
The transfer of TQM from industry to education

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Abstract

Centres on the promotion of quality in schools and ways by which best practice in industry can be applied in education. Explores definitions, procedures, assessment methods and analyses what can be learned from major theorists on the subject and the experience of industry. Drawing from information gathered during an industrial placement in a major chemical company, compares attitudes and practices with those of staff in a Calderdale junior school. In both (the industrial settings and educational setting) attitudes and priorities with regard to quality appear very similar. It could be concluded from the study that quality requires commitment from the top, it should involve and be owned by all staff in the organization and that a culture of searching for continuous improvement should prevail. Such an approach would have a greater impact on standards, performance and, most importantly, identifying training needs in education if theory and practice from industry can be regarded as relevant and comparable.

Introduction

Many educational institutions are now trying to understand and achieve “quality” partly because of the office for standards in education (OfSTED) and the promotion of Investors in People.

It is interesting to see in this article how a theoretical study combined with an investigation of one company’s practices can help a small junior school embrace the concept of continuous improvement.

The author pursued her interest in “quality” during an industrial placement at Hoechst Chemicals in an endeavour to cross reference academic analysis of the concept with practices and procedures in an industrial setting. This formed the backcloth to a short case study of attitudes to “quality” in a primary school. The objective was to assess whether academic views combined with industrial experience might be transferrable to education.

Definitions and procedures to achieve quality

The Education Reform Act created the framework and the context within which the pursuit of “quality” has begun to flourish. The need to improve quality is not unique to education. Many managers in commerce and industry in the UK are currently examining how their organizations can obtain a competitive edge by achievement of quality. Public sector organizations are also interested in quality, as a way of making best possible use of finite resources.

“Quality” has been variously defined as “a degree of excellence”, “fitness for purpose or use”, “zero defect” [1], “conformance to requirements” [2], while Deming [3] stressed that “Quality should be aimed at the needs of the customer, present and future”. The British Standards Institute see “quality” as “the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied need” [4].

It is clear then that “quality” seems to “depend on what is required” [5] or “meeting the customer requirements”. This is true in education where “quality” will change with time, reflecting society’s interpretation of educational needs and “the intensity of its moral and financial commitment to fulfilling them” [6].

In education, the criteria for quality, and therefore the customer requirements, involves a much greater number of interested parties. Defining the customer is nearly as difficult as defining “quality”: the Government and other stakeholders, industry, parents, governors and society, not least the pupils and the staff. Since 1986, legislation has strengthened the role of parents, so it might be assumed that they are the major customer. However, the chances of everyone agreeing on a few manageable criteria seems slight. Therefore the criteria or aims often are difficult to define and assessment of performance equally so.

Nevertheless, within the school itself, it is important for each person to ask him/herself, who are the customers?, what is the time requirement?, how is performance measured?, how can I improve? It seems important that, in both industry and schools, the “customer requirements” are considered. For clarity, customers will be divided into “internal customers”, those working in the firm or school and “external customers”, those outside the institution. It seems that firms and schools can learn from the best practice of each other when it comes to looking at procedures relating to internal customers. Indeed, although the issue of quality seems to be common sense, as Dick Budd, a quality development manager in a service industry explains, “it’s basic things we often forget. If someone has received a good quality service, it’s important to thank the provider so they know they’re getting it right” [7]. Schools need to: look at the way services are provided, identify the factors which affect the way a service is delivered, offer feedback, advice and question staff as to how they see “quality” operating in their area. Such procedures help them to assess their quality.

Thus schools should give more thought to looking at industrial procedures in relation to their external customers. Industry often has systems which allow feedback from customers. Many industries have complaints procedures. For Hoechst, customer complaints are treated as a way to improve. These are analysed, their number and type are measured and action is taken. Hoechst has undergone a cultural change in terms of attitude to mistakes, following Deming’s idea that error in 96 per cent of cases was system- or management-related. Checks are made on training, motivation, resource availability and time. Moreover, the companies are often given “vendor” ratings. Some companies, for

example, Autotech UK Ltd, ask suppliers to complete a quality assurance and assessment questionnaire. This is one area into which schools seem afraid to venture. During a recent industrial placement at Hoechst they suggested a possible customer complaints sheet for a school. This would be completed by a customer, indicating any way that the school had failed to satisfy their requirements.

The product

While industry usually has a product or service, schools do not have “products” in the generally accepted sense. As Woodgate[8] says, there are two important questions which need to be asked if a school leaver is to be considered the product that can be tested and measured for quality: how can we set a standard to be applied to all such products given the diversity of human kind? and how can quality be guaranteed when the school is only one of many areas which influence the pupil? Indeed, the very quality of the school may well be influenced by the area in which it is located. This has implications other than for quality which require a holistic appreciation of the catchment area.

Education has many outputs often difficult to quantify in the short term. Indeed the “production time” in education is between ten and 20 years. Do we ignore aims, such as developing citizenship, a common value system, a desire for a fairer more caring world, because they are difficult, indeed some may say impossible, to measure? Do we try harder to find ways to assess them? or do we just concentrate on those outputs which are easy to assess? Although the commitment by the 1988 Education Reform Act to improve quality in education is generally welcomed by schools, there is a danger of pushing quality issues in a simplistic and solely quantifiable direction.

Indeed, even in industry there is often difficulty in getting firms to look for long-term sustainability. As Marsden *et al.*[9] says: “in this short term market dominated environment those with vision are going to have to argue with funders that long-term pay offs require leadership investment. The difficulty is finding anyone with a time horizon sufficient to listen”. Long-term aims in both industry and education cannot be totally relinquished to short-term customer market forces.

Measuring quality

One tool in the attempt to achieve quality in both industries and schools is the “mission statement”, or in the case of Hoechst, “guiding principles”. On analysis these are often woolly and need to be broken down further into more strategic objectives before it is possible to say whether the institution is achieving its aims and so achieving quality. In industry these more measurable objectives are often referred to as SMART (specific, measurable, achievable, realistic and time related). With the term “work smarter, not harder”, Marks & Spencer’s approach to quality includes the explicit formulation of quality objectives and policies. Schools too are being advised to keep their objectives tight. In industry, performance indicators/criteria and benchmarks are used for organizations, performance and people. These are also being increasingly used in education.

Total quality management

In their quest to manage quality, some companies have adopted total quality management (TQM). The value of these quality systems are now being recognized in schools and are often successfully adapted and adopted.

TQM is a process which John Hinch, the managing director of Heinz, believes has made his company great. Wille[10] also suggests that the “total quality” movement has transformed business. He suggests that total quality is fundamentally about new attitudes to people and by people. In total quality, people try continuously to improve. It is no longer a question of “We’ve always done it this way”, but rather, “There must be a better way”. Total quality involves “satisfying customer requirements at least possible cost”. The standard must be right first time. In industry the measure is the cost of quality; poor quality costs money. In education children only have one chance; it has to be right. The cost of getting it wrong is disastrous for children their future, employment and the country as a whole. TQM involves total commitment from everyone in the search for continuous improvement, individually and collectively. It must be management-led at the most senior level. Total quality involves liberating people at work, whose talents are recognized and utilized.

TQM requires: clarity of vision, a planned approach, appropriate organization, selecting areas for improvement, formation of project or action teams, involvement for everyone, strategies to change attitudes, training in quality techniques, team work, problem solving, consistency and good communications. It includes measurement of improvements in financial terms and the opportunity to understand the process. Aspects of this method of working are taking place in schools and may be most valuable in devising a school development plan.

Many industries choose to be assessed by a national standard of their choice. Schools too are now assessed on a national standard, although not by choice. The National Curriculum prescribes content and standard assessment targets. However, making examination results and league tables the main criteria for assessing the quality of a school is, as Lawton[11] suggests, “extremely naive or blatantly dishonest”. He, amongst others, concludes that a simplistic assessment by virtue of ratings within a league table provides only a crude basis for analysing school performance. Such comparisons ignore social composition and catchment areas, not to mention issues such as adding value to learning capacity. This measure of accountability says nothing about teaching methods, improvement of standards or indeed the quality of a school.

The national standard, Investors in People, emphasizes the importance of investing in human capital[12]. As Wickens[13] says, TQM and business process re engineering, do not in the end result in better business performance because they focus too narrowly on processes and ignore people. He argues that high levels of control of the business’s processes must be combined with high levels of commitment from the workforce, to achieve long-term and sustainable business success for the organization. Wickens calls an organization which has achieved this balance an “ascendant” organization. This is especially important in education which is so labour-intensive. Investors In People is a national standard. Its aim is that “Every single member of the workforce is as fully committed, as well motivated and above all, as individually well trained as is consistent with the aims of the company”. The managing director of Rover, Terry Morgan, says that Investors in People is not new, but captures best practice. People are often under-utilized but should be seen as an asset

that will not depreciate. The Confederation of British Industry[14] said that a quantum leap is needed in Britain's education and training performance, and that to maintain and improve Britain's position in an increasingly competitive world, nothing short of a skills revolution is required.

Another National Standard is BS 5750/ISO 9000. For many firms this is seen as one step in the journey towards TQM. For Hoechst, it provides a structure to tackle the quality problems of an institution, and attempts to get rid of "crisis management". The standard is designed to increase efficiency and staff morale. It aims to increase effectiveness, staff performance and client confidence. Standards lay down requirements for cost-effective systems and how to establish, document and maintain them with a view to demonstrating to customers that the organization is committed to quality. However, concern was also expressed about its bureaucratic nature, large amount of paperwork and considerable cost. Some area managers "bent rules" and only sorted things out when an inspector was coming. (Some similarities with education here perhaps!) However, this was usually done because of lack of time or because some things were impractical. There is the danger that the standard is seen merely as a marketing tool, with no real commitment to quality. In contrast some companies may feel that there is little pressure from their customers or suppliers to seek assurance because their needs are already being satisfied by the company's reputation and good quality products. They may feel that they do not need a "kite mark".

Some schools may also feel that they do not need a plaque above the door to show their quality. However, in a country which seems to find a strange enjoyment in "knocking" its education system, it may be a way of demonstrating proof of quality to the cynical. However, clearly if the "kite mark" itself is all a firm or school is after then the standard will not have changed the organization beneficially. The installation and operation of a quality assurance system should be seen as a means of improving practice, developing a quality culture and empowering staff. Even if adopted, ISO 9000 should be seen as merely a starting point to quality improvement, a minimum requirement, the first rung of the ladder, a powerful means of supporting and promoting the search for total quality.

National Standards in Education may be reflected in OfSTED criteria, based on the concepts of economy, efficiency and effectiveness. Reports from OfSTED[15] suggest that schools which are seen as being of good quality first have headteachers who see themselves as educational leaders, who know the strengths and weaknesses of their staff, and who are determined to make the weak strong and the good excellent. This is certainly consistent with the TQM idea of continuous improvement for all. Second the teachers in the schools have high expectations of their pupils, and deploy a range of teaching methods to interest and challenge their pupils. Third, as organizations, they are confident and self-critical; they question their current expectations and achievements; they look forward to a future which is shaped by their own action and intelligence.

A switch from pure inspection to TQM will succeed only if it starts from senior staff and permeates the whole institution. This fact was highlighted by OfSTED[15]. However as Wood[16] asks, "In the light of demands from central government, can an individual school be confident of its autonomy" to carry this out? Inspection needs to be seen as part of a programme of analysis and improvement, but it will only work if a school is committed.

The key to quality in industry and education

In both industry and education there is growing evidence to suggest success is affected by the quality of personal relations. Quality is reflected in how one treats others, adults and children. It stresses breaking down departmental barriers that waste so much time because people do not see the total picture. A shared understanding makes joint planning and subsequent implementation more effective. Deming stressed team building; Wille[10] stresses the importance of self-directed work teams, which run their own day-to-day affairs, with coaching from a team leader who is trained to listen. Appraisal procedures in both education and industry are a tool to highlight performance and training needs. Well-run appraisal systems must be, as Wood[16] suggests, the cornerstone in professional development. In industry they often include self-appraisal and target setting in conference with a manager.

At Hoechst, appraisals are a way of developing training needs. People are appraised once a year by their immediate manager. This is documented on a form. In education the feeling is that appraisals should be more regular and less inquisitorial, with the emphasis on training needs. Moreover, it is clear that where a development area is highlighted, funding needs to be available for training.

In industries committed to total quality, training is focused on winning confidence. Marks & Spencer claim to provide quality education and training for all levels of employees. Wood[16] states that schools need a policy which commits them equally to the development of staff and pupils. Oakland[5] adds that a development culture must be created to ensure that training is seen as both an entitlement and a requirement of the staff. It must be also appreciated that the success of the school is as much to do with man-management of staff at all levels, as the classroom management of the pupils. Teachers need to be used to greater effect in the search for quality, working together co-operatively as members of the community, sharing certain experiences and being concerned to improve the quality of life in the community and not just as Lawton[11] suggests, to raise a few scores on a list of performance indicators.

But let us not forget “leadership”. Peters and Waterman[17] believe that: “the secret of a ‘quality’ company is leadership”. In education the National Commission’s *Success Against the Odds*[18] advises that the right sort of leadership is “at the heart of effective schooling, and no evidence of effectiveness in a school with weak leadership has emerged”. Woodhead has said that “people need leaders, a sense of direction. Shared goals are central ...there’s real skill at the heart of headship”[19]. In his research, Lawton[11] showed that one of the prerequisites for a “good school” was positive leadership. Clear leadership seems necessary in both education and industry.

Attitudes to quality issues in a junior school

In order to explore school attitudes to quality, a pilot study was undertaken in a Calderdale Junior School. The school has 190 pupils aged 7-11, six teaching staff and a non teaching head.

In the school, staff saw quality as a “quest to make things better”, a way to maximise potential in any particular area, to reach a level or degree of excellence. They had high expectations of the staff and children, while still recognizing their individuality. It was seen as an “attitude” of the children and staff, which was optimistic, responsive and open to suggestion. Quality was seen in whole school policies, which were contributed to by all, and which ensured high standards, progression and cohesion. Everybody should have clear aims, so that they know what is expected of them. This was seen as important. Quality was also seen in the acknowledgement of achievements and positive policies in curriculum and other school areas, such as behaviour. Quality communications and relationships were viewed as particularly important in the school. Overall, a quality school was seen as one in which everyone was “proud”. By working together the staff agreed that their school had an ethos of continuous improvement. They stressed that change needed to be targeted to the less successful areas, and that new developments “needed to be given time to ‘work’”.

School aims were seen as guidelines and as such were not seen as necessarily quantifiable. Terms such as provide, develop, encourage, help, ensure, educate, enable and emphasize, were seen as more to do with approaches to what is considered important. Measurement, recording and analysis were seen as necessary for quality and academic criteria. However, whether aims are quantitative or qualitative, staff believed that if aims were not being met, discussions should ensue and plans should be developed with implementational monitoring.

Staff appraisal was generally seen as a valuable process to encourage teachers to reflect on their own performance, in a supportive atmosphere. Staff welcomed an additional opportunity to discuss matters with colleagues. Appraisal was seen as providing a positive focus for both individuals and the school. However, the method of appraisal was criticized. It was suggested that its profile should be raised and properly funded and that there should be a more in-depth analysis of results, with additional in-service training for appraisers. Teachers felt that the classroom observations were “rather false”, almost a “performance”, especially when classroom practice is being monitored by the management of the school on a regular

basis. Such monitoring already provides a regular quality check. One teacher suggested that it may be interesting if appraisals were carried out by staff from another school. In the case headteachers they already are. An appraisal would seem more sensible on an annual basis, but this would have funding implications.

Although staff were generally happy with the way the school had met training needs, it was felt that the focus was placed on the school development plan, rather than on individual development. Staff felt that they often attended courses in their “strong” subjects, perhaps because they were the co-ordinator. However, since they teach all subjects, they would have liked to attend more courses in their non-specialist areas. Teachers rated internal training days highly, whereas courses provided externally were of mixed quality. Staff felt that the school was committed to their development but understood financial restrictions to be the main reason for limited course opportunities. In the past the school had been able to offer each teacher more extensive INSET, but this is now financially impossible. All believed that staff must be encouraged to develop skills and methodology to improve quality for pupils and in their teaching. The main role of the headteacher was seen as developing the individual teacher and developing the school as a whole. Teachers saw the headteacher as: a manager, leader, advisor, listener, supporter, communicator and appraiser of quality.

Transfer of quality: the implications for education

Indeed when we look at some of the tools and techniques used in business analysis, it seems schools are already using them, or an adaptation of them. It is not just children who can learn from studying industry; teachers need to look critically at industry. However, there must be an opportunity to look both ways!

Opportunities for teachers to look at the “qualities” of industry are now more abundant. Training and enterprise councils, the Schools Curriculum Industry Partnerships, Compact, Educational Business Partnerships and teacher placements, provide opportunities to learn from each other.

As Wille[10] says in an analysis of British industry and studying the works of Deming, Juran, Crosby and others, “quality

management is nothing less than a revolution in the management of business where everybody in the company has to work to accomplish the transformation”. The transformation is everybody’s job. Lessons can be learnt from the world of business through reflection on successes and failures. However, we must remember that not all industries have the answers; many of them are not competitive, with an unqualified, undertrained workforce. Moreover, many moral and ethical questions can also be raised about some business practices.

Nevertheless, as Wood[16] suggests from his findings, schools can learn cautiously from industry in terms of strategic planning, training provision and the broadening of ethos. The two cultures of education and business have too long been kept apart. They should now work together to improve each other’s performance, and thereby raise everyone’s quality of life.

Schools must adopt a TQM approach that continually looks to improve the effective use of resources, maximize the opportunities for pupils, develop their staff and fulfil the needs of the community. Schools can do this by continuous reassessment to improve effectiveness with less effort. They need to review the school’s organization so that new development can be taken on without increasing workload. They need to set and implement educational objectives for the school and review these regularly alongside achievements, as a basis for future planning. Schools need to show tact and care over schemes for staff development and appraisal, developing quality leadership at all levels. Effective communication and staff involvement in decision making are of paramount importance and this needs to be developed by a school. By adopting these strategies the school will be provided with a systematic way of guaranteeing that all activities happen as planned.

TQM is about efficiency, productivity, long-term success and adopting an attitude that all individuals can contribute to the pursuit of continuous improvement. Whatever the institution, achieving total quality is an attitude of mind. It is about driving out fear, breaking down barriers. It is about encouraging people to educate and develop themselves to work in teams, to think for themselves and believe that things can be continually improved. More than anything else the

improvement of quality is as much about the way people work together as it is about what they actually do. Everyone needs to believe in quality and contribute towards it by constantly improving their standards.

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