shows a total misunderstanding of quality. The designer should be aiming to make the Bentley the ‘best’ high-quality motor-car of its kind, and the Mini the ‘best’ popular motor car. This places the Japanese approach firmly in the ‘fitness to purpose’ camp. The implications for different kinds of qualifications should be obvious.

However, educationists at every level have, understandably, rejected out of hand the idea that children or students can be regarded as ‘products’ and continue to resist the customer paradigm. They ask: Who is the customer? Claiming that it is impossible to identify any one, single customer as everything depends on the context. Can children or students be described as customers? Educationists are agreed that teaching and learning is a transaction

to which the learner makes a significant contribution, indeed, where deep learning takes place, the most important contribution, so that in the most successful transactions, the teacher is also a learner. Is the teacher the student's customer? What about the post-graduate researcher who provides his/her professor with data etc. for the next paper or book? Similarly, a parent, a Professional Body, a Local Authority, a Government, a Research Council or some other contractor could all be regarded as customers. Clearly, they have different and conflicting requirements. There is no shortage of literature on the subjects of either quality in education or the nature of the customer or consumer, see : the whole of the *British Journal of Educational Studies*(1992); Bookman (1992); Barnett (1992); Pollitt (1992); Harvey *et al* (1992); Harvey and Green (1993); Richards, (1994); Kis *op cit.*(2006); Hackett (2011); Watson (2011). The basic reservations about the intangible, elusive non-measurable characteristics of quality in education and the range of different 'customers' have changed very little since the 1990s. Harvey and Green, whose work has had considerable influence both nationally and internationally opted for an 'excellence' model of quality and preferred the descriptor 'stakeholder' to customer. Kis *op cit.* (2006) comments that (a) the 'excellence' model sometimes used in conjunction with 'fitness-to-purpose', 'zero defects' or 'value for money' is now widely used, globally and that, whilst 'consumerisation' is equally generally resisted, in regimes where institutions have a high degree of autonomy (e.g. USA, UK, Germany, Scandinavia) 'accountability' is becoming an increasingly important issue and (b) that the descriptor 'stakeholder', presumably because it is just about acceptable to academics, is also more less or less universally used.

The answer to the questions to whom and for what are academics, education institutions (public or private), or manufacturing or commercial enterprises accountable is not straightforward. It might seem obvious that the latter are accountable to their customers who want value for money and will go elsewhere if they do not get it. However, there is nowadays a growing pressure on private enterprises to be ecologically and socially accountable. There are BSI and ISO standards for such matters. As we have already noted, education organisations have a multiplicity of stakeholders frequently with conflicting interests, not only to society for its future wellbeing and prosperity through the education of its children, teenagers and and students but also to subject disciplines, other academics and professional bodies. For 'society' read government, especially for state institutions where governments or their agencies are the paymaster. Though there may be other paymasters or sponsors – for research projects, for instance. In developed and more and more in emerging countries, governments are investing vast sums of money in pre-, primary, tertiary and higher education. In the UK the Government is pouring over ten billion £ Stirling into state education. Tax-payers' and hence governments' anxieties to be ensured that 'value-for-money' can be demonstrated are hardly surprising.

In the private sector, standards are not problematic since aiming for ever higher standards of quality is seen as encouraging the customer to trust in the quality of the product. Achieving a recognised standard improves market credibility. In contrast, academics express deep concerns about academic standards, in respect of both schools and universities and schools are also held accountable for the development of the appropriate moral and social values of young people. In addition, standards require *compliance* and compliance entails loss of *autonomy*, an intolerable proposition to academics and to a less extent schoolteachers, hence the reservations about standards:

“The difficulty in talking about standards is that the concept is like ‘truth’, or ‘goodness’, or ‘beauty’, both logically indispensable and impossible to define without, considerable philosophical elaboration.” (Pring, 1992).

Furthermore, at a more practical level, slavish adherence to a ‘standard’ can be a serious barrier to innovation and progress. This is particularly true of normative standards or descriptive statements which are prescriptive, stating how things ‘ought’ to be done, like a subject curriculum or a medical procedure. Ironically, apocrypha has it that ‘ought’ is the most overworked word in the schoolteachers’ vocabulary.

Criterion-referencing, in contrast, sets out what must be achieved to reach a standard. The Council for National Academic Awards (CNAA – 1965-1992), set up by the UK Government in 1965 as the degree awarding body for the new Polytechnics in the UK was also the custodian of the degree standard. To gain accreditation the institution had to demonstrate that it could meet and sustain a threshold academic level. This did not preclude later changes and improvements. One of the reasons the ‘new’ – post 1992 – universities in the UK were less neurotic about the role and function of the QAA (see below) was because for over 25 years they had been part of the CNAA system, which included peer validation, institutional review and annual monitoring. The uneasy relationship between universities and governments is neatly summed up in a THES editorial in 2001:

“Universities, have sought over more than a decade, to do as little as possible consistent with keeping governments off their backs. Governments have, in consequence, become increasingly frustrated and meddlesome.” (THES editorial, 2001).

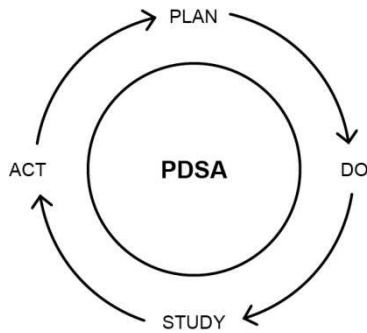
4. Doing quality

As outlined in the first section, the Japanese are credited with initially developing the philosophy and methodology of continuous improvement with the aim of achieving product excellence. This approach they called *kaizen* which translates as ‘making things better’ (Ohno; Ishikawa. *op cit.*). It is founded on the principle of the total involvement of the whole workforce – that is to say everyone, from the top down. To succeed, the enthusiastic support of the senior management is essential. One of the key elements is the *quality circle*, a small group of 6 – 9 workers, which engages in *problem solving* of issues related to their work. The idea – ‘if you want to improve something, ask the people who do it’ – seems pretty simple and straight forward. Nevertheless, it is an anathema to top-down management systems of the sort which developed post-Taylor. Another key principle is to take small steps. It is proposed that consolidated small steps achieve more than attempting to change in leaps and bounds. Of course, senior managers have to listen to what the quality circles suggest: another characteristic not common to Western managers, at the time.

4.1 Quality tools for TQM, QA, QC and QI

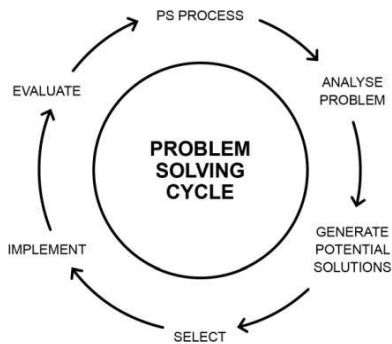
The *quality tools* originally developed to support *kaizen* are aimed at identifying and solving problems and improving processes. The most commonly used are:

- **The PDSA cycle:** This is the basic methodology of continuous improvement:

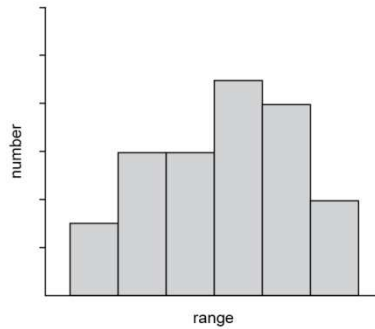


Plan = a change or a test aimed at improvement; Do = carry out the change or the test (preferably on a small scale); Study = what did we learn? What went wrong? Act = adopt the change, or abandon it, or run the cycle again (Deming, 1993).

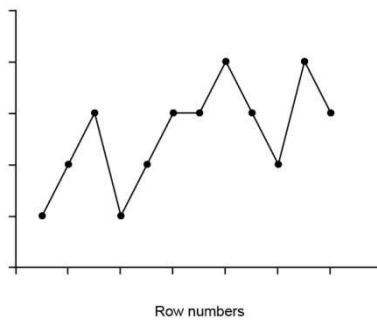
- **The Problem solving cycle:** is a version of PDSA specifically focussed on problem solving:



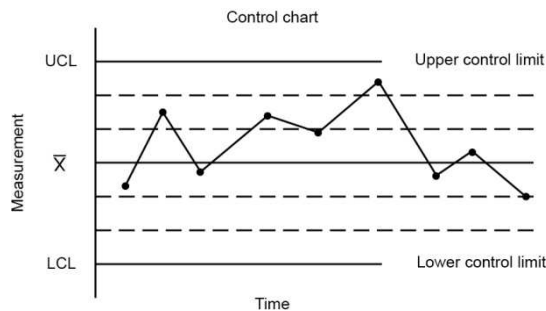
- **Brainstorming:** An effective and enjoyable method of getting a huge number of ideas related to a given issue from a small number of people in a short space of time. It is a 'feel free' meeting, which has some important rules: e.g. no one should be criticised; anything goes, no matter how outlandish. Brainstorming sessions are not without structure: there must always be a leader; all ideas should be written down on a flip chart; time must be apportioned to brainstorming the issue and to reflect on and evaluate the ideas generated.
- **Flow Chart:** A relatively simple way of describing or mapping a process, mapping from start to finish. **Analytical Flow Charts**, which are rather more complicated, are so commonly used throughout the world that the international symbols used can be found in the 'insert' section of the Windows Vista control bar (Bank, 1992; Implementation Group of the BDA, 1995)
- **Histogram:** is a graphic illustration of data distribution (also in the Vista 'insert' tool bar).



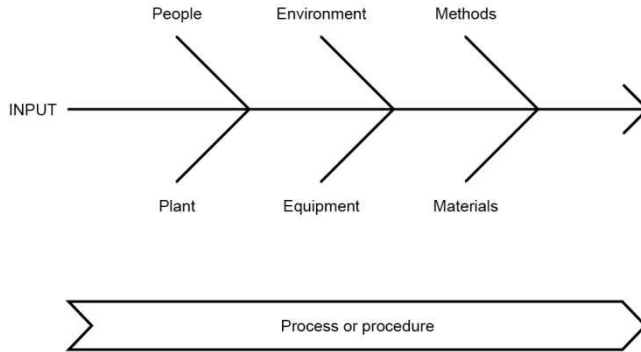
- **Run Chart:** Another effective tool for presenting data, a line graph illustrating how a process changes over time.



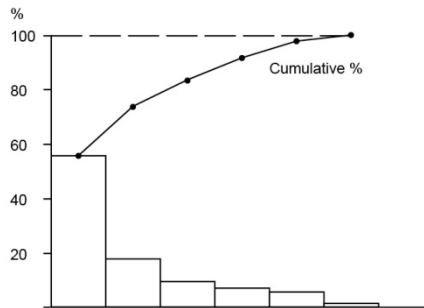
- **Statistical Process Control (SPC):** A much more sophisticated chart which demonstrates the variation of a process between upper and lower control limits. It enables distinction to be made between '*special*' and '*common*' causes of variation (Neave, 1990) This is one of the basic tools for straightforward product improvement but it is very difficult to apply to outcomes which are not numerically measurable, e.g. in education, health and social services.



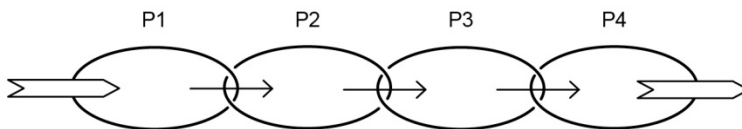
- **Cause and effect or fishbone diagrams:** conceived by Ishikawa, this diagram aids in analysing a problem in the context of a complete process:



- **Pareto analysis:** Pareto was an Italian economist who noticed that in many unequal distributions about 80% of a problem could be attributed about 20% of its causes. This has become known as the Pareto Principle. If the 20% can be identified, problem solving can be focused more effectively on the 80% - student or staff absenteeism, for instance.

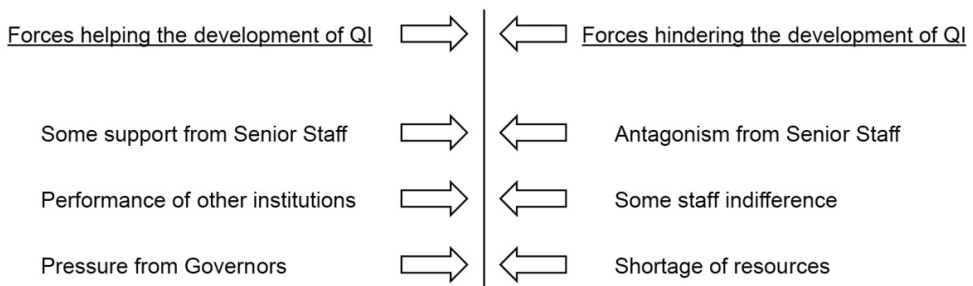


- **Paired comparisons:** a method of helping a group to quantify preferences. Each option (e.g. potential solution) goes head-to-head with every other option. In each 'face-off' members vote for the option they prefer. Votes are totalled when all the comparisons have been made.
- **Customer chains:** a frequent cause of 'hold-ups', poor communication and loss of quality is the breakdown of customer chains. Most outcomes involve several linked processes. When one process is completed, the next process is the 'customer', so to speak, of the former process:



This represents an internal customer chain, where the P1 team is responsible for the quality management of what they hand over to P2 and so on. A breakdown anywhere in the chain can have serious consequences; hence: 'we are only as strong as our weakest link'.

- **Questionnaires:** common sense suggests that the obvious way to find out what the 'customer' wants is to send out a questionnaire, so this is a favourite resort of market researchers and even, in large organisations, internal QA. Of course, in matters of scientific, empirical research common sense is a poor guide. Questionnaires are an essential tool for sociologists. There are serious statistical problems in respect of sample size, response rate, validity, reliability and construct validity. Devising and testing an acceptable questionnaire for a piece of social science research can be quite expensive and time-consuming. However, many QA and market 'researchers' have a much more pragmatic, broad brush interest in gaining a quick turn-around. In the UK and many other countries *Student Satisfaction Surveys*, constantly contested by academics have been introduced. School Inspectors send standard questionnaires to parents – one size fits all wherever or whatever the type of school. There are also more carefully constructed questionnaires available such as *SERVQUAL*, devised in the 1980s to measure satisfaction with services, which has been applied to student satisfaction and variations such as *PERFSERV* and *HEdPERF*.
- **Benchmarking:** requires researching 'best practice' in the field of activities an organisation is involved in. There is a useful overview of its use in HE in Jackson (2001). The aim is to identify specific activities where improvement is perceived as necessary. Usually, it is external, which is likely to lead to the best results, especially where innovation is sought, though it can be internal, where some part of the organisation is outperforming the others. It can be an effective, though costly and time-consuming, contribution to quality improvement.
- **Force-Field Analysis:** a means of identifying forces helping and hindering the institution or section to get from where it is to where it wants to be. This can be a very helpful tool for achieving aims or circumnavigated intractable opposition e.g.



- **Quality Function Deployment (QFD):** is a quite complex method of identifying customer needs. 'Listen to the voice of the customer' is a cornerstone of TQM. First, the customer's requirements for x are agreed, x is delivered and then both the evaluation and the provider's evaluation of how it was delivered are compared. There is a very interesting account of the application of QFD in Thakkar; Deshmukh; and Shastree (2006).

There are a huge number of books and journal articles elaborating these tools. A very clear account of the most frequently used can be found in Banks, J. (*op cit.*1992). For a really down-to-earth account of how to use most of these (and other) quality tools, see Rank-Xerox (1993). A really positive effect of training people to use these tools is that everyone can become involved – cleaners or senior managers. They are relevant and useful in indentifying straightforward or complex problems, whether the process is simple or complicated: extensively used by quality circles (see below) or improvement teams they encourage the sense of involvement or ‘empowerment’ across whole organisation.

4.2 Performance indicators

Performance indicators, of which there are many, have been around for a long time in education. We have already noted that the first school inspectors were implementing ‘payment-by-results’ in UK state schools through performance outcomes, including tests in the 1830s. Some, e.g. financial indicators are not necessarily directly related to quality (though procurement might be). The following list considers only those that are obviously relevant. Also, as far state schools, FE and HE Colleges and Universities are concerned, many resources are either centrally required by statutory regulations or in the UK and USA Local Authority (LA) and District requirements:

- **Provision:** area per pupil/student; staffing budget; building maintenance; capital expenditure; staff development budget; procurement; unit costs; marketing expenditure.
- **Process:** student/staff ratio; average student hours (HE and FE), average teaching staff hours (full and part-time); average class size (schools); % pupil/student attendance; staff absenteeism; quality of teaching and learning; space utilisation; consumables; pupil/student/staff support.
- **Progression:** examination results; progression ratio (schools =secondary to tertiary; FE and HE = annual retention rate); progression to post-graduate study (FE and, mostly, HE); successful employment; added value (AV) and contextual added value (CAV); post-graduate degrees, including doctorates, awarded; research grades awarded (UK).
- **Targets:** very popular where the pressure to make improvements in outputs is strong in either state or private sector enterprises. They are now extensively used by government in education (and in other public services) as a means of exerting pressure on schools, colleges and universities to meet priorities and improve and/or monitor such matters as academic progress, admissions, progression through the system, and employment. They are also used internally for similar purposes and are thus perceived by many staff as instruments of external or internal managerial coercion. Hitting or falling short of targets contributes to league tables, much hated by the profession, but loved by governments and the media as a beating stick. The attraction of targets and league tables to the paymasters can be contrasted to their rejection, as much on philosophical as statistical grounds, by TQM gurus such as Tribus, M. (1994) and Deming (*op cit.* 1993). Deming regards numerical goals (both in industry and education) as futile and counterproductive, concluding: “ducation “should be a system in which pupils on up from toddlers through the university take joy in learning, free from fear of grades and gold stars, and in which teachers take joy in their work, free from fear in ranking.”

- **Contextual value added:** in education value added is usually calculated by measuring performance (using Standard Attainment Tests ((SATS) or some equivalent) at the beginning of a stage (primary, secondary etc.), working out by means of complex (and contested) statistical methods what the expected attainments, weighted for social and economic background should be and giving it a numerical score. Thus 100 = expected attainment achieved and anything above 100 = *positive value added* and anything less = *negative value added*. Apart from the dubious methodology, the fact that this is an 'industrial' *input - output* process does not endear it to educationists. It is the 'holy grail' of their paymasters.

Where performance indicators can be measured, even when the outcomes are somewhat intangible, they are regarded as 'hard' indicators or 'metrics': in the UK, for instance, Ofsted inspectors grade teachers and QAA Subject Review teams used to grade teaching quality, though individual scores were never divulged. It must be emphasised that QA, QC, QI and TQM are not synonymous. Although many of the tools were designed specifically to facilitate the development of TQM, which *is* a system and will be discussed below, for the most part in themselves they are neutral. They can be utilised to improve quality from a variety of conflicting ideological stances. Command economies have as great a need to produce high quality goods and services as capitalist economies. Different organisations will have differing mindsets and values and therefore differing priorities. Coercive governments and managements can, and do, make very effective use of targets and other quantitative measures (all of which encourage the development of league tables). Essentially, performance indicators are impersonal can easily be used to provide a stick with which to intimidate the uncooperative or ineffective employee. In contrast other organisations, inspired by human relations organisation theory, will use quality tools as they were designed: to encourage and facilitate worker involvement and empowerment.

It is not the purpose of this chapter to venture into the domain of sociology. However, a frequent criticism of QA, QC, QI and 'quality' in general is that they require a 'tick-box mentality' and encourage the development dull and brutish bureaucracies. On the contrary, if an organisation's management style is creative, positive and entrepreneurial so will be its approach to QA. State education is now mass education at all levels, primary, secondary and tertiary. Schools with 1300+ pupils and colleges and universities with 20,000+ students are so huge that some level of bureaucracy cannot be avoided, nor can management and leadership even if the management style is 'collegiate' - more about this later.

4.3 Systems

'Systems' is used here in the sense of a coherent way of doing something - Quality Assurance - not in the sense of everything that goes on in the black box. Organisation theory and organisational development is a different and much larger subject including, for instance: Normative Strategic Management; Management by Objectives; Human Relations Theory, etc. QA of some kind will be part of the larger enterprise, even if it is a small or medium-sized firm, a small Primary School or a University with thousands of students. TQM is one quality system which can be described as a complete organisational system in itself, so we will deal with this first.

- TQM

TQM was the name given to W. Edwards Deming's concept of transformational quality management. It inspired the Japanese industrialists and was eventually embraced in the West. It is nowadays peddled, in various forms, by a multitude of management consultants. TQM reaches far beyond QA, its underpinning philosophy being grounded on a passionate belief in a positive attitude to human nature. Deming and his followers call for a radical change not only from closed to open management and leadership styles but also to Government attitudes and policies, especially to education. It is a holistic management system requiring a system-wide quality culture in which everyone in the organisational hierarchy from the bottom up takes responsibility for her/his contribution to the whole: hence 'total'. Taking a risk is encouraged; mistakes are tolerated and regarded as learning experiences' rather than blameworthy; suggestions for improvement are encouraged, evaluated and adopted where appropriate. This is what is meant by 'empowering your people'. Unfortunately, the meaning of the word 'empowerment' has been debased through casual usage. In *The New Economics* (1993, *op cit.*), Deming describes his version of TQM in detail in the context of current practices in Western Industry. Government and Education: all three he puts to the sword:

"What they do is to squeeze out from an individual, over his lifetime, his innate intrinsic motivation, self-esteem, dignity. They build into him fear, self-defence, and extrinsic motivation. We have been destroying our people."

The cornerstone of his system is the famous key 14 management points. These call for: commitment to focus on quality - both of incoming resources and the continuous improvement of the quality of outcomes: active participation of all members of the organisation, improved communications (bottom up and the top down) and cooperation and coordination: the importance of meeting customer needs: the driving out of fear: the substitution of inspection by procedures which detect errors and encourage continuous quality improvement. To transform the product, whether it be manufactured or a service, the culture of the entire organisation needs to be transformed - an aim which is neither easy nor swift to achieve.

Given its positive, optimistic view of human nature, transparent and easy communications up and down the organisational hierarchy, commitment to the mission and shared values, it might be thought that TQM would be attractive to academics. To some extent this has proved correct. Sallis and Hingely (1992) give a clear account of TQM and its take up in education and an abundance of books and journal articles have been published since. There are several journals in the UK and USA devoted to quality e.g. *Quality Assurance in Education*, and the *Journal for Quality and Participation*. There is more in the American journals about TQM in schools than in those in the UK, where the concentration is heavily weighted towards HE and FE. Professor Geoffrey Alderman put the case for TQM in HE rather persuasively, if not rationally:

"...(the university approach) is grounded unashamedly in a total quality management (TQM) philosophy. Because TQM represents a holistic approach to the achievement of quality because it stresses the part everyone in an organisation has to play for quality overall and because it places a premium on the ideas of constant improvement, cultural evolution, quality circles and team work. Its approach strikes a chord with academics, and its philosophy has found a number of academic champions - even if some of them practise TQM without being aware of it." (Alderman 1996).

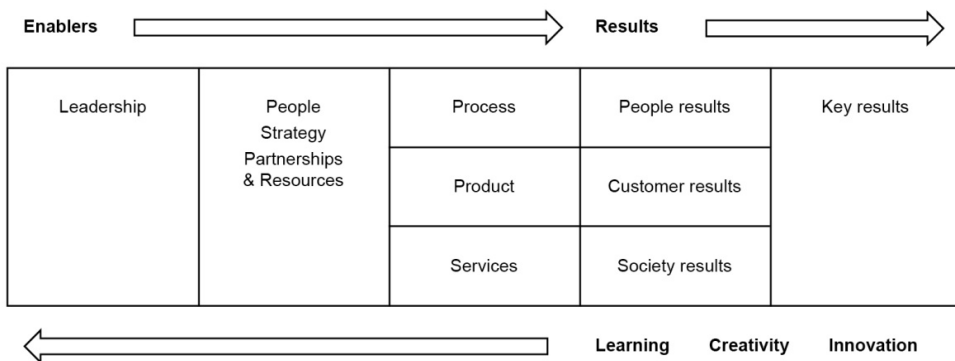
However, the Sallis and Hingely report shows that the impact of developments in TQM was greater and more widespread in FE than in HE, probably because of the vocational orientation of FE. A comprehensive guide to the implementation of Strategic Quality Management in FE Colleges (Miller & Inniss 1992) was commissioned by the UK Department of Employment. By 2000, the BEM (Business Excellence Model) approach was well established in some UK FE Colleges (McAdam & Walsh (2000)). This tendency is even more marked in 2011 than it was in the 1990s. Currently, the European Union provides strong support for the development of harmonised QA processes for vocational education across its member states through EQAVET (European Quality Assurance in Vocational and Educational Training). EQAVET provides a wide range of support and training and there is now a European Centre for the Development of Vocational Training one aim of which is to establish a European framework for quality assurance based on EQFM.

- Lean Six Sigma

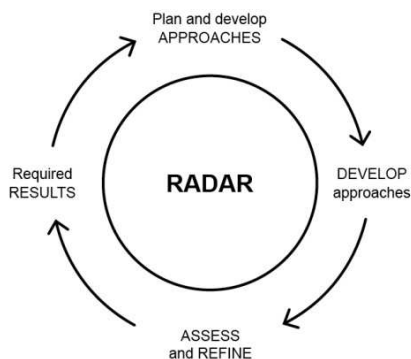
Six (or 6) Sigma is a potent quality control metric, originally developed from Shewhart’s process control statistics at Motorola in the 1980s. Sigma (σ) is the symbol for standard deviation in statistics and Six Sigma is a means of driving down deviations (errors) in a process to an incredibly small per cent. Over the next twenty years it progressed to a much wider application in an organisation. The method is known as DMAIC – Define an opportunity; Measure performance; Analyse opportunity; Improve performance; Control performance. Recently it has been linked to *Lean Manufacturing*, generally referred to as **Lean**. This is a process method derived from the Toyota Production System (TPS), dating back to the 1950s. This aims at eliminating waste thus maintaining value whilst reducing work i.e. it links back to ‘zero defects’, ‘Taylorism’, ‘Time-and-Motion’ and ‘Fordism’. These links with the attitudes and values of mechanism and mass production would not seem very attractive to academics; nevertheless, there are examples of its application in HE (e.g. Dorman 2011).

European Quality Foundation Model (EQFM)

The European Quality Foundation Model (EQFM) and the British Quality Foundation Model (BQFM) are effectively the same. They are sometimes jointly referred to as the *Business Excellence Model* (BEM). These systems can be applied equally well to Service Industries or Business and Manufacturing. The model is now well established across Europe with over 30,000 firms participating, including the education sector. The model comprises nine criteria:



The various elements are differently weighted. Firms assess themselves against the nine criteria. Based on their self-assessment, they can then apply to be *recognised* as a firm having achieved sustainable excellence. The highest accolade is to win the EQFM *Quality Award*. The Foundation trains assessors from member firms, so the assessment method is essentially based on self-assessment followed by peer-group assessment. Firms are encouraged to use the RADAR improvement process:



Essentially this is the same process as PDSA and any of the QA and QI tools can be appropriately applied. The model is NOT a standard. It does not lay down how to do anything, only the criteria by which the achievement of excellence will be judged. The links between the EQFM and TQM are obvious. Like TQM, the model allows academics to retain their autonomy, though it does require external, third party assessment. The American parallel is the annual Baldrige Awards. Unlike the EQFM awards, Baldrige is nationally administered by the National Institute of Standards and Technology. The Awards are presented by the President. They were officially set up by public act in 1987 and, since then the scope has been widened from a focus on manufactured products to include services and education; Baldrige is now referred to as the Performance Excellence Model. Criteria for the awards are remarkably similar to EQFM – including such elements as: leadership; improving performance and results; strategic planning; customer focus; measurement and analysis; developing a learning organisation. Schools have figured regularly since 2001 in the Baldrige Awards but less frequently in BQFM and EQFM awards.

ISO 9000 (series)

ISO 9001 was derived directly from the British Standard BS 5750 (Series) – ‘series’ means that there is more than one version of the standard, e.g. an enterprise opts for the basic management standard or for the inclusion of an extra clause covering product design. Opting for product design made achieving the standard significantly more difficult. BS5750 was immensely influential and regarded as a general guarantee of ‘quality’. By the 1990s firms outside the UK were seeking registration. In the 1980s the American National Standards Institute (ANSI) adopted the standard unchanged and in 1987 the International Standards Organisation (ISO) adopted BS5750 as the basis of ISO 9000 (now 9001 Series). The ISO keeps its standards under constant review through a system of technical committees and the standard has been refined over the years. The most important

developments were made in the 2000 version which placed increased importance on process management and continuous improvement. Nowadays, well over one million firms are ISO 9001 registered.

Like BS5750, which it has replaced, ISO 9001 is a documented system, so that evidence of its effective implementation can be produced at any time. Certification, which can only be given by an Accredited Firm, is not based on self-assessment, but on the production of a *Quality Manual* containing an account of how each of the clauses is interpreted and how it will be implemented. Every member of the company, whatever her/his position in the hierarchy is expected to know the contents of the *Quality Manual*. The manual must also give a clear account of the enterprise's interpretation of quality (BS 5760 and ISO 9001 both define quality in terms of customer wants and needs), its management policies, how the system will be continuously improved and how it will be internally audited. Certification is not permanent. Regular auditing by an accredited auditor is also a requirement. Auditing, internal or external, is not inspection of the quality of products. Error free delivery of the quality system as set out in the *Quality Manual* is the criterion. Auditors are trained professionals. No preparation for an audit is needed. Auditors ask to be shown the appropriate documented evidence: either it is there or it is not. Minor errors, if there are not too many of them, are acceptable – provided the enterprise later produces evidence that they have been corrected. Systems failure results in loss of Certification – obviously a dire consequence for a firm's reputation for quality. *Compliance* is thus a key element in certification.

ISO 9001 is not an immediately obvious choice for education, especially schools and universities. Compliance and autonomy are seen as opposites, though the compliance required by ISO 9001 is compliance with what you say you have already decided to do rather than compliance with what someone else has told you to do, also educationists claim not to know whom their customers are. It is also perceived as a 'tick box', mindlessly bureaucratic and costly system – resources are always in short supply in state schools. Only one university in the UK (Wolverhampton) has successfully pursued the BS5750/ISO 9001 route. The process and the pros and cons are well documented (Doherty, 1993, 1995; Storey, 1993). Much more interest is shown at departmental and subject level, particularly where quality systems are taught as part of the curriculum in Engineering Departments and Management and Business Schools (Thorhauser, T. & Passmore, D.L. 2006). This contrast in attitude between departments and institutions is remarked on and criticised by Matthews, (1993) as an example of double standards in academia, resulting in the "real danger" of universities and colleges teaching one set of values while having a different set for themselves. FE Colleges in the UK and Technical Colleges in the USA and elsewhere (CEDEFOP, 2010) still show more interest in implementing the BEM than schools and universities.

4.4 Inspection

As we have seen, inspection by 'men in white coats' has long been regarded as counter-productive in industry and commerce though quota sampling might be used as a quantitative quality measure. Inspection is used here as a 'third party' and overtly impartial examination of a product, company, institution or part of an institution to assure the quality of what is being delivered. The most common are School and FE inspection and HE Review

for which the Office for Standards in Education, Children's Services and Skills (Ofsted) the Quality Assurance Agency (QAA) respectively are responsible in the UK. Ofsted is a quite small government department that contracts out its inspections to various private education consultancies. Developed countries have similar arrangements. The QAA is a not-for-profit limited company. It is a statutory body in England and a registered charity in Scotland and Wales. Agencies, many modelled on the QAA have sprung up, particularly in the Pacific Ring and Australia. In the USA and South America all QA is contracted to private agencies, although there are national guidelines provided by such organisations as the Council for Higher Education Accreditation (CHEA) and the Central American Quality Assurance System (CAQAS). In addition to nationally orientated agencies, there are also Professional Bodies, some which have stringent codes of practice and QA requirements, for instance to name but three of dozens: Law; Psychology; Engineering. Again, professional bodies are established in all developed countries.

QA must have something to assure, there must be a product. As we have noted, there is some difficulty in defining the product of schools, colleges and universities.

Currently, the nearest to a consensus is to define the product as 'teaching and learning' or 'learning experiences', where 'teaching' is subsumed into 'learning' as one of the experiences, as it were. Practically all are agreed for philosophical and ideological reasons that the pupil/student cannot be the product. Furthermore, she/he is an active participant in a process where transactions between the teacher and learner are happening all the time. In addition, the product must have a 'purpose'. Purpose generates as much disagreement as product, among educationists, that is. Sometimes purpose is defined by Government 'policy'. In the UK, for example, the 1944 Education Act was quite clear that the purpose of education was to ensure equal opportunities for children to receive free education up to age 15 and later 16, suited to their abilities, allowing them to achieve their full potential. Subsequent to the Robbins Report of 1963, this principle was extended to HE. The Report, incidentally, was also quite clear about the purposes of HE which included "...the promotion of the general power of the mind so as to produce not mere specialists but, rather cultivated men and women." There have been many Acts since, but this principle remained more or less firm until quite recently. In the 1990s, UK Governments have toyed with the idea of 'marketising' education with a view to raising performance through 'market' competition. University fees were re-introduced in 1998 and have been a political bone of contention, sometimes quite violent, ever since. The political, ideological and financial arguments surrounding these developments are not relevant here, but the practical implications are. Charles Clarke, when he was Secretary of State for Education in 1992 claimed that the purpose of HE was to contribute to the development of the UK's economy and society in the context of global change. This purpose is out of kilter with the Robbins' principle and is a clear example of political pressure on both education providers and those responsible for assuring the quality of their products.

Ofsted: Ofsted's methodology has evolved over the years, becoming leaner in the process. Prior to 2005, two months' notice was given of an impending visit. This was followed by a large team of inspectors who spent a week in the school. Every teacher was observed and the management of everything from finance and resources to the curriculum was scrutinised. Post 2005, two days' notice via phone call is given and a much smaller team visits the school for a few days. The key document a school must complete is the *self-*

assessment form, in which it is required to provide a detailed self-assessment of such elements as Senior Management, Curriculum Content and Management, Teaching and Learning, Student Achievement, Resources, Student Behaviour and School Governance. The touch is lighter, considerably lighter for high performing schools. Elements, including teaching and learning are graded: 1 (outstanding); 2 (good); 3 (satisfactory); 4 (inadequate). Schools are graded overall as: 1 (outstanding); 2 (satisfactory); 3 (failing). *Failing Schools* are put in *Special Measures*, usually resulting in the replacement of the Head Teacher and Senior Management team and other draconian measures designed to turn the school round. The criteria for all these grades are clearly set out at length in widely available Ofsted documents.

This current methodology is destined to change in 2012. The self-assessment is to be dropped and the inspected elements narrowed to five. The method is intended to be 'proportionate', so that for instance, 'outstanding' schools will not be inspected at all, unless certain alarm bells begin to ring. The new procedures are currently under discussion, but will be agreed and advertised in time for a September 2012 start. Some variation of this methodology is common to most other school and college inspection systems. Generally, following Ofsted visits, schools either set themselves, or are set targets for improvement by other bodies with responsibilities for school performance – such as Local Authorities.

Quality Assurance Agency: like Ofsted, the QAA has changed and evolved since its predecessor was set up 1992 by HEFCE. This was the Quality Assessment Division, which first embarked on Subject Reviews. It was fairly quickly replaced (1997) by the Quality Assurance Agency (QAA), an independent agency partly funded by subscriptions from the universities and partly by government and other contracts. Like Ofsted, its methodology has evolved over the years. Originally, there were two arms to QAA methodology – *subject review* and *institutional review (or audit)*. Subject departments were reviewed in turn and then the cycle started again. Departments were required to produce a self-assessment, which was then used as the basis for the visit by a small team of reviewers (usually 3 – 4). Review teams were led by a Review Chair chosen from a fairly small cadre of self-employed professional quality consultants together with peer-group reviewers all of whom had completed a QAA training course. A cross-section of teaching was observed and a grade (1,2,3,4) from good to unsatisfactory awarded. No lecturers were named. A distinction was drawn between *academic standards* – those aspects concerned with curriculum content, student numbers and attainment – and *quality of student experience* – resources, student progression and student support. In contrast, Universities and Colleges were reviewed by a similarly composed, but larger, Audit teams.

With various adjustments over the years, this two-pronged approach lasted until 2001, when regular *subject review* was discontinued in favour of periodic *institutional reviews*, with closer scrutiny of subjects only where there appeared to be cause for alarm. After lengthy consultation with the institutions, a new, even leaner and more flexible version of review has been agreed for implementation in 2011. To support the review process, the QAA publishes a series of booklets which have evolved over the years through consultation and collaboration with universities and colleges, setting out the *Academic Infrastructure: Frameworks for HE Qualifications; Subject Benchmark Statements; Programme Specifications; Code of Practice*. The Agency is a full member of ENQA (the European Network for Quality Assurance) and its methodology has had considerable, world-wide influence (Mok, K. 2005).

Both the *inspection* and the *peer review* models attract often cogent criticism, especially from dissenting academics. Even peer observation, except when it is voluntary, is opposed on the grounds that the observer warps the learning experience and that it is impossible to grasp and properly measure the elusive 'quality' factor. Other common criticisms are that they are costly and disruptive, diverting resources away from supporting educational objectives. Preparation for a major inspection or QAA visit would begin months in advance. Writing and editing the self-assessment or completing the self-assessment form was a major task and everyone involved in the event needed to be thoroughly conversant with it: all of which diverted concentration away from the core activity of teaching. To these negative effects can be added: lowering staff morale; the encouragement of 'teaching to the target'; departmental and institutional gamesmanship; increased bureaucracy and managerialism. A further limitation, is that both approaches are heavily weighted towards teaching and learning. They are not coherent holistic systems looking in equivalent detail at the contribution of administration, procurement or the learning environment although as they have evolved over the last two decades, what counts as quality of experience has widened considerably. The progress made towards leaner methods and lighter touch in inspection methods in the UK can, perhaps, be partly attributed to the influence of the Business Excellence Model. In 1998 the Cabinet Office set up a task force for Modernising Government Quality Schemes which produced a report, *The Next Steps Report*, recommending the encouragement of three initiatives: The Charter Mark; Investors in People; and the BEM. The influence of TQM methods can be seen in the development of Ofsted criteria, the increased range of qualitative elements and the collection of data related to 'customer satisfaction' – parents and students.

Over the last two decades there has been a steady stream of research papers focused on specific quality tools, for instance: Thakkar *et al. op cit.* (2006); Leadership (Osseo-Assare, *et al* 2005); Service Quality (2005); SERQUAL and other service tools (Deshmukh, *et al.* 2006). The most notable development since the 1990s is the wide spread, global interest in QA systems. For example, a superficial content analysis of the contributions to the journal QA in E reveals that in 2001 c. 80% were from UK sources and most of the remaining few were from either the USA or Australia, whereas in 2010 90% were from non-UK sources, in which contributions from far eastern institutions and Spain, Portugal, Australia and the USA were the most frequent.

We have already noted that a wider perspective (Kis, *op cit.*) has shown that, while there has been some increase in TQM, EQFM and Baldrige activities in educational institutions including schools (in 2009 there were six school winners of BQF Quality Awards, three of EQF Awards and there have been regular school winners of Baldrige Awards for many years), it is neither extensive nor consistent. In their more specific research into ISO 9001 in US and UK universities (Thorhausen & Passmore *op cit.*) report on the generally favourable responses to the implementation of ISO 9001 but, interestingly, that many of those who had achieved registration were voluntarily relinquishing it, the most frequent reasons cited being cost and QA fatigue. Given the ever mounting pressure from governments, competition between institutions and the interest of other stakeholders – students, parents, employers – (not to mention the well known barriers to any kind of radical change in organisations) this is hardly surprising:

“There are multiple layers of overlapping audit, assessment, accreditation and external examining. However, that is only part of the burden; there is also the internal quality

procedures that have to be adhered to, including for many academic staff, annual module or programme reports, reporting on research activity and publication, periodic programme revalidation, occasional departmental or faculty reviews, possibly internal teaching assessments, internal audits, facilitating and responding to student feedback and individual performance review or staff development procedures..." (Harvey, 2005).

There seems some reluctance for social scientists to show interest in or commit resources to the effects of the BEM on education. Leonard, & McAdam, (2001) argue that there is a need for much more in-depth, qualitative, ethnological research in the field and suggest a methodology. Ethnological and anthropological research call for longitudinal studies: costly and attractive neither to quality assurers nor paymasters, both of whom like quick results. Moreover, governments, providing agents and their 'inspectors' tend to trust numerical data like league tables (however dubious their reliability) rather than qualitative data. Other factors militating against large scale quality research programmes are, again, the lack of a generally agreed theory of quality and the sheer size of TQM and BEM initiatives, which involve the whole organisation and its people, not just bits of it. Ironically this makes it easier to restrict research activities to one department rather than the whole institution. Finally, there is the general aversion to, and lack of trust in any approach derived from a manufacturing source.

5. Culture shock and conflict

There is pretty well universal agreement among writers on quality about one thing at least, namely that quality initiatives of any kind are doomed to failure without the development of a quality culture in the organisation, something very difficult to achieve. Superficially, at least, 'culture' is not such a contested subject as 'quality'. Applied to people, its dictionary definitions which include: common beliefs; characteristic ways of doing things; behaviours; prejudices; customs and values, appear to be generally acceptable. Thus developing a TQM 'quality culture' involves developing a commitment from every member of an organisation to place a high value on error free, continuous improvement.

Organisation theory is an important element in Business and Management Programmes. The literature on organisations is extensive and beyond the scope of this chapter. However, both TQM and BEM call for an open, cooperative, consultative management style. There is also general agreement that the culture of an organisation will stem from top management and that the development of a quality culture is impossible without the total commitment of senior managers. This is difficult enough in manufacturing and business, where the product and production processes are clear. As we have already seen, clarity is not a characteristic of education's purposes, processes or outcomes and the officially favoured 'quality' methods are *Inspection* and *Peer Review*, neither of which requires open, cooperative, consultative management styles. Atkinson (1991), a quality consultant not an academic writing for business and industry not academia, sets out an admirably clear account of the relationship between leadership, TQM and cultural change. Effective leadership is inspirational, charismatic even, generating in followers enthusiasm for and commitment to the task, whatever it might be. Leaders 'do right things', whereas managers 'do things right'. This is standard doctrine in the management and business studies curriculum. There is a strong tendency, therefore, for managers to cherish the status quo, especially in education, where the pace of change is notoriously slow. Two other problems he emphasises are the difficulty

of developing a change to commitment to quality in the workforce and the necessity for comprehensive training programmes before trying to introduce TQM methods.

The 'workforce' in the context of education is not a straightforward entity. There are two if not three quite different 'workforces' namely, academics and the support staff, which include administrators, and the rest. Administrators, even in small primary schools, have a culture of their own. They have been more favourably disposed towards quality systems, especially those which focus on 'error free' delivery, than academics. The Conference of University Administrators published its own TQM handbook (Doige & Whitchurch 1993). As already noted, there is not a great deal of research into institutional overviews of QA and TQM. Ehlers (2009) considers several currently popular theories of organisational behaviour and the importance of values in organisational development, concluding that TQM is the most appropriate approach to quality in the context of the culture of academic organisations. Harvey (*op cit.*) refers to the wide range of different QA agencies, reporting that, despite this variety nearly all of them use the same method – performance indicators and self-assessment followed by peer review. Other researchers, however, are more negative. Poole (2010) postulates that the cultural divide between QA professionals and academics is as wide as the rift between Snow's (1963) literary v. scientific cultures. The introduction of QA, in the shape of the QAA and perceived by academics as a time wasting irrelevance, is linked to Thatcherism and the rise of the New-Right ideology. He suggests that this cultural divide could be narrowed by consultation, participation and more emphasis on quality enhancement (all characteristics of TQM). Davies (2007) in a case study research reports that academic staff see EQFM as a 'managerial' attempt to become involved in 'collegiate' issues and have problems in trying to translate the 'business' language of EQFM into their terms. To involve academics, Davies suggests there should be more emphasis on teamwork, self-improvement and creating a supportive environment. In another attempt to assess academic attitudes based on interviews, Cartwright (2007) identifies a big discrepancy between the rhetoric of quality managers and QAA practice. Staff display cynicism, regarding the QAA methodology as bureaucratic, time wasting, and part of management intentions to exercise more control over academic autonomy, leading to a culture of fear and suspicion. These studies are based on small sample sizes, but they all report similar negative reactions.

The same themes have become a leit motif over the last two decades clearly demonstrating that academics perceive quality management as currently delivered by the QAA as a consistent threat to their collegiate culture, a term which is loosely defined as an organisation made up of equals: professionals, sharing the same academic values and, where decisions have to be made, they are consensus decisions made after appropriate, open discussion. In reality, collegiums are idyllic dreams. Anyone who doubts this should consult the *Micro-cosmographia Academica: being a guide for the young academic politician* (Cornford 1908). It contains some priceless pearls of wisdom – The Principle of the Wedge; the principle of the Dangerous Precedent; The Principle of Unripe Time. The key management aim is to do nothing whatsoever and power is exerted through influence. The *Micro-cosmographia* is a young academic's handbook of how to acquire it. 'Academic culture' is a carpetbag term: an oversimplification. Academics tend to be individualists and egalitarian. They resent any form of control or rules (except their own, which are quite stringent) because the rules of others involve the hated concept of 'compliance',

which is regarded as incompatible with academic freedom and innovation (autonomy). Also, there are 'cultures' within the culture. Disciplines, departments and institutions vary. Any ex-auditor or ex-subject reviewer will testify to the differences in ethos or culture between old, redbrick, the 1960 generation, 'new' universities and ex-colleges of education. The 'new' ex-polytechnic universities were already accustomed to a higher degree of 'managerialism' than the others and the redbricks and ex-colleges of education regarded themselves as 'collegiate' in the style of the old universities. The same goes for school inspectors who will claim to gain a clear impression of a school's culture as soon as they walk through the door.

The strength of commitment to this collegiate culture explains to a large extent the depth of cynicism, resistance and lack of trust with which a wide range of academics, educationists and other public services regard QA systems as they experience and perceive them: "Naming and shaming is a central part of quality assurance procedures throughout the public services in Britain...The act of inspection itself is riven with the potential for shame and humiliation." (Morley 2005) One wonders what Deming, Juran, Ishikawa *et al.* would make of that. Overall, the state of Quality Assurance in Education is not very different in 2011 from what it was in 1991: subject to conflict and dispute. On the one hand governments mistrust the education system's willingness to commit to raising standards (schools) and the post-secondary (particularly the universities') willingness to commit to providing qualifications aimed at improving the economy and on the other, educationists particularly academics regard government motives as politically motivated and QA methodology as time-wasting, bullying and coercive. This varies, of course, across the huge spectrum of third world, emergent and advanced economies, but the criticism appears to be stronger in the developed countries than the rest. In the UK, the QAA and Ofsted have developed a 'lighter' touch and the evidence suggests this is the result of the influence of TQM and the Excellence Model. In both schools and tertiary education, there is a growing interest in TQM and BEM and researchers have become much more active in the field, though much more in small scale, in-depth rather than large scale projects.

6. Conclusion

The claim that education is 'different' from business and manufacturing is well substantiated and not mere 'whinging' as governments and other observers would like to believe; though this is not to say that educationists, particularly academics, do not frequently present themselves as obtuse to the rest of the world. In the UK alone, the Government annually pours billions of £ Stirling into the education system. Not unreasonably, whatever its political ideology, a government expects to receive value for money. Constant reports that standards have deteriorated rather than improved: dumbed-down A levels, ridiculously high percentages of 1st class and 2.1. degrees, a fall from 7th to 29th in the world's school performance league table are produced as 'evidence'. The education profession clings to the 1944 Act and Robbins' Report principle that free education up to first degree standard is everyone's right, despite the fact e this is no longer a 'given' in the public at large. Hence the official reliance on *inspection* and the taste for hard, metric data, whatever its reliability, and easily absorbed league tables, whatever their reliability.

TQM and BEM systems offer a much more positive approach to both QA and management style, than *inspection*. TQM goes beyond QA and has social and economic implications. However, Deming's vision of a society focussed on people committed to cooperation, intrinsic motivation and without the unethical greed of capitalism seems as idealistic as the academic collegiate dream. Restricted to QA in education institutions, both TQM and the BEM offer autonomy in the sense that definition of quality and application of the QI system is the institution's own and not imposed from without. The price is that the institution has to produce evidence that it is doing what it said it was going to do. This must now be seen in the context of globalisation, the introduction of HE fees in England and the rapid rise of much more serious competition for HE students from universities and colleges in the emerging economies. Both the USA and the UK who are undisputed market leaders at the moment, will have to struggle to maintain this position. More and more, despite the reluctance of academics to accept the fact, students are becoming customers and will be looking for 'value for money'. In this context of international competition, TQM and the BEM may well prove to be much more 'market orientated' than *inspection*. This may require a change of tactics for the paymasters. Ironically, as far back as 1983, Moss Kanter (*op. cit.*) describing employees' enthusiastic attitudes to the open, entrepreneurial style of an 'exciting' place to work, reported their statements that: working in the company was like being in "...a family, a competing guild, a society on a secluded Pacific island ...a university, a theocracy..." Let us hope that in the current application of the QAA's and Ofsted's outdated methodologies the paymasters do not lose the baby with the bathwater.

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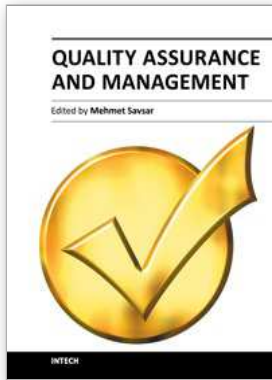
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The purpose of this book is to present new concepts, state-of-the-art techniques and advances in quality related research. Novel ideas and current developments in the field of quality assurance and related topics are presented in different chapters, which are organized according to application areas. Initial chapters present basic ideas and historical perspectives on quality, while subsequent chapters present quality assurance applications in education, healthcare, medicine, software development, service industry, and other technical areas. This book is a valuable contribution to the literature in the field of quality assurance and quality management. The primary target audience for the book includes students, researchers, quality engineers, production and process managers, and professionals who are interested in quality assurance and related areas.

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