CHAPTER 2:
THE CHARACTERISTICS OF TOTAL QUALITY MANAGEMENT IN SCHOOLS

2.1 INTRODUCTION

The aim of this chapter is to identify the characteristics of TQM in schools (see 1.3). This aim is sub-divided into the following objectives:

- Analyse and define TQM;
- Define and characterise school effectiveness;
- Give an overview of the TQM philosophy as proposed by theorists;
- Describe recent developments in the quality movement;
- Discuss the theoretical foundations of TQM;
- Characterise TQM as a management approach in the context of business enterprises;
- Characterise TQM as a management approach applicable to education;
- Analyse Deming's Fourteen Points and its application in schools;
- Identify the core elements of TQM and to discuss their application in school, and
- Provide a critical perspective on the application of TQM in schools.

As research method a literature study was conducted.

2.2 TQM CONCEPTUALISED AND DEFINED

2.2.1 Concept analysis

Various terms are used to describe the quality management concept such as Total Quality Management (TQM), Quality Management System (QMS), Systems Management, Quality Improvement Programme (CIP), Quality Improvement Programme (QIP) and Continuous Improvement Strategy (CIS) (Meyer, 1998). The term *total quality management* (TQM) will however be used as the overriding

concept of this research.

The concept of TQM can be sub-divided and described as follows (Horwitz, 1990:56; Kachar, 1996:2):

- **Total**

A total process is one that recognises that everyone in the organisation contributes in one form or another to the end product or service to the customer. Everyone means that every function and every level in the organisation is involved in the process: school leadership, school operations, the classroom, the curriculum, etc. (Steyn, 1995:16). It affects all who work in the school as well as all activities undertaken in the name of the school (Steyn, 1996:123).

More over, the 'total' suggests close interactions and give-and-take interrelationships of an organisation with both its micro and macro environments. The quest for quality is everybody's concern and can come from any parties in the environment: customers, partners, suppliers, stakeholders, non-stakeholders, etc. (Wong & Kanji,1998:2)

- **Quality**

Attention to quality is a global phenomenon and according to Middlehurst and Gordon (1995:271), emerged mainly for two reasons. Firstly, a need to ensure safety and consistency in manufactured goods, and secondly, a growing need to differentiate products and services on the basis of quality in an increasingly competitive global market.

The notion of quality is subject to a number of different interpretations. In everyday language quality is used to describe a level or standard of satisfaction with a product or process (a quality car, quality wine or quality education) and to define the essential features or characteristics of something (the quality of a conifer is that it bears cones).

The definition most commonly accepted within the business world is 'the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs' (BS 4778). The British Standards also underpins the

International 9000 series of standards which have been adapted into the national standards systems of more than sixty countries (Middlehurst & Gordon, 1995:270-71).

There are three basic definitions of quality which are commonly accepted within the business and education sectors: quality assurance (established standards definition), contract conformance (specific standards definition), and customer-driven (fitness for use or market-driven definition) (Murgatroyd, 1991:14; Murgatroyd & Morgan, 1993:45-48; Quong & Walker, 1996:221-222).

Quality assurance (established standards) refers to the determination of standards, appropriate methods and quality requirements by an expert body, accompanied by a process of inspection or evaluation that examines the extent to which practice meets the standards. Critical to the quality assurance process is the publication of standards. A framework for developing published standards is provided by various national bodies, most of which are variants of the Quality Systems ISO 9000 Series defined by an international standards agency.

The features of quality assurance include the following:

- Standards are set externally by experts;
- Standards are presented as a set of codified requirements or expectations that the school strives to achieve;
- Standards are evaluated by some objective criteria;
- Standards may account for local variation only if this is a requirement of the quality assessment being undertaken, and
- It usually involves some form of inspection, formal evaluation or examination.

In education this means that, as far as educator evaluation is concerned, a panel of experts on teaching might develop evaluation instruments that seek to itemise the characteristics of effective educators. In Britain, inspectors were selected on their ability to undertake a careful observation of teaching and schooling so that they could discern whether or not appropriate standards of teaching and education were being met. They relied to a large extent on their expert judgement.

Learners write examinations set by a national or regional body, with all learners from different schools writing the same examination. The idea is that learners will have an equal opportunity of succeeding in the examination and that the results will reflect standards set by the national or local body for conformance to their expectations. A curriculum panel sets the examination and experts design marking schemes. Results are seen to reflect an appropriate statement about quality achievements by the learner on an 'objective' set of criteria, which are not influenced by local conditions.

The *contract conformance* (specific standards) definition states that some quality standard has been specified during the negotiation of forming a contract. What is distinctive about contract performance (as opposed to quality assurance) is that the quality specifications are made locally by the person undertaking the work and not by a panel of experts. The person offering the service supplies the contract specifications and not the person receiving the service. This form of quality can also be regarded as provider-driven quality.

Quality set by contract conformance occurs in a number of ways in schools. Educators set a homework assignment to learners, outlining exactly what is expected of them and when this work is to be completed. Deadlines are applicable to the learners and to the educator as well, who has to conform in terms of marking and returning the assignment. At the beginning of each school year, educators are assigned specific duties and tasks. The assignment of duties represents a contract for work between the educator and the school. Quality is assessed in terms of whether and how well the duties were performed.

Customer-driven quality (fitness for use or market-driven) refers to a notion of quality in which those who are to receive a product or service make explicit their expectations for this product or service. Quality is defined in terms of meeting or exceeding the expectations of customers. This market-driven quality or quality defined in terms of *'fitness for use'* is at the heart of the quality revolution, and is requiring organisations to look at their own procedures and ways of working again so as to meet the needs and expectations of customers better.

An example of customer-driven quality in schools is when a Student Representative Council suggests a major timetable change, which involves changing the structure of the school day. In responding positively to the proposal, the school reflects a response to the requirements and expectations of its customers to change its working practices.

The relativist interpretation of quality is that of measuring up to specifications, as well as, meeting specific customer needs (Berry, 1996:3). This interpretation holds that a distinction is made between quality as the intrinsic values associated with a service or product, and quality as the meeting of customer requirements. In this sense there is a need to meet customer expectations in relation to the perceived value or worth attached to the product or service, while also ensuring that the product or service has intrinsic merit as defined by widely held professional standards. It is the notion of quality as 'value' or 'worth' in relation to customer expectations that describes the nature of 'quality' as interpreted within the quality management context. In the quality movement, the term quality is therefore used in a different way to that of its use in everyday language. In particular, the 'quality' of a product or service should be reinterpreted as its 'value' or 'worth' as measured by the extent to which it meets the need of the customer.

Within this notion of 'quality' it is assumed that most organisations produce a product or service that is intended to satisfy the needs or requirements of users or customers with 'quality'. Therefore it is the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs (Berry, 1996:3). This relativist notion of quality is supported by Sallis (1993:13) who perceives 'quality' as "a philosophy and a methodology, which assists institutions to manage change and to set their own agendas for dealing with the plethora of new external pressures". Quality can, therefore, be described as *'fitness for purpose'*, where purpose is related to customer needs and where customers ultimately determine the level of satisfaction with the relevant product or service (Middlehurst & Gordon, 1995:270).

The relative definition views quality not as an attribute of a product or service, but as something that is ascribed to it. Quality can be judged to exist when goods or

services meet the specification that has been laid down for it. Quality is not the end in itself, but a means by which the end product is judged to be up to standard (Sallis, 1993:23).

While it is assumed that organisations seek excellence in relation to accepted quality standards associated with their sphere of interest, quality in the 'quality management' context is equated with *'appropriateness to purpose'* (Rhodes, 1992:76-80), needs and organisational capacity for continuous improvement of processes and systems (Berry, 1996:4). Features are what you put into a product or service to appeal to a particular market segment and, in general, adding features costs money (air conditioning in an automobile is a feature). Quality, on the other hand, has to do with the integrity with which the features are delivered (an air conditioner in an automobile might be unreliable, noisy, drafty, difficult to control and difficult to repair). A similar distinction can be made in an educational setting where such things as computers in the classroom, modern physics laboratories, extensive offerings in drama, arts, music, sports and excellent facilities are to be regarded as features of quality. Quality has to do with the way the teaching/learning process is carried forward. Tribus (1993:13-14) asserts, therefore, that it is possible to have a high quality education in a one-room schoolhouse, even with few amenities.

There have been difficulties to arrive at clear definitions of quality in the educational sphere. The debate continues between those who identify quality in education with 'excellence' or exceptional performance measured against some implicit 'gold standard' (learner achievement, teaching), and those who accept a 'fitness for purpose' definition whereby learners, for example, have a say in defining both 'fitness' and 'purpose'. These debates have opened the door to further questions related to 'fitness of purpose' in education and from this point into discussions about the relationship between quality and educational standards (Middlehurst & Gordon, 1995:270-71).

The systematic focus on quality is beginning to revolutionise the work of organisations. Such a focus is imperative for organisations to survive in an increasingly global market place. The basis of this focus on quality is a move to

balance quality assurance with contract conformance and customer-driven quality. The new quality revolution places emphasis on customer-driven quality supported by contract conformance and quality assurance (Murgatroyd & Morgan, 1993:51).

Organisations, therefore, have to recognise that consumer stakeholders are becoming increasingly sophisticated and demanding about the products and services provided by the organisation. This occurs at the same time as governments are moving to an increasingly market-driven basis for the economy, public and social services. The fusion of these two forces causes stakeholders to expect more say in the activities of the organisation. This gives more emphasis to customer-driven quality than has been the case in the past. To meet minimum expectations, organisations are increasingly required to meet quality assurance standards and to add value to these through contract conformance developed at a local level. This changes the emphasis in thinking about quality away from quality being determined within the professional body or expert opinion towards balancing the three kinds of quality, so as to meet the expectations and requirements of stakeholders better. It is a major change in thinking, which requires major changes in the culture of organisations, in particular those managed by professionals (Murgatroyd & Morgan, 1993:51-52).

- **Management**

Horwitz (1990:56) asserts that quality will not be achieved by accident or by management dictate as it requires cultural change in management behaviour and the attitude of everyone toward quality. This process of change must be managed. Managers who are fully dedicated and committed have to manage this process of change (Kachar, 1996:2). Although other management jargons are also doing well, the TQM process does promote sound management practice which facilitates a quality service.

The role of management within the TQM context can be summarised as follows (Horwitz, 1990:56):

- There is a common understanding of quality and the need to change;
- Management develop operating principles and values which create an environment for continuous improvement;

- Management create the organisation and provide the systems and resources to support the process, and
- Everyone is contributing to services given to the user.

Furthermore, management has to lead the process by achieving a definition of the constant purpose of the organisation, the principles of improvement and the values. They also have the responsibility to remove all barriers that prevent quality being achieved and ensure that all their actions demonstrate the integrity of the quality improvement process. The culture change is started by a continuous programme of education and improvement for everyone which begins at the top and is cascaded down.

2.2.2 Definition of TQM

The focus on quality for the customer has led to the development of a body of theory, tools and applications that has become known in management as Total Quality Management (TQM) (Murgatroyd & Morgan, 1993). In defining TQM the focus is drawn to some collective descriptions which reveal specific features of this paradigm (James, 2002:45; Zairi, 2002; De Miranda, 2003:34).

2.2.2.1 A 'total' approach

- Total Quality Management is a "long-term, large-scale and all-embracing approach to management, incorporating all organisational members and activities into the quality improvement process, rather than being focused on limited aspects of the organisation. This includes the internal interrelationships among the various components of the organisation as well as its relationships with customers. TQM is about developing a new culture in the form of quality-based decision making permeating all aspects of the organisation" (Berry, 1997:58).

- TQM has emerged as the most well-known approach to the development of organisational culture for quality management, representing a philosophical framework for the management of quality organisations which claims to be applicable to both private and public sector enterprises and institutions (Berry, 1997:57).

- The three principles of TQM - customer focus, process improvement and total involvement - that encompass its overall concept and, if they are efficiently administered, will promote continuous improvement of an organisation. Samual K. Ho (Kachar, 1996:2) argues that the TQM philosophy stresses a systematic, integrated, consistent, organisation-wide perspective involving everyone and everything. It focuses primarily on total satisfaction for both the internal and external customers within a management environment that seeks continuous improvement of all systems and processes.

- TQM utilises every member of the staff of an organisation to the maximum. It encourages the formation of multifunctional teams with the aim of promoting improvement for the organisation. It uses various relevant techniques and skills in achieving high quality work. Key aspects of TQM are the prevention of defects and emphasis on quality in design. TQM is the totally integrated effort for gaining competitive advantage by continuously improving every facet of the organisation's activities (Kachar, 1996:2).

- The power of TQM concepts derives from their psychological and value-driven base and from their "totalness". They deal with an organisation's work processes as a single system (Rhodes, 1992:76)

- "Total Quality Management is a value-based, information-driven management process through which the minds and talents of people at all levels are applied fully and creatively to the organisation's continuous improvement" (Rhodes, 1992:80).

- According to Oakland (Berry, 1996:4), TQM is an approach to improving the effectiveness and flexibility of business as a whole. It is essentially a way of organising and involving the whole organisation: every department, every activity, every single person at every level.

- TQM emphasises the involvement of people and necessitates a quality culture for the company, which integrates the entire workforce in the achievement of

customer satisfaction. To live up to all these expectations, everyone in the whole company must have access to knowledge of total quality and understand their own roles (Wong & Kanji, 1998:2).

It can therefore be concluded that TQM is not to be regarded in simplistic terms, but rather as a multi-focal approach to management that is aimed at the entire organisation.

2.2.2.2 A customer-driven focus

- TQM refers to the systematic management of an organisation's customer-supplier relationships in such a way as to ensure sustainable, steep-slope improvements in quality performance (Murgatroyd & Morgan, 1993:59).

- TQM calls for excellence in people management since the human behaviour elicited is a direct effect of management style. Modern management science addresses the fact that behaviour is determined by unsatisfied needs and that individuals have different needs as well as different levels of need. The human element is crucial in implementing TQM because it is through people that excellence comes to pass. The selection, training and development of staff are critical to the success of any organisation and warrants considerable investment (Beard, 1989:10; Dahlgaard & Dahlgaard, 2002).

- The meaning of quality is quite simple: complete customer satisfaction. TQM is a dynamic set of activities to achieve this goal (Gilbert, 1996:20; Weaver, 1992:2).

- TQM is a people-focused management system that aims at continual increase of customer satisfaction at continually lower real cost. It is a total system approach and not a separate area or programme. It works horizontally across functions and departments, involves all staff members and extends backwards and forwards to include the supply chain. The foundation of Total Quality Management is philosophical. It includes systems, methods and tools (Total Quality Leadership Steering Committee in Cincinnati, Ohio – Siegel & Byrne, 1994:18-19). This definition of TQM explicitly states that all aspects of an

organisation (or school) have to be dedicated to the goal of achieving the highest standards of performance as required by their customers (Murgatroyd & Morgan, 1993:60).

- "TQM is about creating a quality culture where the aim of every member of staff is to delight their customers and where the structure of their organisation allows them to do so. In the total quality definition of quality the customer is sovereign...it is about providing the customers with what they want, when they want it and how they want it. It involves moving with customer expectations and fashions to design products and services which meet and exceed their expectations" (Sallis, 1993:26-27).

- TQM emphasises the development of organisational plans and priorities directed toward increasing the sense of satisfaction felt by those who are the clients or customers of organisations. In other words, when the external environment perceives that it is satisfied with what happens within an organisation, then the organisation is, in fact, effective (Daresh & Playko, 1995:20-21).

- Deming realises that Total Quality resides effectively in the eye of the beholder. It is what the agent of quality believes it to be: for the line worker quality may be pride in workmanship, for the owner, increasing earnings and for the consumer, reasonable priced products. Ultimately, the result of quality is what the consumer determines it to be. The customer is the judge of quality, therefore all quality initiatives must be customer-focused (Covey, 1992:262-263; Sagor & Barnett, 1994:23-24).

- The quality of an organisation is measured to meet the various needs, expectations and requirements of the customers of an organisation. This means that the organisation must really understand the requirements of its customers. The quality of an organisation has been achieved when the customers' needs are met (Kachar, 1996:2).

- The key task of a service organisation like a school, is to build an effective chain of customers. To create a learning organisation dedicated to this requires the school to think from the experience of the learner backward to organisational design and structure. Rather than see structure as a formalisation of control systems, structure should facilitate responsiveness to learner needs in the learner's own terms (Murgatroyd, 1991:13).

- "Deming is clear in the need to honour the 'voice of the customer', as customer feedback serves as the fundamental definition of quality. Only with this feedback can a product be constantly improved. A manufacturing process that creates products efficiently, precisely, and cost-effectively, while still guaranteeing customer satisfaction also defines quality. This convergence of meeting customer needs with an efficient and economical production process defines Deming's notion of quality" (Capper & Jamison, 1993:25).

TQM therefore, can be regarded as a management approach that focuses on the interests of the respective customers. The customer is the judge who determines quality and for this reason effective service delivery is of utmost importance. By recognising the customer, recognition is given at the same time to people as individuals within the organisation.

2.2.2.3 Important role and empowerment of people

TQM has a major influence on the role people play within an organisation. It is crucially important that the skills and abilities of each member of an organisation should be utilised optimally.

- TQM requires from senior management to utilise the talents, expertise and skills of every member of the staff. Every employee is encouraged to act on his initiative and be creative so as to bring improvement to his work. They are empowered to to solve problems, propose improvements and satisfy customers. (Kachar, 1996:3).

- Participation of staff members in the management of the organisation is required. Simplification of the school structure in order to focus upon the person

closest to the learner (home room or classroom teacher) is necessary (Murgatroyd, 1991:13; Van Kradenburg, 1995:33-34).

- "TQM is a value-based, information-driven management process through which the minds and talents of people at all levels are applied fully and creatively to the organisation's continuous improvement" (Rhodes, 1992:80).

- "It is all about empowering people closest to the client to make decisions about how best to improve" (Quong & Walker, 1996:224).

- "TQM has been presented as a radical departure from the current educational paradigm, by freeing educators from their bureaucratic shackles and providing a model for empowerment" (Capper & Jamison, 1993:26).

- "TQM is a philosophy that needs people to make it happen. Quality is the result of the work of people" (Wong & Kanji, 1996:2).

The effective utilisation of human and physical resources seems to be essential in order to improve quality. People, however, are not to be seen as cogs in a machine, but should rather be allowed to function and make decisions autonomously.

2.2.2.4 Continuous improvement

Quong and Walker (1996:224) regard continuous improvement as "perhaps the most influential of TQM beliefs". The old adage 'if it's not broken don't fix it' appears to be the antithesis of TQM.

The philosophy underlying TQM is that the production system is the means by which quality is constantly improved. TQM seeks to provide the means to monitor, control, and improve production systems. Quality improvement relies on systems thinking, customer feedback, worker empowerment, and data based methods to build quality into the manufacturing process (Capper & Jamison, 1993:25; Hsieh *et al.*, 2002; Dalu & Deshmukh, 2002).

According to Rau (1996:69), TQM is a way of managing an organisation to

achieve continuous improvement.

2.2.2.5 Systems and processes

- In TQM, every element of the organisation is involved in the enterprise of continuous improvement, with each individual sharing responsibility regardless of his or her position or status (Berry, 1997:57).

- TQM is an approach to improving the effectiveness and flexibility of business as a whole. It is essentially a way of organising and involving the whole organisation; every department, every activity, every single person at every level. TQM is based on the notion of organisations as systems and sub-systems which function as a unified whole, with emphasis on the interface between the various elements of the organisation as much as on the nature of the elements themselves. Therefore, it can be stated that TQM is based on systems thinking (Berry, 1997:57).

- The Deming doctrine of generating quality by building it into the process, rather than by inspecting defects out of the end product is applicable (Holt, 1993(b):382-383).

- An organisation must prepare and implement strategies that would achieve and implement continuous improvement. This can only be performed if all the activities are well coordinated and reliable (Kachar, 1996:3).

2.2.2.6 Descriptive summary

The total approach to quality represents a totally integrated effort that involves the whole organisation. It involves every element of the organisation, embracing the minds and talents of all people at all levels and all activities.

An organisation has to focus on its customer-supplier relationships and, in particular, on meeting the various needs, expectations and requirements of the customers. The customer judges whether the quality of services and products is in accordance to what he/she expects it to be. It is, therefore, in the best interest of

any organisation to build effective customer relationships in order to improve on quality.

The TQM paradigm implies the delegation of functions to the people closest to the customer. It provides a model for empowerment where the people closest to the customer are mandated to make decisions about how best to improve. The human element is crucial in that the talents, expertise and skills of every member of the organisation are to be utilised optimally to bring about improvement.

TQM is also a commitment to excellence with the focus on continual and incremental improvement. This is achieved through methods and tools such as multifunctional teams, customer feedback, worker empowerment and data based methods to build quality into the process (and not to inspect the end product).

It becomes evident from the various descriptions that TQM is conducive to quality improvement in organisations and, as a long-term change process, can contribute to organisational growth and renewal. From this perspective, TQM represents a quality management process which is concerned with people, systems and culture, incorporating processes such as leadership, systems thinking, and employee empowerment to improve the organisation's capacity to meet current and future customer needs continuously. TQM is aimed at improved quality, greater effectiveness and the change of the organisational culture (Berry, 1997:57).

TQM provides a managerial framework aimed at the optimisation of people, systems and processes. It requires leadership commitment and a change of management paradigms. It involves everybody in the organisation and empowers those people closest to the customers to make decisions to satisfy their needs. Systems and processes are continuously improved through the use of data collection methods and measurement. Quality improvement teams form the backbone of quality improvement. TQM is about the developing of a new organisational culture.

In an effort to characterise the TQM concept it has been analysed and defined. In this chapter, TQM will also be characterised within the school context. School

effectiveness is, therefore, another key concept that needs clarification so that the relationship between effectiveness and TQM can be conceptualised.

2.2.3 School effectiveness

The major task of the school is to achieve educational objectives, such as learning gains and the addition of educational value to the learners. School effectiveness can, therefore, be defined as generating high-quality learner *outcomes* and in terms of *value-added* to them. Achieving this is the task of both school management and the instructional or classroom level within the school. The main criterion of effectiveness in schools as reflected by research on effective schools and effective teaching, is higher achievement as measured by standardised tests (Davis & Thomas, 1989:5; Fertig, 2000).

The following characteristics of effective schools are found in the literature (Davis & Thomas, 1989,51-71; Levin & Lockheed, 1993:15-16; Potter *et al.*, 2002; Taylor, 2002:375):

- ***Leadership***

The leadership role of the principal is vital. Studies on effectiveness have acknowledged the importance of leadership in keeping the school headed in the right direction. Essential to school effectiveness is strong instructional leadership by the principal. The pivotal, causative feature of virtually every effective school is a principal with vision, energy, and a dedication to leading the staff and learners toward better school attitudes and higher performance levels.

Slater (1993:182) cites research, which suggests that effective principals emphasise academic goals and understate the other functions that schools perform. In downplaying non-academic activities in this manner, effective principals avoid sending out mixed messages about what is important. Effective principals also tend to spend more time observing classrooms, giving educators feedback, mediating the adoption of more effective teaching practices and guarding academic time.

- ***Central philosophy***

The most effective schools are characterised by a central philosophy that provides a guiding spirit to the design and implementation of results.

- ***School management***

It is crucial for schools to be well-managed institutions. Schools differ in learner composition, needs and problems, in community values and expectations, and in internal structures such as existing school climate and focus, instructional organisation, staff organisation and strengths, the goals, values, and expectations of the particular principal and staff, etc. Principals, educators and other staff, therefore, need considerable flexibility, creativity, and building-level autonomy to determine how to increase learner achievement.

- ***Staff stability***

A happy and efficient staff corps is of key importance. The quality of the staff is perhaps the most important factor. Staff stability also contributes to good interpersonal relationships, a good working environment, shared goals of improving teaching, developing better programmes, and stimulating an academic climate and higher achievement. The loss of the best, most effective educators has a particularly negative impact on school effectiveness

Once a school experiences success, keeping its staff together is important for maintaining its effectiveness and promoting further success. Key to this goal is an effective school-wide staff development programme aimed at altering attitudes, expectations and behaviour while teaching educators new skills and techniques.

- ***Focus***

Effective schools tend to delineate the scope of their programmes, often focusing on accomplishing a narrow set of objectives rather well than addressing a much larger set of goals ineffectively. In this respect, the Coalition for Effective Schools in the USA stresses that 'less is more'.

- ***A planned and purposeful programme***

The curriculum of an effective school is based upon and in turn supports, the school's goals and expectations. It needs to be purpose-orientated, clearly defined

and co-ordinated so that it generates the skills that are expected. Good planning in school organisation helps provide a curriculum that reflects the school's purpose. Clear goals and objectives allow the school to direct its resources and functions toward realising these goals and also help reduce learner alienation.

- ***School-wide recognition of academic success***

Academic achievements of learners and educators should be honoured publicly through high visibility in the school and in the media. Recognition of learner success is very important in fostering pride and self-esteem. Praising learners and educators for their achievements is a good way to supply an incentive by which both groups know that their efforts will be recognised.

- ***Parental involvement***

Effective schools tend to emphasise more communication with their parents. These schools communicate regularly with the parents, informing them of the progress of their children. They also notify parents of the goals and expectations set for their children and they encourage parents to take responsibility for ensuring that their children reach them.

- ***Teamwork***

Educators will be more receptive to changes if they participate in the process. Participation in work groups and teaching teams is more likely to result in improved teaching.

- ***A school-wide sense of community***

Motivational ceremonies, symbols, rituals, and rules, such as school T-shirts, songs, slogans, posters and high visibility of school academic, cultural and sport accomplishments, may strengthen a sense of community. The individual's sense of being a recognisable member of that community should also be strengthened.

- ***Good classroom management practices***

A consistent characteristic of effective schools is that educators maintain a good balance between their classroom management skills and their instructional skills. Professional standards are expected from educators at all times.

- ***High academic engagement***

A strong sense of academic mission and engagement is another consistent and central feature of effective schools. Learners spend more time actively engaged in learning and time spent on non-academic activities and unassigned time is minimised. At the same time, schools promote empathetic learner care and learning-centred approaches in the classroom.

- ***Monitoring of learners' progress***

Learner achievement must be closely monitored via test results, grade reports, attendance records, and other methods. Regular feedback on performance needs to be given to all learners. Changes must be made in school procedures and instructional programmes to meet identified needs and weaknesses.

Schools can also be defined in terms of institutional effectiveness considering elements such as goal achievement, resource acquisition, social justice (e.g. access and equal opportunities), internal processes and participant satisfaction. Cameron's (Middlehurst & Gordon, 1995:276-277) review on effectiveness models suggests that effectiveness is perceived as successful transactions encompassing resource inputs, process and outputs. A nine-scale measurement of effectiveness is derived from this analysis:

- Learner educational satisfaction;
- Learner academic development;
- Learner career development;
- Learner personal development;
- Employment satisfaction;
- Professional development and quality;
- Systems openness and community interaction;
- Ability to acquire resources, and
- Organisational health.

Cameron's dimensions of effectiveness are in many ways close to the elements of TQM (see the European model for quality, Fig. 3.7). This view is supported by two studies of well-performing Canadian public sector organisations published in 1988

and 1990. The following are identified from one report as the key ingredients of these well-performing organisations (Middlehurst & Gordon, 1995:278-279):

- Emphasis on people in terms of challenge, encouragement and development.
- Emphasis on participative leadership which is described as 'guiding by being creative, by detecting patterns, by articulating purpose and mission, and by fostering commitment to the goals of the organisation', in contrast to being directive.
- Innovative work styles where staff members reflect on their performance, environment and opportunities, learning from experience and being innovative, creative and flexible. Strong monitoring, feedback and control systems are used, but only as tools. Members of these organisations reviewed their activities, consulted and collaborated as a matter of course, and the organisation was described as 'controlling itself rather than depending on control from an outside authority'.
- Strong client orientation, focusing on client needs and preferences, where staff satisfaction was derived from serving the client. Interaction was strong internally and externally.

The authors of the Canadian report tried to isolate those processes by which the attributes of well-performing organisations were acquired. An important finding was that 'people need to have a certain mind-set', which was seen as an amalgam of strongly held beliefs, of values such as dedication and an innate need to improve the organisation in which they worked. These positive attitudes demonstrated that 'we can always be better and do better'.

According to Middlehurst and Gordon (1995:278), the achievement of quality is a difficult and complex process involving a number of elements and transactions. It takes time and effort to understand the range of elements involved, to interpret their significance and relationships and to negotiate these interpretations with others. They argue that leadership of a high order, spread at many levels of an organisation, is required to achieve a critical mass of shared meanings and commitment to go forward. Furthermore, they assert that the establishment and

operation of quality systems by themselves will not produce quality outcomes or institutional effectiveness, particularly where such systems are generated solely or primarily in response to external assessment and accountability. Leadership is also required to explain, justify and promote the utility and effectiveness of quality models and processes.

It is evident from the literature that there is no single combination of variables or a simple recipe that can be used to improve the effectiveness of every school. However, according to Davis and Thomas (1989:51), "effective schools share a climate in which it is incumbent on all personnel to be instructionally effective for all pupils".

The literature also reveals two directions of research placing school effectiveness and school improvement next to each other. School effectiveness research has been concerned with learner outcomes, school organisation and a quantitative orientation. School improvement research, in turn, has a predominantly qualitative orientation, focusing on processes rather than on organisation and learner outcomes (Scheerens, 1992:103; Drimmock, 1993: 188,190).

The school improvement research with its focus on quality improvement can, therefore, be regarded as closely related to TQM. Daresh and Playko (1992:9) assert that the most important task of the education leader is to help people to become as skilful and effective as possible and thereby increasing the overall effectiveness and productivity of the organisation. Furthermore, the TQM approach suggests that the top-down management approach is no longer valid, nor is any effort to use immediate and visible indicators of effectiveness. In a school setting this means it becomes increasingly difficult to imagine successful practice being identified solely in terms of increases in learner achievement scores. The organisation (i.c. school) is effective when the external environment is satisfied with what happens within the organisation. This means that TQM focuses on the need to engage in absolute dedication to customer satisfaction (Daresh & Playko, 1995:20-21,23).

Daresh and Playko (1995:21) give the following summary of effectiveness (which can be applied to schools as well) that falls within the scope of TQM:

- *Customers* are intensely loyal when their needs are being met and their expectations are being exceeded.

- The *time to respond* to problems, needs, and opportunities is minimised. Costs are also minimised by eliminating or minimising tasks that do not add value. Moreover, they are minimised in such a way that the quality of the goods or services given to the customer and the way the customer is treated is enhanced.

- A *climate* is put in place that supports and encourages teamwork and leads to more satisfying, motivating, and meaningful work for employees.

- There is a general ethic of *continuous improvement*. In addition, there is a methodology that employees understand for attaining a state of continuous improvement.

In conclusion, it may be stated that the TQM approach to school effectiveness provides for particular characteristics which are embedded in a profound management philosophy.

2.3 THE TQM PHILOSOPHY

The managerial discourse has been based on models of scientific management in a factory context and the notion of total quality. This discourse can be linked to Alvin Toffler's distinction between second and third wave technology. Second wave technology was based on the factory model (scientific management), dealing with the mass production of marketable goods. This philosophy resulted in schools for the masses that looked and functioned like factories. The third wave represents a new trend in industry to depend more on electronic information, decentralisation and humanisation. TQM, therefore, is compatible with third wave thinking (Hill, 1993:24-25).

2.3.1 Scientific management

The philosophy of scientific management was popularised by Frederick W. Taylor, an American industrial engineer. Taylor taught industrialists that workers should be hired to perform a small number of tasks in a repetitive, mechanistic fashion. They

should not be hired to think about the work they do because thinking was the rightful role of management. Factory owners were to plan the work process and hire managers who would direct the workers. Workers, largely uneducated and untrained for the job, were urged by their bosses to continuously "work harder" and "do their best".

Scientific management principles discouraged workers from considering ways they could work more effectively and efficiently. Workers would surely make mistakes, but inspectors at the end of the production line could catch faulty products before they left the plant, and workers' per-piece pay could be lowered for each item that had to be scrapped or reworked. If a worker produced too many faulty items, he or she could be dismissed.

Taylor's scientific management philosophy viewed the entire production process mechanistically. Workers were thought of as interchangeable and replaceable, similar to equipment. Taylor viewed the line worker as a cog in the giant industrial machine, directed by appropriately educated managers and administering a set of rules. Tasks on the assembly line were simple, repetitive and boring. Workers' compliance with management's dictates was ensured by a hierarchical, top-down paradigm (Bonstingl, 1992(b):27). Quality of work was not a consideration for most workers. Inspectors at the end of the production line were entrusted with quality control.

The ideas of this philosophy of management soon found their way into the American schools. At the beginning of the twentieth century, the mass education movement took as its model the American factory, complete with the philosophy of scientific management. At the University of Chicago, Franklin Bobbitt took on the role of translating Taylor's principles into a form that could be used by educators. He believed that efficiency depended on the centralisation of authority and definite direction to workers (i.c. educators), who must be kept supplied with the detailed instructions as to the work to be done, the standards to be reached, the methods to be employed and the appliances to be used (Bonstingl, 1992(a):8).

The industrial model was a top-down, authoritarian structure that discouraged workers from considering ways of working more effectively and efficiently. This

model is based upon compliance, control and command. There is little empowerment for front-line workers to create, monitor, and control their own work processes, as well as little participation by workers in the governance of the organisation. More attention is paid to end products than to the processes essential to increase productivity (Steyn, 1995:15).

2.3.2 Quality management

2.3.2.1 W. Edwards Deming and the rise of the quality movement

William Edwards Deming was born on October 14, 1900 and obtained his Ph.D. in Physics at Yale in 1927. As graduate student in the late 1920s, Deming worked summer jobs in Chicago at Western Electric's Hawthorne plant. There he observed the sweatshop conditions under which the predominantly female workforce of 46,000 laboured to produce telephone equipment. At Hawthorne Plant, Deming became convinced that the authoritarian Taylor method of management was degrading to the human spirit and counterproductive to the interests of employees, management and the company (Bonstingl, 1992(a):8-9).

A statistician, Walter Shewhart, who was leading efforts to improve the reliability of telephones in America, also influenced Deming. Toward this goal, Shewhart developed a methodology for improving worker performance and production output by measuring the extent to which the items produced fell within acceptable limits of variation. Shewhart developed a way of showing this variation graphically which he called a statistical control chart. Deming realised that workers could keep control charts of their own work and thus monitor the quality of the items they sent down the production line. He believed that if workers could be educated and empowered to manage their own work processes, the quality of their output would improve and the costly and ineffective end-of-line inspection process could be curtailed or eliminated.

Shewhart's discoveries and teachings became the centerpiece of Deming's emerging philosophy of Quality Management. Deming learnt about Shewart's three-step cyclical process to help ensure increasingly higher quality production. This cycle of Specification-Production-Inspection focused attention on inspection

as the genesis of revised specifications, rather than as an end-of-line failsafe mechanism (Bonstingl, 1992(a):8-9).

Deming later modified this three-step cycle into a four-step process, presently commonly known as the Deming Cycle or the PDSA Cycle. The Deming Cycle (Plan-Do-Study-Act) is, like Shewhart's model, cyclical in that a production plan is created. Then the plan is implemented on a small scale. In the third stage, the production is studied to make sure it conforms to the plan. Finally, lessons learned in the study stage are used to modify the ongoing production process so that a new set of data can be used in creating and implementing the next plan on a larger scale. Thus, the PDSA Cycle is a simple, effective, data-driven instrument for continuous learning and improvement (Bonstingl, 1992(a):8-9).

During World War II, the United States of America government, in an effort to support the war, called Deming. He was part of a small group of experts on statistical process control to help establish quality guidelines for defence contractors. Using Deming's application of Shewhart's ideas, American manufacturers were able to produce superior military equipment. Japan was defeated in the United States of America war effort and its economy destroyed to a large extent. During and in the post-war years, Japanese manufactured goods acquired the reputation of shoddiness and low quality. Then, in 1946, a group of leading industrialists created a new organisation, the Union of Japanese Scientists and Engineers (JUSE), to advance the cause of quality Japanese manufacturing. Japanese manufactured goods at that time acquired the reputation of inferior quality, and the label "Made in Japan" indicated shoddiness to consumers in other parts of the world (Schargel, 1991:34)

Deming was recruited in 1947 to join a team of individuals working with Japanese officials on planning for programmes that would bring about national stability after the massive destruction brought about by the war. He noted that a complete redefinition of the ways in which people viewed organisational roles and relations would be needed to rebuild the national economy. Deming realised that his role was to foster a new way of thinking about management, perhaps even more important than finding new ways to manage (Daresh & Playko, 1995:21).

On request of the United States of America State Department, Deming went to Japan in 1949 to assist the government with statistical population studies to address the desperate housing shortages, and how best to remedy the situation (Bonstingl, 1992(b):10-11).

Deming went back to Japan in 1950 to present a series of lectures on statistical quality control on invitation of the JUSE. In his lectures, Deming taught his Japanese audience how to use the PDSA Cycle to constantly improve quality and demonstrated the use of statistical control charts. With the support of *Ichiro Ishikawa*, President of JUSE, Deming also addressed Japan's top industrial leaders. Deming stressed the following points to them:

- The quality revolution the Japanese industry needed so desperately would only succeed with the full support of top level management;
- It required a cadre of willing workers, prepared to do their best and guided by the analysis of data and by what Deming would later call a system of profound knowledge, including a deep understanding of human psychology, learning theory and variation within systems;
- The customers are the last and most important people on the production line. Quality is that which satisfies, even delights, the customer and customers must be asked what they want, and
- Elimination of production errors before they occur.

2.3.2.2 Joseph M. Juran

The JUSE invited another American statistical expert, *Joseph M. Juran* in 1954, to lecture to them.

Juran (West-Burnham, 1992:18-19) is generally recognised as the most intellectually profound of the management theorists. He defines quality as 'fitness for purpose' and identifies the principal outcome of quality management as reducing cost of quality and increasing conformance. Juran identifies three steps to quality improvement:

- Structural annual improvement plans;
- Training for the whole organisation; and
- Quality directed leadership.

Juran summarised his principles of quality management into a series of epithets (West-Burnham, 1992:18-19):

- Create awareness of the need and opportunity for improvement;
- Set explicit goals for improvement;
- Create an organisational structure to drive the improvement process;
- Provide appropriate training;
- Adopt a project approach to problem solving;
- Identify and report progress;
- Recognise and reinforce success;
- Communicate results;
- Keep records of changes, and
- Build an annual improvement cycle into all company process.

Juran places great emphasis on leadership and teamwork, arguing that quality management is a balance of human relations skills and statistical process control skills.

His management philosophy comprises the following (West-Burnham, 1992:18-19):

- Management, not the production worker, is most accountable for the organisation's performance;
- Quality can be defined as "fitness for use" and "freedom from defects";
- The need to be attentive to the customers' perceptions of quality;
- The quest for quality must be an ongoing, never-ending process. Juran's "Spiral of Progress in Quality" with its cycle illustrates this process: Customers-Product Development-Operations-Marketing-Customer. The quality process begins and ends with the customer (Bonstingl, 1992(b):14);

- Customers are "all persons who are impacted by our processes and our products". He made a distinction between internal and external customers. Internal customers are persons or organisations who are part of the company. External customers are persons who are not part of the company but are impacted by the products, and

- The two-way relationship between customers and suppliers. Customers provide their suppliers with requisitions, specifications, feedback on product performance, etc. The customer becomes a supplier and the supplier becomes a customer.

2.3.2.3 Armand Feigenbaum

Armand Feigenbaum was another American quality expert. As head of quality for General Electric, Feigenbaum was in contact with Hitachi, Toshiba, and other Japanese companies. Those companies spread his ideas of "Total Quality Control", which required the involvement of all functions in the quality process and not simply manufacturing. Feigenbaum is generally credited with linking 'total' and 'quality'. His approach is technical and highly detailed and he stresses the importance of quality approaches permeating every aspect of an organisation (West-Burnham, 1992:19).

Deming, Juran and Feigenbaum each spoke of the need for organisations to make quality their first priority. Their teachings were based on the idea that production goals cannot be consistently achieved unless attention is paid to the processes leading to those goals. Processes must be continually improved so that products can be continually improved (Bonstingl, 1992(b):12-15).

2.3.2.4 Philip Crosby

At a time when Americans like Deming, Juran and Feigenbaum were contributing to the economic miracle of post-war Japan, American industry and society neglected the importance of quality. An American industrial consultant, *Philip Crosby*, was disturbed by this attitude while preaching the idea of "quality first". Crosby argued that putting the best possible resources in at the front end of a process would more than pay for the investment later.

Crosby (West-Burnham, 1992:16-17) focuses on senior management and argues that the centrality of increased profitability through quality improvement. He is known for his four absolutes of quality management (see Table 2.1). These absolutes have almost become synonymous with TQM. The conceptual framework the absolutes offer do help to distinguish TQM from other management approaches.

Table 2.1 The absolutes of quality management

The definition:	Quality is conformance to customer requirements, not intrinsic goodness
The system:	Prevention, not detection
The standard:	Zero defects
The measurement:	The price of non-conformance

Crosby identified fourteen steps to quality improvement (West-Burnham, 1992:16-17):

- Establish full management commitment to the quality programme;
- Set up a quality team to drive the programme;
- Introduce quality measurement procedures;
- Define and apply the principle of the cost of quality;
- Institute a quality awareness programme;
- Introduce corrective action procedures;
- Plan for the implementation of zero defects;
- Implement supervisor training;
- Announce zero defects day to launch the process;
- Set goals to bring about action;
- Set up employee-management communications system;
- Recognise those who have actively participated;
- Set up quality councils to sustain the process, and
- Do it all over again.

These steps have been criticised as being too doctrinaire and not always

appropriate to different company cultures.

In the late 1970s, American industry started taking note of Japanese successes in the international marketplace. Some American executives visited Japan in an effort to uncover the reasons for Japanese success. They noticed the practice of small discussion groups among workers that were called quality circles. Quality circles are groups of workers who meet at their workplace to explore ways to improve their work and their work environment. Members focus on their own self-development as well as development of others. A primary goal is to get all of their fellow workers involved in the improvement process.

American business implemented the practice of quality circles in that country but without success. It became evident that the notion of quality circles was part of the larger Japanese culture of self-discipline and of the attitude to honour one another. Japanese workers were empowered to make changes in their work processes based upon discoveries made in their quality circles. Quality circles in America did not operate within such an ethos and workers were only permitted to offer suggestions to management.

The American industrialists started to realise how important it was to restore their dedication to quality after an NBC-TV documentary was broadcast in 1980. The programme focused on the work Deming had done in Japan and the ways his teachings had helped the post-war Japanese economy to rebuild with dedication to quality and continuous improvement.

2.3.2.5 Recent developments in the quality movement

The assumption of TQM as a holistic approach where all elements and processes of an organisation interact in ways which makes a systems approach necessary was still valid in the 1990's. Several new tools, methods and theories, however, have recently been developed within the quality movement. The following developments have emerged to become critically important within the era of globalisation:

- ***The Net*** (inter, intra and extranet) has become the foundation of a new digital economic world order where enterprises and governments have to be more open and heavily client behaviour-orientated (Ramalhoto, 1999).

- ***Quality assurance through ISO 9000***. The International Standards Organisation (ISO) established ISO 9000, which is a collective name for a series of international standards in quality assurance (Waks & Frank, 1999). ISO 9000, created in 1987, was the first attempt to develop a worldwide standard to help companies and other institutions to measure and monitor their quality efforts. This is a documentation-based process which provide for employees to act as internal auditors. This is accomplished by having employees and management alike assess work procedures and jointly develop a quality manual and corrective action procedures. ISO 9000 certification was first applied in manufacturing settings but is being pursued increasingly by service-orientated organisations with the intent to upgrade their performance. The aim is to improve internal communication, increase monitoring of activities and adopt best practices from throughout the organisation (Zuckerman, 2000:12; see 3.4.2).

- The ***Malcolm Baldrige National Quality Award*** was created in 1988 for quality improvement in the business sector in the United States of America. The Baldrige business criteria serve as a road map to guide quality improvement efforts and achieve organisational excellence in the business sector. On the basis of the successes of this award system, education criteria for performance excellence have also been developed. By 1998, the Baldrige office had developed the purposes, goals and a set of core values for the education criteria. A Baldrige award for education was implemented in 1999 for the first time (Karathanos, 1999:231-234; see 3.4.4).

- The ***learning organisation*** (Peter Senge) that is based upon learning disciplines becomes increasingly important. A discipline is regarded not simply as a subject or study, but as a body of techniques, based on some underlying theory or understanding of the world that must be studied and mastered to put into practice. To build enduring capabilities requires a deep understanding of

what it takes to create a learning culture that is founded on high levels of aspirations, ongoing generative conversations and the ability to conceptualise and understand complexity. In education, it is suggested that the educator is not meant to function as a provider of facts, but rather to serve in the capacity of mediating, directing and assisting in the learning process. The educator is supposed to provide the tools which will enable the learner to build up a body of knowledge on his/her own through a process of discovery, experimentation and interaction with the environment on a trial and error basis, as well as to prepare for lifelong learning (Ramalhoto, 1999; Waks & Frank, 1999).

- Masaaki Imai, an international lecturer and chairperson of the Kaizen Institute of Japan, introduced the Western world business to the concept of continuous incremental improvement (Kaizen). Imai has also introduced the latest quality improvement concept, called ***'Gemba kaizen'***. 'Gemba' means where the real actions take place. It usually refers to the place where manufacturing activities are conducted in a factory as well as the place where employees have direct contact with customers in the service sectors (Ramalhoto, 1999; see 2.8.2).

2.4 THEORETICAL FOUNDATIONS OF TQM

W. Edwards Deming has outlined a body of knowledge known as the System of Profound Knowledge, which serves as the theoretical foundation of TQM as management approach. The system is fundamental to the TQM approach and comprises four interdependent components (Rankin, 1992:72-74; Bayless *et al.*, 1992:192-193):

2.4.1 The systems theory

Organisations work as systems. A system is a network of function components that are interdependent and synergistic and which, taken together, can attain clearly stated goals. The system makes its boundaries explicit by defining which people, functions, components and aims are included and which are not. The components must serve the total system, not the individual components themselves.

Managers work on the system to attain the total system's aims (to optimise it) and the workforce works in the system. Effective communication and common

understanding about roles and responsibilities is key to the optimisation of the system. When one component, function, or subsystem benefits without concern for the impact on the total system, then the total system is sub-optimised.

The aim of the system must be clear to all and consistent with the needs of the system's customers. Each component has suppliers and customers within and/or outside the system.

A school is a system that should be optimised. Some of the school activities may not contribute to the aims of the total system: optimising the extra-curricular programme may damage the curricular programme, or *vice versa*. Assigning extra resources to one department may optimise the total system, or it may not. Each action taken for improvement of one function has implications for the others.

It is essential that schools make explicit their aims or mission and make sure that the whole school community supports the aims. These total system aims must actively guide decisions about priorities, experimentation and allocation of resources.

2.4.2 Variation (Statistical theory)

A system consists of a process that combines the input of people, equipment, method and environment to produce output. That output has a distribution with variation. If the mean and standard deviation of the distribution are consistent over time, the system is said to be "a stable system" or "in control". The variability in the system has common causes and special causes. Common causes are sources of variability that are always present. Special causes are not always present. The variation in stable systems is limited to common causes.

In order to improve the quality of a system, one approach is to reduce its variability. This must be preceded by the measuring and plotting of outcomes over time to determine if the system is stable or not. The system must be stabilised before it can be improved. Improvement is then made by changing the process to move the mean, or by changing the process to reduce the variability.

Statistical control is central to improve product quality profitability in the long term. Both the successes and failures must be examined, otherwise key information will be excluded. Various tools have been developed which can be used to collect, analyse, and understand relevant data: flow charts, fishbone diagrams, Pareto charts, histograms, control charts, brainstorming, cross-impact matrix, etc. (Bonstingl, 1992(b):51-62).

Schools as well can benefit from this theory to reduce variability. Collaboration between schools and universities and other research centres could be extended and expanded. By means of collaborative inquiry, practitioners and theoreticians can improve both schools and teacher-education institutions. In the search for better methods of instruction, some variables can be controlled and some can be measured. To improve on teaching it becomes necessary to have more knowledge about variation in outputs, processes, and inputs.

2.4.3 Theory of knowledge

When attempts are made to improve a system the processes must be clearly defined and conceptualised. Communication between supplier and customer and among people in different function components must therefore be unambiguous if understanding and improvement are to occur. In order to improve a process, it must be based on some predictive theory on how the system will react to certain changes or adjustments. The theory, in turn, should be based on knowledge or experience or on some restructuring of elements within and/or outside the present process. Knowledge can only be advanced with the existence of a theory.

The improvement of a system requires a thorough knowledge of the own business. Managers in education themselves are to determine, for example, which variables should be measured or which can be ignored. This judgement is to be done by the professionals within the system. Statistical control experts can help with the improvement of processes and methods, but they cannot select or define educational variables. Without that knowledge improvements will come only by luck. Good decisions are based on a thorough understanding of key variables and on the wisdom gained by other practitioners and researchers.

2.4.4 Theory of psychology

It is paramount to understand the interactions between people and their behaviour since management implies that people are motivated (Van der Westhuizen, 2002:203). The theory of psychology suggests that intrinsic motivation is superior to extrinsic motivation. External motivators, such as merit pay and/or punishment may control behaviour in the short term, but they do not contribute to the improvement of the system over the long term. People are in need of fun, freedom, belonging, success, recognition and joy and positive, honest, direct reinforcement can motivate them better than fear. Over-justification in the form of unsought and unnecessary awards, however, can be insulting and de-motivating. Individual differences are always present in the ways in which people learn and in the speed with which they learn. Fear can exercise a negative effect on the behaviour of people and can therefore affect the quality of their work. Attention to psychological principles provides opportunities to improve inputs, processes and outputs.

The emphasis on intrinsic motivation and the honouring of individual differences are relevant to learners and educators in schools. Reinforcement strengthens desired actions where fear is eliminated, or at least diminished, while success is seen as the consequence of effort rather than aptitude, luck or ease of task.

Deming's body of knowledge thus comprises four interdependent components that represent a fundamental point of departure for understanding the quality management approach. The structure provides for the optimisation of systems, statistical control to limit variables, information and knowledge which are necessary in sound decision making and positive motivation which is aimed at effective human resource development.

2.5 TQM AS A MANAGEMENT APPROACH

W. Edwards Deming (Deming, 1986; Schmoker & Wilson,1993(b):390; Daresh & Playko,1995:21) developed the management approach which later became known as *Total Quality Management (TQM)*. This management model was developed in a business environment, but is radically different from the scientific model. Covey (1992:261) supports this model contending that TQM "represents the century's most profound, comprehensive alteration in management theory and practice".

Daresh and Playko (1995:20) claim that "if there is any single movement that epitomises management philosophy development in the past ten years, it is clearly the concept of Total Quality Management".

Deming was an engineer and after World War II became engaged in the national planning and reconstruction of the Japanese industry. Deming's answer to the inferior quality of Japanese manufactured goods was simple: complete customer satisfaction. What Deming proposed to Japanese industrialists equals a total onslaught on inferior quality (Schargel, 1991:34; Gilbert, 1996:20).

This management approach is popularly called Total Quality Management (Steyn, 1996:121). Deming himself uses the word quality sparingly and never in such expressions as "total quality management" (Holt, 1993(a):7). The Fourteen Points constitutes the essence of this management approach and he is widely honoured as the father of the quality movement (Middlehurst & Gordon, 1995:273)

Therefore, TQM had its origin in a manufacturing context as well where the focus is put on the production of goods and on quality control (Hill, 1993:24-25). The philosophy of quality management, however, differs from the traditional scientific management approach in the following respects (see Table 2.2 for a summary of the differences between traditional management and quality management):

- ***Participative management***

  Quality management represents a radical shift away from traditional thinking on management (Schmoker & Wilson, 1993(a)) and centralised and bureaucratic management, towards thinking about organisations and people in a far more flexible and holistic light (Carlson, 1994:14). Participation in groups/teams is particularly very useful to encourage quiet team members to come up with creative solutions to difficult problems.

- ***Empowerment of workers***

  Workers are treated with decency and respect, which is in contrast with the dehumanising effect of scientific management (Covey, 1992:264). The people on the job understand the details of how the work is accomplished and they

have the information needed to bring about many small improvements to the system (continuous improvement).

- ***Creative problem solving***

  People who know the techniques of creative problem solving will usually reach better solutions than those who are being prescribed to all the time.

Table 2.2 Differences between traditional management and quality management (Meyer, 1998:33)

Traditional management	Quality management
• Bottom-line driven	• Customer-driven
• Measuring individuals	• Measuring processes
• Management controls workers	• Self-control
• Quality is the responsibility of production managers and quality controllers	• Quality applies at all levels of the company
• Individuals are concerned about doing their own jobs	• Individuals work in teams to make the total process function in a better way
• A competitive organisation culture reinforces individualism	• A quality organisation culture reinforces both individual and group contributions
• Maintaining the status quo	• Continuous improvement
• React to problems when crises occur	• Preventative
• Maintained by the power, position and status of management	• Maintained by a documented quality system (ISO 9000)
• Emphasis on management-subordinate relationships	• Emphasis on customer-supplier and management-employee relationships
• Employees are blamed for errors	• Errors are part of the process and system
• Functional departments promote their own interest	• Interdepartmental co-operation focuses on quality products and services
• Vertical and horizontal boundaries	• All barriers to performance are eliminated
• Employees satisfy management needs	• Employees satisfy customer needs
• Adversarial industrial relations	• Collaborative and constructive industrial relations

- ***Recognition***

  Recognition is important because people respond to positive reinforcement, not to punishment. It is also important to recognise participation in the process, not successful solutions. There are two reasons for this distinction. Firstly, by rewarding participation, it is ensured that recognition is equally accessible to all

employees. Any individual in the organisation has the opportunity to participate and can choose to do so. If only successes are rewarded, some people have more resources to draw from and, therefore would have an advantage over others. Secondly, if only successes are recognised, people may choose only simple problems to undertake, since this would guarantee success and recognition. This would limit the contribution of these efforts to the organisation (Rau, 1996:69-70).

Deming fostered a new way of thinking about management (Daresh & Playko, 1995:21) and not simply new methods of management. This new thinking about management, which focuses on quality, has revolutionised the activities of organisations. Due to the profound nature of quality management it has been termed "a thought revolution in management" (Rhodes, 1992:77) or a quality revolution that focuses systematically on customer-driven quality. This focus has been suggested as an imperative for organisations to survive in an increasingly global market (Murgatroyd, 1993:50).

TQM can also be regarded as a transformational process aimed at the fundamental change of organisational structures. Fundamental change depends upon the will and energy within an organisation to change (Gilbert, 1996:21-22). It is crucial asking and responding to profound questions, rather than implementing someone else's answers. TQM has to do with concepts such as teamwork, cooperative learning, leadership, driving out fear, breaking down barriers, continuous improvement, focusing on customers, creating learning organisations, thinking about processes and systems, intrinsic motivation, joy in learning, authentic assessment, empowering people, vision, values, principles, etc. (Carlson, 1994:14).

Surveys conducted in Europe and in the USA show that managers believe that quality is a motivational problem. Beard (1989:9), however, asserts that the decisions made by management create the system that is responsible for at least 80% of the problems.

It must be realised that TQM philosophy is not a recipe (Brandt, 1992:28) nor should it be viewed as the flavour of the month, as a project with a limited shelf-life

(West-Burnham, 1992:5; Bonstingl, 1992(a):5) or as a programme to provide quick answers to complex questions (Holt, 1993(a):7-8). Deming's work rather provides a conceptual framework for understanding systems (Brandt, 1992:28). It should also represent a fundamental paradigm shift by refocusing attention on the customer whose needs, requirements and potentials must drive the work process (Rhodes, 1992:77). It is in particular the management that must change fundamentally and transform its attitudes, mind-set and basic paradigms, before quality can become reality (Covey, 1992:264).

The input by the school management team in educating and training the workforce and management to continuously improve is most important and far-reaching in its consequences. The concept is quality at the source or self-control. TQM calls for excellence in people management. The human element is crucial in implementing TQM because it is through people that excellence comes to pass. The selection, training and development of staff are critical to the success of any organisation. Management style should be formulated according to individual needs and different levels of need (Beard, 1989:10).

Deming's ideas were initially ignored in the United States of America as the emphasis of American and Western manufacturing was on maximising output and profit. It was only in the late 1970s that a number of American companies became very concerned when they lost both markets and market shares to the Japanese (Steyn, 1996:121). Customers the world over registered their preference for Japanese goods over American products, because Japanese goods had consistently better quality at competitive prices (Bonstingl, 1992(a):5). International competition consequently forced Western countries to take the quality message seriously (Holt, 1993(a):6).

2.6 THE RELEVANCE OF TQM TO EDUCATION

In the early 1990s, American public education was considered at a low rate. Schargel (1991:34) asserts that many high school graduates couldn't read, add, write or think and the high school dropout rate was staggering. The quest for quality in education has subsequently become a crucial undertaking with Beard (1989:9) contending that "quality begins and ends with education"

The scientific management model has exercised an overriding influence on the management of schools during the twentieth century. Its philosophy permeated schools to the extent that large numbers of learners have been educated in a structure close to a factory context, where sophisticated instruments for measurement were developed and teaching assistant's work had to be controlled by inspectors (Hill, 1993:24).

In countries all over the world, the very nature of education and the way it has traditionally been structured is presently being questioned and challenged. Serious concerns are raised about the ability of bureaucratic models of management to keep up with the changing requirements of organisational reforms (Carlson, 1994:14; Acker-Hocevar, 1996:78). Deming, together with John Dewey and Joseph Schwab (1970), recognised that the methods of science are inappropriate when addressing problems related to people (Holt, 1994:86).

An increased interest in quality has emerged within the last decade, largely because of its philosophical assumptions about organisational life (Acker-Hocevar, 1996:78). Educators have realised the futility of scientific management and claim that TQM moves far beyond this management paradigm by endorsing stakeholder participation, intrinsic motivation and systems theory. Even some business leaders have united in one voice to suggest that TQM is the solution to educational problems. Some schools and businesses have joined together to promote and implement TQM (Capper & Jamison, 1993:26). What both business and education realise is that there are certain commonalities between them such as financial administration, recruitment of and the management of personnel (Van der Linde 1998:328)

In general, the introduction of the TQM philosophy has been perceived in the desirable undertaking for the school improvement process, even after attempts to implement the process in schools have been unsuccesful have advocated TQM efforts in schools argue that the relationship between organisational quality culture in industry and schools principles are relevant to the learning processes in schools and organisational learning (Murgatroyd, 1993; Berry)

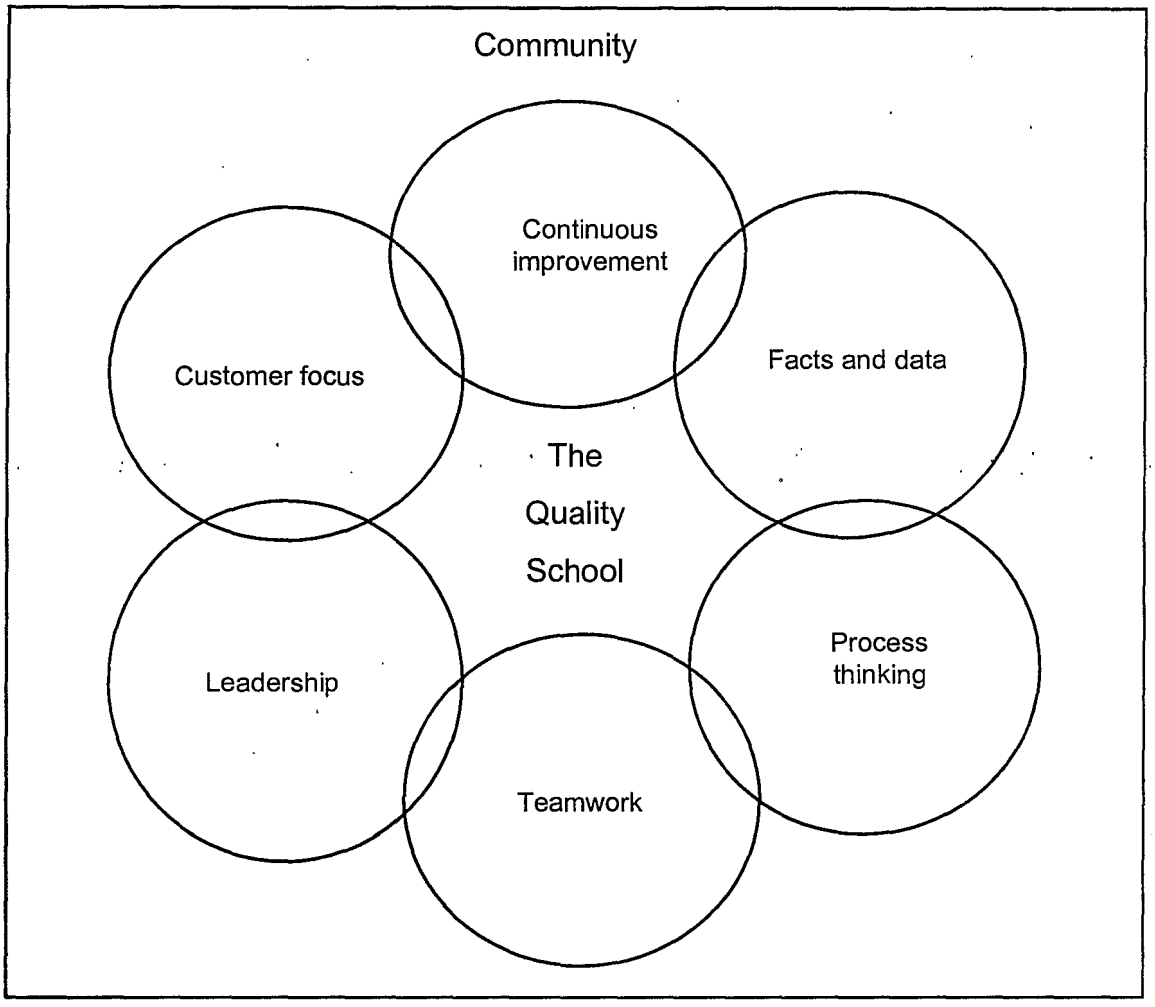
Gore (Berry, 1996:13) argues that TQM is highly applicable to education since the central concept of TQM, continuous improvement, is fundamental to education. It is suggested that although schools need to develop their own approach, some aspects of TQM are very relevant:

- The role of leadership;
- The articulation and development of a vision and the development of culture;
- Management by fact;
- A focus on team building and processes that cross functional boundaries;
- Management and enhancement of human resources;
- Benchmarking;
- Cycle time reduction, and
- Customer focus, satisfaction and measurement.

Evidence from other sources are clear about the elements of TQM that are relevant to schools (Irwin, 1993:15; Dahlgaard, 1995; Daugherty, 1996; see Fig. 2.1 and Fig. 2.2):

- School management team commitment (leadership);
- Focus on customer and employee empowerment;
- Focus on facts and data;
- Continuous improvement (Kaizen);
- Total involvement/everybody's participation;
- Teamwork;
- Process thinking;
- Cultural change;
- Training;
- Strategic planning, and
- Business support.

Figure 2.1 TQM in education (Irwin, 1993:15)

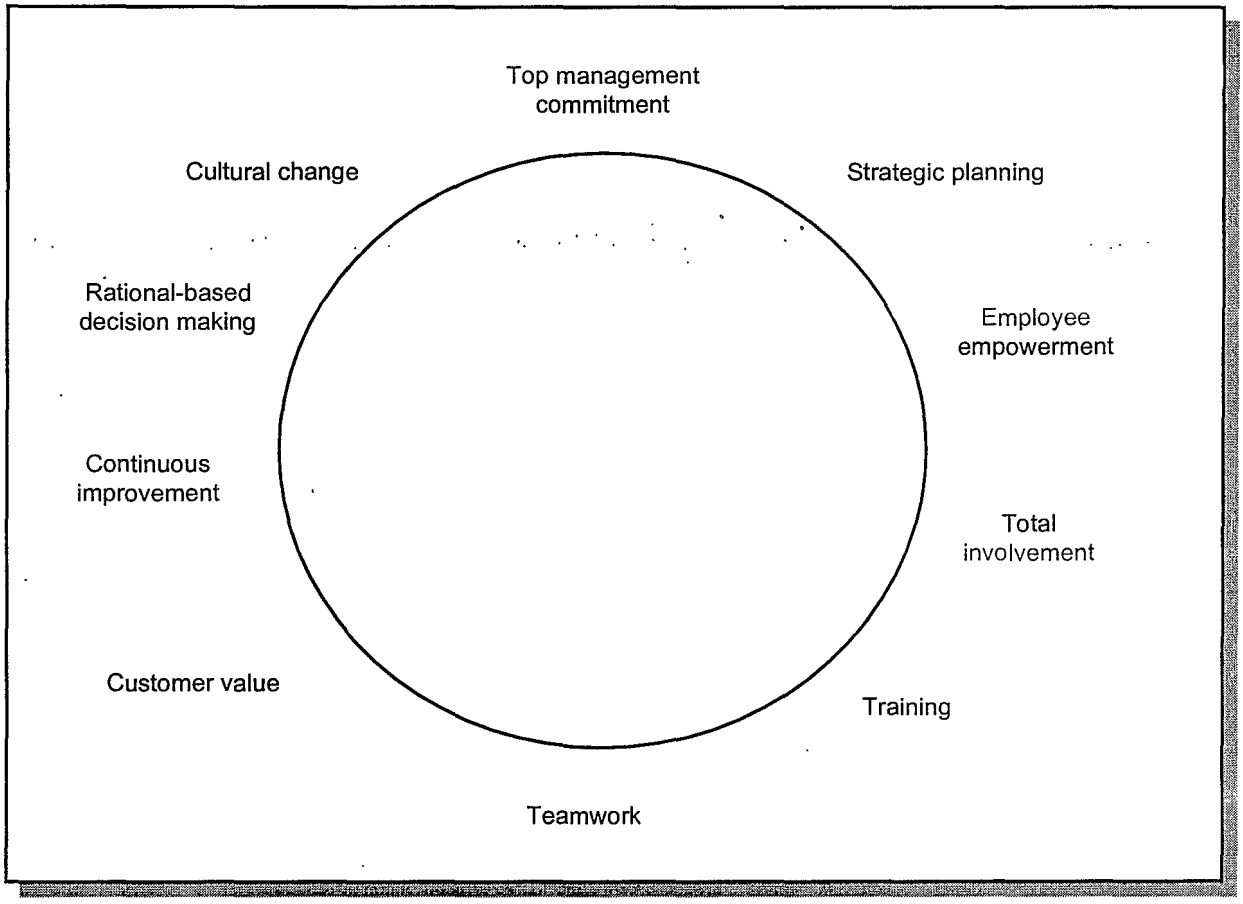


The literature suggests that, for the most part, the school curriculum in many educational systems is not relevant to the future needs of learners and school organisational structures are not attuned to emerging global economic and social structures. It is argued that schools can learn a great deal about organisational quality from other kinds of organisations and that inter-organisational collaboration ought to be encouraged interests (Berry, 1996:13-14).

This interest in TQM in relation to education generally is based on the perception of educational institutions as being predominantly service organisations where the focus is on such factors as quality, delivery, safety, cost, organisational responsibility, infrastructure, external relationships, customer protection and compliance. The concept of TQM requires that schools are perceived as service organisations designed to fulfil the needs of their customers, which include

educational programmes, advice, care, information and opportunities to participate or specific skill training. Therefore, in relation to schools, the emphasis is on transforming the curriculum and organisational and management processes in a way that serves these customer interests (Berry, 1996:11-12).

Figure 2.2 Precepts of TQM (Daugherty, 1996:84)



Murgatroyd (1991:13) explains that the key function of a service organisation like a school is to build an effective chain of customers. In order to create a learning organisation dedicated to this requires the school to think from the experience of the learner backward to the organisational design and structure. Structures should not be seen as a formalisation of control systems, but rather to facilitate responsiveness to learner needs in the learner's own terms.

For schools this mean a simplification of structure (Quong & Walker, 1996:224):

- Focusing upon the persons closest to the learner (classroom teachers) as the principal managers of the learners' experience, and

- Support of a small team whose task is to ensure that the resources of the school are used to the full to meet the needs of the learners.

It is all about empowering the people closest to the client to make decisions about how best to improve. In schools this means the educators, not just school managers, working together to improve the learning and teaching (Quong & Walker, 1996:224). This may result in middle management becoming redundant and putting the focus of responsibility and decision-making on the educators themselves. The task of the principal is to empower and facilitate, to coach, council, educate, guide champion, encourage and set standards rather than to control, manipulate, coerce, correct or instruct. It means that quality is the concern of everybody in the school.

In this new organisation more emphasis is put upon values than on roles and rules. It is important to demand total integrity, to decentralise authority, information and strategic planning. It is critical that the organisation is seen rather as one which listens and acts on advice of front-line staff than one which is formally organised and bureaucratised. This means heavy reliance on teams, on situational leadership and upon a matrix organisation (Murgatroyd, 1991:13-14).

Murgatroyd (1993:245) is a strong advocate of the application of TQM to school organisations and maintains that quality improvement is culturally located in that "improving quality becomes an overriding mission for the school. It is not a fad, or a game or a new activity for a given academic year. It is an essential part of the development strategy for the school and is something that is everyone's responsibility". Improvement is perceived as an incremental process focusing on the analysis of the numerous 'moments of truth' which stakeholders experience on a day-to-day basis within the context of a systems perspective (Berry, 1996:14).

The current interest in TQM as a management approach has to do with the quest for schools to restructure and to change in order to survive (Quong & Walker, 1996:219). Education clients, like business organisations who employ learners, the parents and taxpayers who support the schools and citizens who depend on today's youth to lead the nation of tomorrow have very high expectations of education with quality. Schools will only be able to survive and prosper in a time of

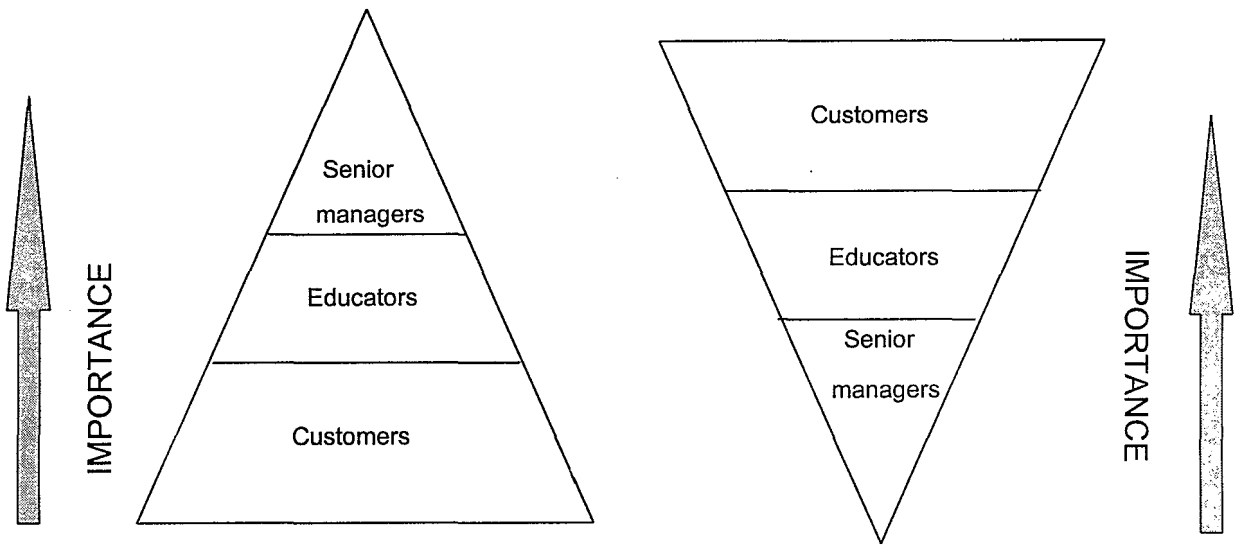
customer choice and customer perception of quality if they can offer quality in terms of product and customer service. By failing to provide excellent services, schools face the risk of parents removing their children from school or parents being very negative toward the school with detrimental effects on schooling for children. Being quality and service minded in schools means relating to and caring about the goals, needs, desires and interests of customers and making sure they are met (Whitaker & Moses, 1994:76). Jenkins (Steyn, 1996:122) maintains that this fact makes public schooling very complex.

It has, therefore, become evident that radical thinking on management in education is needed. This view can be defended by the assertion that between 80% and 94% of the problems in any organisation (school) can be related to systems that in turn are the results of decisions made by management (Beard, 1989:10; Brandt, 1992:31; Rhodes, 1992:79; Holt, 1993(b):384). The new approach towards management affects the top management of organisations (schools) in particular, in the sense that "quality emanates from top management" (Holt, 1993(b):384) and that the support, involvement and legitimisation must be gained from the appropriate level of top management (Sink, 1992:21). Top managers, therefore, first have to change their basic attitudes and commit themselves towards quality before they can fully accept this management approach (Beard, 1989:10; Brandt, 1992). They are in fact held accountable for the success of TQM (Capper & Jamison, 1993:26)

Quality becomes an integral part of a school once the thinking and culture of top managers and of the school as an organisation as a whole has been changed. Therefore, strong and consistent leadership is required from top management. Top management is entrusted with the responsibility of fully adopting the total quality philosophy throughout the organisation, building relationships from the top down, empowering staff to continuously improve by removing barriers to their natural joy and pride of workmanship (Steyn, 1995:19). This means that quality has to be managed, it just does not happen by chance and it has to be managed at all levels of the organisation (Murgatroyd & Morgan, 1993:55).

Murgatroyd and Morgan (1993:55-56) advocate an inverted pyramid as a scheme for managing quality schools. In traditional models management is placed at the apex of the triangle, with the educators forming the base. According to this pattern of control the apex is regarded as being the closest to the customers in terms of knowing what their needs are and how to achieve a quality product. The inverted pyramid concept of management (see Fig. 2.3), on the other hand, which is an essential prerequisite for TQM, puts the educators closest to the customers. This means that the classroom teachers are seen to be the only ones who can deliver quality improvement to the customer stakeholders. They are also seen as necessary in supporting the ideas of top management. In the inverted pyramid the hierarchical organisational structure is also inverted and the manager is no longer placed at the top level but manages from the bottom up. At the same time the increasing importance of subordinates and clients is evident from their positions in the upper part of the inverted pyramid (see Fig. 2.3).

Figure 2.3 The inverted pyramid of TQM (Murgatroyd & Morgan, 1993:55)



Accordingly, top management is expected to be less prescriptive and more supportive of personnel (Department of Education, 1996:10,64). This can be effected by removing the obstacles to improvement and listening carefully to educator's ideas on improving quality for their customers. This view is very different from the traditional practice of schools where the control is very

hierarchical, and where educators are not receiving support from top managers (Quong & Walker, 1996:222).

Quality in an organisation is highly influenced by the culture within that organisation. The attitudes and activities performed by top management exercises an important influence on the culture of an organisation. Culture comprises the beliefs and values inculcated by top managers through their attitudes and behaviours (school) (Kachar, 1996:3). Everybody in the organisation should be able to identify with the collective culture of the organisation (Van Kradenburg, 1995:33: Van Vuuren, 1996:33). Bonstingl (1992(a):5) maintains that quality emerges when TQM ideas and practices become so embedded in the culture of the organisation or the day-to-day work of its people and systems that it is simply "the way we do things around here".

TQM stands in opposition to scientific management and advocates claim that TQM moves far beyond this management paradigm by endorsing stakeholder participation, intrinsic motivation and systems theory. TQM has been presented to schools as a radical departure from the current educational paradigm by freeing educators from their bureaucratic shackles and providing a model for empowering staff and improving the process of learning. The introduction of TQM to education caused schools to embrace this paradigm and in the long run to become quality-driven systems (Capper & Jamison, 1993:25-26; Quong & Walker, 1996:223).

A growing number of schools in the United States of America are implementing the process, principles and tools of TQM. These schools reveal tremendous improvements in various areas. The following significant changes have been identified (Rappaport, 1993:17; Schargel, 1991:35; Steyn, 1996:122):

- Learners have become more involved in extra-curricular activities;
- The dropout rate has declined;
- Membership of parent-teacher associations has grown;
- Requests for admission to institutions have increased;

- Schools have raised large sums of money for new or additional programmes or services;
- The curriculum was developed to motivate learners intrinsically to do and be their best;
- Learners have become "co-managers" of their education;
- Educators have become enablers and facilitators and not taskmasters;
- Morale and motivation have improved;
- Conflict between staff members has decreased, and
- Schools have experienced academic improvements.

Steyn (1996:122) asserts that the South African education system, in particular the public school, is faced with serious problems: a high dropout rate; a shortage of people who are trained in science and technology; poor basic education, and poor examination results. According to this, quality is required across the board. TQM that assisted Japanese and American companies to compete globally embodies the same principles that could be applied to improve state schools and the education delivery system in South Africa.

Modern society insists on quality education and is becoming increasingly critical of outdated management paradigms. Those who are involved in education are also criticising the traditional management paradigm with its hierarchical structuring and top down decision-making. The focus on quality and quality education is currently gaining momentum. This movement requires an inversion of the hierarchical organisational structure in which the manager is no longer the apex of the pyramid, but rather manages from the bottom up. At the same time, "sub-ordinates" and clients are becoming increasingly important as they move to the apex of the pyramid (cf. Fig. 2.3). Advancing the interests of the clients pursues quality.

TQM appears to be important to schools, but can only be successful given that educational managers prove themselves ready to shift their paradigms fundamentally towards the new paradigm.

2.7 DEMING'S FOURTEEN POINTS APPLIED TO SCHOOLS

The result of Deming's effort to promote restructuring of the Japanese managerial culture has been the identification of Fourteen Points for effective practice, which seem to define his conceptualisation of a more effective way in which organisations might operate (Deming, 1986; Holt, 1993(a):10-12; Daresh & Playko, 1995:21; Anon., 2002). Deming presented the Fourteen Points as a point of departure for the transformation of American industries, similar to what senior managers in Japan have done after 1950.

Deming's basic point of departure is that people's best performances and working experiences alone will not ensure quality. People's working performances have to be directed by a theoretical paradigm, which is based on specific principles such as profound knowledge, teamwork and leadership. It is expected of leaders or managers to have a clear vision of where they wish to take the organisation (e.g. where they want to be within five years) and how they want to realise this vision. It is also required of leaders to ask the right questions. Deming presents the Fourteen Points as a set of principles that provide a method in order to overcome the barriers on the road to quality (Deming, 1986:19-23).

Deming's Fourteen Points are more than a mere checklist of things to do to achieve total quality. These points are integrated, inter-dependant and holistic. They must be viewed and applied as an interrelated system of paradigms, processes and procedures or a complete framework of management, harnessed to achieve maximum effectiveness and quality of product and service from the people constituting the enterprise (Covey, 1992:265; Brandt, 1992:28). It covers a pragmatic management approach that provides for including and refining the well performing aspects of management (Schmoker & Wilson, 1993(a); Berry, 1996:4). The fourteen principles as held by Deming will be explained next with an indication of the importance thereof to education.

2.7.1 Create constancy of purpose

Schmoker and Wilson (1993:390) regard constancy of purpose as critical to quality and innovation. Studies reveal that people have to feel that their work is purposeful, that it has some meaning beyond collecting a pay-cheque. It was also

discovered that people work with more commitment toward collective goals than toward merely individual ones.

Deming (1986:25-26) believes that customers, suppliers and employees need to understand system aims. This need should result in a statement of constancy of purpose or an intention to stay in business by providing product and service. To achieve the aims of the organisation depends on long-term planning, innovation and vision, research and education and improved services to customers. The aims of the system must be explicit, clear and shared by all members of the system. The values, beliefs and aims of the organisation should be embodied in visions and corporate value statements, which in turn have to be translated into appropriate and effective action steps (Gilbert, 1996:22).

The driving force in establishing aims for the organisation is customer needs and the relationship between suppliers and customers. Ongoing communication with the customer should accumulate knowledge of the customer's real aims, in order to be able to forecast future as well as present desires and needs (Rankin, 1992:67; Klefsjö, 2002:62).

In addition, strategic planning, in combination with quality management, is a vital process for giving direction to achieve organisational aims (Kaufman, 1994:174). Strategic planning will prevent organisations from having only short-term goals without planning for a longer period (Sallis, 1993:48). Organisations could promote long-term success by focusing on organisational maintenance through promoting innovation, research, constant improvement and maintenance (Daresh & Playko, 1995:22). In fact, there must be a balance between short and long-term concerns.

The idea of constancy of purpose is to optimise the total system and not the individual components of the system. Tribus (1993:16) maintains that "the system will defeat you every time" if efforts are being made to improve the performance of the system by setting goals and targets for the individual parts of the system. The components must be well-defined so that boundaries are clear, components are known and component members see themselves as part of the system. Each component must be seen as contributing to the total system (Rankin, 1992:67).

Constancy of purpose has important implications for educational practice in schools. The following implications, among others, are investigated:

- **The customers in schools**

In education the word "customer" is not a familiar term which may be attributed to the fact that the word carries overtones of bartering, buying or selling (Steyn, 1995:20). The purpose of the school however requires a clear view of who the customer is. Defining the customers of schools is not a simple task. Are they the learners, the parents, the community or society, the board members, business and employers, taxpayers or higher education? Is the high school the customer of the primary school, or is it the next grade or next school to which the learners pass? (Rankin, 1992:67; Irwin, 1993:14; Leddick, 1993:39; Daresh & Playko, 1995:24).

Tribus (1993:14) asserts that the customer is defined as the next person in the line to receive a service. It is therefore possible to identify a chain of customers and suppliers in each situation. Each person is dependent on both the last and next in the chain for the successful completion of an important transaction (Murgatroyd & Morgan, 1993:52). In the classroom, the learners and educator are the customers and suppliers who provide and receive services depending on who actually receives and who supplies a particular service (Steyn, 1995:20).

It is important to distinguish between internal and external customers in schools. Internal customers are those inside the organisation who receive a service but who also act as suppliers. In education, this group would include staff, learners, bus drivers, librarians and others. The learner is widely perceived as the primary or ultimate customer who determines the content of the educational programme (Holt, 1993(b):386; Murgatroyd & Morgan, 1993:52; Van der Linde,1998:329). It is, therefore, the ultimate goal of the school as an organisation to provide the opportunity to learn and to develop capacities and capabilities (Van der Linde, 1998:329). In the classroom, the learners are the customers of the educator and most directly receive the teaching service. The learners do not decide on the features of the education system, although they ought to be consulted (Tribus, 1993:14).

External customers are those outside the school who receive the schools' products or services. The community which includes parents, other educational institutions and tertiary education, businesses, government and future employers may be regarded as external customers of education (Steyn, 1995:20). Parents, however, have a special relationship with schools: they play the role of sponsors or agents while the school shares their concern to secure the best education for their children and sees their part of the bargain as the provision of support at home. This implies that schools would involve parents in decisions regarding educational programmes (Holt, 1993(b):386).

Although the learners are perceived as the ultimate internal customers, educational programmes, and not learners are regarded as the products of the educational system (Irwin, 1993:14; Tribus, 1993:12)

- **System boundaries**

Before TQM can be adopted, it has to be determined whether the system comprises the school district or a single school. If it is the school, then either the school must become autonomous from the district or the district office must become a full party to the transforming system and committed to all the 14 principles. If the system is the district, then all schools in the district must be in the programme.

- **System improvement**

The school can be improved by setting goals and objectives for the school system as a whole. This is a strategic function and needs to be pursued by everybody involved in the school. The eventual outcomes of these inputs, however, are not solely attributable to the efforts of subordinates, therefore, it appears to be destructive to use outcomes only to reward or penalise people (Irwin, 1993:15). Outcomes are determined by the system that must be continually improved so that the customers receive quality education and act in support of the system (see Fig. 2.4). Educational output must be clearly defined and, where possible, be measurable.

- **Realisation of learner potential**

The most fundamental purpose of education is to help every learner to achieve his/her potential. Fulfilling this mission requires that curricula and instructional strategies should be redesigned in order to facilitate faster learning by making efficient use of time and physical resources to meet the needs of a rapidly changing society. Staff development activities will have to be modified to meet the delivery of a new total quality curriculum. Schools must be organised in a way that innovation and research constantly provide a measurable improvement in learner knowledge, attitude, and performance (Bayless *et al.*, 1992:194; Steyn, 1996:125).

- **Learning outcomes**

The school's goals and objectives must be defined clearly and be measurable, although some important goals may not be measurable. In order to be implemented successfully, schools need to develop operational indicators of quality learning outcomes. The primary, although not exclusive, purpose of schooling should be academic achievement and a commitment to improving the quality of education provided to learners (Steyn, 1996:124-125).

2.7.2 Adopt the new philosophy

The acceptance of the new approach requires a process of transformation through which the obstacles towards achieving quality can be removed (Deming, 1986:28).

In the new economic age, managers must be aware of the new challenges and must become aware of their responsibilities and take on leadership for change (Bayless *et al.*, 1992:194; Holt, 1993(a):10). This means that there has to be a deliberate departure from conventional management (Schmoker & Wilson, 1993(a):11). When total quality has been accepted as a management approach, then total commitment must be given from the top down. This commitment implies that old procedures of management must be replaced by new procedures. Dedication must be given to doing things the new way, not to doing things the old way better. A model for co-operation, where each component is seen in its contribution to the total system, must replace a competitive approach. It has to be accepted that this new philosophy is one of intolerance toward poor service and complacency (Daresh & Playko, 1995:22).

In education, total commitment is also expected of school managers. In order to lead for a change, school managers and staff must be aware of the need to change and to shift paradigms. A new management approach should flow from this which could include, among others, the following (Bayless *et al.*, 1992:194; Rankin, 1992:68):

- New teaching and learning strategies which have in aim the success of every learner: the expectation of learning based on the normal bell-shaped curve, and the practices of grouping learners homogeneously, have to be reconsidered;

- School managers and educators will need to make a long-term commitment to schools to ensure continuity of experience. It provides institutional memory and creates a climate in which old mistakes can be avoided and previous improvements maintained and reinforced, and

- Instruction and curriculum will be viewed as a system that can be improved.

2.7.3 Cease dependence on inspection to achieve quality

A system that focuses on the identification of problems in manufactured products implies that the system of production is designed so that flaws are acceptable. Such a system provides for inspection in order to identify flaws in the end product. A system which is designed to be dedicated in total to the elimination of errors is, however, more effective (Daresh & Playko, 1995:22). The need for mass inspection after a process has been completed can be decreased by designing the process so that quality is built into the product in the first place (Bayless *et al.*, 1992:194; Holt,1993(a):10).

Deming (1986:28-29) believes that inspection to improve quality is too late, ineffective and costly. Quality does not come from inspection but from improvement of the production process. When a product is inspected at the end of the process, that product already has a particular quality, whether it is good or bad. Defects in the product should therefore be eliminated right from the onset.

This view also has an important bearing on educational systems. Educational systems often do more screening and sorting of learners than teaching and

learning for learners. Sorting learners out along the normal bell-shaped curve implies success for some learners, but others are labelled as failures.

Educators should rather focus on designing successful, quality, high-level performance experiences into the teaching process from the start. In doing this the teaching process can be monitored continuously and adjustment can be made as needed. The focus is, therefore, shifted from management of crises and corrective action to management of quality systems. Educators act as facilitators who support the learners during each step of the teaching and learning process in order to achieve success. This activity leads to changing the system that, in turn, affects permanent solutions.

The use of formal or standardised tests given to all learners as a measuring instrument to improve quality, is being questioned. Mass inspection through standardised tests can result in overemphasis on actual items tested, cheating, and increased variance and can limit educational achievement to those objectives most easily measured. If these tests were aimed at results for the system, a representative sample of cases would give more cost-effective data and be less of a burden to the educator. Deming's approach calls for the selection of random samples over time of the instructional process, which are then analysed and interpreted for stability through control charts. Information could identify if special causes exist in the learning process. Causes of the problem could be identified by teams through quality improvement projects and the curriculum and strategies could be modified to correct the problem (Bayless *et al.*, 1992:194-195; Rankin,1992:68).

Holt (1993(b):387) is of the opinion that formal assessment in a Deming-orientated school would be regarded as a necessary evil and should only be the minimum requirement to satisfy the school community. The focus should rather be on informal assessment, which is the "invisible" but essential element in promoting quality. Holt refers to the assessment model in British schools from 1965 to 1987 as an example. The system allowed schools to devise their own examinations, to assess learners' performance and to have the results evaluated by educators at

other schools. In conclusion, the curriculum determined the assessment exactly as it should from Deming's standpoint.

The principal of *Central Park East* in New York is opposed to "mass inspection" at this school. Learners at the school are trusted to do much of their own quality control. They also have to convince the principal and educators that they are ready to graduate. There is an ethos of trust and respect that prevails at this school (Schmoker & Wilson, 1993(b):391).

This approach at Central Park is in accordance with Deming's conviction that "inspection does not improve quality and is costly and ineffective" (Deming, 1986:28). It does not mean that there is no place for quality control in schools. It rather means that if the right kind of workplace is created, staff and learners will improve and will want to improve. Assessment of learners' progress must be continuous, authentic diagnostic-prescriptive and relative to life-long learning. It includes self-assessment of work so that learners take ownership of their own educational processes (Steyn, 1996:125).

Educational measurement is more likely to be used to improve the teaching and learning process when it occurs as part of the ongoing instruction rather than at some annual testing (Rankin, 1992:68).

2.7.4 End the practice of awarding business based on price alone

Selecting products solely on the basis of lowest cost is short sighted and this often leads to selecting products of low quality. It then becomes a matter of "you get what you pay for" (Daresh & Playko, 1995:22). Developing a strong, cooperative working relationship with a single supplier permits increased loyalty and trust, and provides long-term savings on other items (Deming, 1986:32,35; Holt, 1993(a):11).

In education, this principle may be appropriate to the purchase of textbooks and tests, computers and other equipment and supplies. When alternative suppliers are considered, the total costs and benefits should be taken into account and not just the initial costs (Rankin, 1992:69).

2.7.5 Improve constantly and forever the system of production and service

Deming (1986:49) asserts recurrently that quality must be built into the process already during the initial design stage. Quality improvement is, therefore, not a one-time effort but involves everyone in the organisation constantly to reduce waste, to save time and to promote achievement. According to Deming, improvement means better selection, placement and training of people, as well as the analysis of methods and processes (Schmoker & Wilson, 1993(a):12). This improvement, however, cannot be achieved by simply meeting standards. The focus should rather be on making processes to produce stable results and then must be reviewed frequently in order to produce stable results (Rankin, 1992:69). Instead of setting standards and specifications to ensure quality, Deming (1986:49) suggests teamwork as the road to quality.

In education, everybody in the school needs to constantly look for ways to reduce waste and improve quality. Waste can be regarded as spent time on unfocused or less-effective teaching strategies. Schools should add value to learning experiences, which require regular team discussion and analysis of every significant process and method that affect outcomes and results (Schmoker & Wilson, 1993(a):12-13). It is important to realise that no method, no lesson plan, no school structure or arrangement is ever perfect. There is always a need to refine processes and procedures in order to become even more effective. A climate should be created in which principals, educators and learners are empowered to continuously evaluate and improve their own productivity and services (Steyn, 1996:125). The use of standardised tests by educators often do not result in improved quality, but rather in increased performance on a small number of easily measured targets (Rankin, 1992:69).

Continual improvement requires that the next effort must be better than the previous one. When faults are repeated over and over or when crisis management prevails there can be no quality management (Deming, 1986:51). In order to improve quality it becomes necessary to develop processes delivering sound results that must be revisited regularly. Quality can, among others, be improved by making use of the following methods and instruments:

- Effective application of human resources with regards to selection of people, placement, training and talents (Deming, 1986:51);

- Using research to suggest strategies for focusing on improved teaching and learning processes. To address curricular problems is essential to any educational improvement process. Improvement is a matter of analysing the process in the light of profound knowledge (Holt, 1993(a):19);

- Statistical control by training educators to use techniques of data collecting regarding effective programmes and learner performances, as well as to interpret patterns which develop over a period of time. Beard (1989:10) is convinced that world-class total quality cannot be implemented without statistical tools. The critical importance of this idea is put bluntly by Deming (Murgatroyd, 1991:17): "In God we trust - all others must use data";

- Cause-and-effect diagrams (also known as the fishbone diagram) are used during brainstorming sessions in order to identify the causes of a particular situation;

- Process flow charts are used to portray a visual image of the educational process to all stakeholders so that everyone understands and agrees on what the process is. Doing this can immediately identify redundancy and misunderstanding;

- Pareto charts are used to determine priorities. For example, the staff might gather data on learner absences and then researches when most absences occur, who is absent, and the causes. By means of elimination the real problems are determined;

- Histograms are used to measure how frequently something occurs by collecting data over a specific period of time, and

- Control charts can be used to differentiate common from special variations and identify when the system is stable and should not be tampered with (Bayless *et al.*, 1992:195,197-198).

2.7.6 Institute training

Training must be observed as a powerful tool of quality improvement and the training of personnel in the quality improvement process should be regarded as a key element (Rappaport, 1993:19).

Deming (1986:52,54) concentrates particularly on the training of top managers and new employees. Managers need training on the functioning of the respective components of the organisation in order to become knowledgeable of them. This knowledge will enable them to develop an understanding of the challenges and problems experienced by workers. In Japanese organisations, for example, new employees undergo a long internship during which they get first hand experience of the problems that are experienced in the different components.

Training is also relevant to educators who are regarded as both the greatest expense and the most important investment in any education system (Holt, 1993(a):19). Therefore, in-service training including re-training for school managers and educators should be regarded as a high priority. This should be preceded by a needs assessment of the organisation's (i.c. school) training needs, instead of trying to train everyone in everything (Hardes, 1992:47).

There is, however, no quick fix in the quality improvement process. A long-term commitment to staff development must be made and training and support are prerequisites for success. As school leaders and educators learn new skills in-service, they become more effective in their roles. According to the Association of Supervision and Curriculum Development in the United States of America, educators who received in-service training were more adaptive in their teaching style, more flexible and tolerant. These educators were also more responsive to individual differences and employed a variety of teaching models, such as lectures, small group hands-on discussions, inquiry and role-playing. The educators were more empathetic and could accurately read and respond to the emotions of the learners. As a result these educators were rated as effective teachers (Bayless *et al.*, 1992:195-196).

One approach to in-service training of staff which makes sound economic sense is to allow them time during the school week to plan together and share professional experience with other schools (Rankin, 1992:69; Holt, 1993(a):19).

2.7.7 Institute leadership

Both Deming (1986:54) and Covey (1992:263) single the Western style of management out for fundamental transformation. Deming contends that businesses in the United States of America rather experience management problems than problems with technology and workers. TQM requires a fundamental change to established management dogmas (Holt, 1993(b):383-384) and the adoption of a different view of the role of management. Managers will have to be more than just supervisors, in fact, the quality approach to management requires "that managers be leaders" (Deming, 1986:54).

This means a shift towards a leadership role that encourages improvements to the system and the process of producing better results. Quality leadership requires a commitment and a response to all stakeholders. Deming is emphatic that optimising the system is the task of leaders and not the workers (Holt, 1993(a):19). The quality improvement process should, therefore, be initiated by those with a leadership role within the organisation and remains fundamentally the responsibility of senior management (Berry, 1996:23).

In Britain, some institutions of higher education have adopted the BS 5750 (ISO 9000), the *Investors in People* (IIP) national standard, or TQM as approaches to quality assurance. Within these approaches, leadership and quality are explicitly linked. Leadership is seen as necessary at strategic and operational levels in order to achieve collective commitment to the quality programme and to drive it forward. Leadership is also seen as necessary at group and individual levels, for example, in the organisation of quality circles or for guiding the work of task forces and projects. In essence, leadership is important in relation to quality because it offers a vision and idea of what is possible, a strategy for moving in this direction and a means of achieving individual and collective commitment to the goals of continuous improvement (Middlehurst & Gordon, 1995:273,275-276).

Leadership within the quality context is broadly described by Berry (1996:20-21) as a process whereby the behaviours, values, beliefs and attitudes of members of a group, organisation or community are influenced in a way that promotes collaborative action towards the achievement of shared outcomes. A key aspect of leadership is that of having the ability to utilise expert knowledge to transform organisational culture.

The characteristics and aims of leadership for quality in schools can be summarised as follows:

- Top management is responsible for initiating the quality improvement process (Berry, 1996:23). This entails managers knowing what they have committed themselves to and what action to be taken. It is expected of managers to do things right, but of leaders to do the right things (Murgatroyd & Morgan, 1993:67). Deming (1986:21) is of the opinion that mere support to quality improvement by top management is not sufficient. They must know to what they are committed and this commitment can never be delegated.

- Respect and confidence determines leadership and not someone's formal position within the organisation (i.c. school).

- Management must change fundamentally and transform its attitudes, mind-set, and basic paradigms before total quality can become a reality. Profound, sustainable cultural change can take place within an organisation only when the individuals within the organisation first change themselves from the inside out. Personal change must precede organisational change and personal quality must precede organisational quality (Covey, 1992:264-265). It is about "quality at the source" or self-control which is essential for the achievement of total quality (Beard, 1989:10).

- Leadership is essential to institutionalise significant and permanent change in schools. TQM requires leaders who are respected, trusted and committed to that vision, and who can communicate it convincingly and consistently throughout the organisation.

- Leadership is significant in the development of quality systems. The role of leadership is to sustain the vision of connectedness so that learners, educators, school leaders, parents and taxpayers understand their roles with respect to the larger systems of learning. Schools using total quality to develop strategies to bring about lasting and continuous improvement must be led. Leadership is also essential to develop a mission and goals and work constantly towards their improvement (Berry, 1996:23). Leaders need to engage themselves in a management process through which the minds and talents of people at all levels are applied fully and creatively to the organisation's (i.e. school) continuous improvement (Rhodes, 1992:80).

- School leaders need to demonstrate their commitment to TQM in all of their actions all of the time. This means they have to see leadership in terms of inspiring, provoking, confronting and challenging people to work to the limits of their ability and to press on them constantly to improve their ability. They need to develop a sense of vision for the organisation (i.e. school) rather than interpreting the function of leadership as controlling and the implementation of policy (Murgatroyd & Morgan, 1993:67-68). Leadership consists of empowering people and organisations to achieve their objectives and, therefore, to become more effective (Covey, 1992:263; Daresh & Playko, 1995:22).

- Educational leaders must ensure cooperation which is vital between learners, educators, parents, school managers, taxpayers and other role-players and which results in a better understanding of each one's role within the bigger educational system in which they function. The cooperation comprises an understanding of individual jobs and professional expertise as the sum total of connected work processes with a customer at the end of the process (Berry, 1996:24). When cooperation lacks within the system, for example, the traditional lines of separation between educators and school managers, both parties are isolated to the detriment of the system (i.e. school) (Holt, 1993(a):19-20).

2.7.8 Drive out fear

Deming (1986:59-61) is of the opinion that people cannot give their best performance unless they feel secure. People in a working environment may experience different kinds of fear, for instance, to lose their jobs, to be excluded from promotion, to be criticised, to be held responsible for outcomes that are beyond their control, or not to be done justice to. Fear may result in an inability of people to serve the best interests of the company.

In educational institutions, "remote and high-handed" school managers often generate fear by unnecessarily specific regulations and procedures and by a relentless emphasis on testing and accountability (Holt, 1993(a):20). Fear in the working environment inhibits peoples' productivity, accuracy, innovation and risk taking, collaboration, joy of labour and may even cause people to cheat. Fear is counterproductive and destructive in the school and results in lowered performance by everyone. It is, therefore, important that fear must be eliminated or at least reduced to an acceptable level (Rankin, 1992:70; Schmoker & Wilson, 1993(a):14).

A sense of security is the basis on which staff motivation is built. Institutional changes in education should be aimed at changed processes and results. These changes need to reflect shared power, shared responsibilities and shared rewards. Fear should, therefore, be replaced by sincerity, loyalty, productivity, caring, respect and confidence (Steyn, 1996:126).

2.7.9 Break down barriers

An organisation cannot afford to have people pulling in different directions. Collaboration and not competition amongst people in an organisation is the key to the success of an organisation (Daresh & Playko, 1995:22). The effect is that total quality is maximised and the costs of the total organisation are reduced (Rankin, 1992:70).

Holt (1993(a):20) asserts that cooperation is directly promoted by working in teams. Berry (1996:9) describes teamwork as the primary element of the TQM approach to quality organisations that represents the organisational structure upon which the quality improvement process is based. Teamwork is needed throughout

a company and "requires one to compensate with his strength someone else's weakness, for everyone to sharpen each other's wits with questions" (Deming, 1986:64).

The motor vehicle manufacturer, *Toyota*, has employed this team approach in order to be competitive in the global market. Employees at *Toyota* work and think together in teams which are self-managing: they meet regularly to identify areas for improvement, to set many of their own goals, to gather and interpret their own data and to check progress and adjust efforts made toward attaining their goals. They are thus responsible for their own quality control. At the same time a democratic atmosphere prevails at *Toyota*. Every decision and every improvement effort must be made collectively. These decisions are made within teams, which, as members of the larger system, are given regular opportunities to interact (Schmoker & Wilson, 1993(b):390).

In schools, participation is primarily achieved through the establishment of cross-functional and/or cross departmental problem-solving teams (Berry, 1996:9). The strategy of cooperative teaching enables educators to work much more together than they can in isolation and thus enriches the learning environment. Cooperation also enhances collegiality and helps drive out fear. Educators should be encouraged to cooperate in planning the curriculum.

The mathematic teachers of the *North View Elementary School* in Kansas (USA) experienced the value of cooperation when statistical analysis of mathematics scores revealed that that there had been a drop in grade 3 learners' ability to solve certain kinds of mathematical problems. As a result of this observation, the mathematic teachers for grades 2, 3 and 4 were brought together. While assembled they discovered year-to-year inconsistencies in emphasis in the mathematics curriculum. The teams for the respective grades were then able to address the problem and subsequently the scores rose significantly (Schmoker & Wilson, 1993(b):392).

Schools should be restructured to facilitate interdisciplinary approaches and a variety of teaching strategies (Rankin, 1992:70).

In addition to this, cooperative learning is regarded as a valuable strategy to enhance learners' learning skills (Holt, 1993(a):20). Learners can participate in project teams by investigating problems and issues that require the application of learning from different disciplines. Cooperation with other schools and sectors have the benefit of sharing resources which otherwise would not have been available to all learners (Bayless *et al.*, 1992:196; Rankin, 1992:70; Holt, 1993(a):20).

Educator and learner productivity is enhanced when teams combine talents to create more opportunities for learning. Teams should, therefore, be created and teamwork dynamics, such as how to plan and conduct successful team meetings, analyse data, communicate the results and implement change, should be taught (Bayless *et al.*, 1992:196; Steyn, 1996:126).

2.7.10 Eliminate slogans, exhortations and targets for the workforce

Deming (1986:65-67) is not in favour of using targets, slogans, exhortations and posters to motivate people and these should rather be eliminated. He illustrates his view with what he calls a useless poster: "Be a quality worker. Take pride in your work". The problem with such posters and exhortations is that they are directed at the wrong people. They arise from managers who assume that people need to work harder in order to improve quality. Deming is of the view that most of the trouble comes from the system and not from the people (workers). Exhortations and posters oversimplify the improvement process and therefore rather generate frustration and resentment amongst workers, particularly if the required resources for them to do their work are not available. They may even experience it as an insult to them (Rankin, 1992:71).

In addition, slogans have the effect of mass brainwashing and are not aimed at the democratic autonomy of the individual. Holt (1993(a):20) describes the slogan approach as symptomatic of a failure of leadership.

The main danger with slogans is when targets are set without management's commitment of support in the form of training or resources. Then targets can create fear and a tendency to manipulate the system and strive for quantity instead of quality (Schmoker & Wilson, 1993(a):14). Educators often perceive

slogans as signals that management not only does not understand their problems, but also does not care enough to find out about them.

Quality stems from attention to the process and not from mottoes and slogans. In schools, attention to the process starts with principals (Holt, 1993(a):20). Slogans, exhortations and targets created by management should be replaced with data and know-how and by allowing teams to improve the quality of their work. Slogans presume that people could do better, but are not willing. The focus is rather on fixing the system and processes than on the people.

The *George Westinghouse High School* in Brooklyn, New York, however, has proved that slogans do work. The school acknowledges the fact that slogans by themselves do not provide a mechanism for change. They do, however, with the commitment of management, provide a means of communicating the school's accepted values to learners (Steyn, 1996:126-127). The values and ethos of a school can be well captured in a motto for the school, which also serves as a unifying factor.

2.7.11 Eliminate numerical quotas

Deming (1986:71) perceives the specifying of quotas or targets as incompatible with the process of continuous improvement. Quotas do not include "a system by which to help anyone to do a better job."

The use of numerical quotas or measures and the unilateral emphasis on outcomes encourage people to adhere to minimum requirements only. From this perspective management by objectives (MBO) as management technique is rejected because of its focus on outcomes. It is believed that MBO leads to the acceptance of minimum quality and low production. Moreover, quotas ignore the quality of inputs, produce minimum performance and do not provide direction for improvement. It is suggested that quotas be substituted by attention on processes rather than on outcomes (Rankin, 1992:71; Holt, 1993(b):383).

The notion of "visible numbers only" has also permeated the management in education. In the belief that test scores define quality, school managers tend to "make the numbers look good" in order to please the upper echelon. As a result of

this, learner's understanding of subjects may be distorted and long-lasting quality (in the form of enhanced understanding) is not likely to be achieved (Holt, 1993(b):383).

In schools, the traditional assessment and evaluation of learners has been over-emphasised over the years. It is important to bear in mind that tests and examinations do not necessarily reflect a learner's progress. Steyn (1996:127) suggests that schools should de-emphasise marks and emphasise life-long learning instead. Principals who set numerical targets in terms of attendance rates, failure rates, test scores, etc, can claim to show the size and direction of discrepancy, but it gives no clue as to the method of improvement (Rankin, 1992:71).

Deming contends that ranking individuals or groups is counterproductive because poor performance is actually attributable mostly to the system, not to the individual (Cammaert, 1995:8). He also rejects tests for schools as a method to improve quality. For him, trust is vital, and most forms of accountability only undermine trust. Taking this view, the objectives-based nature of outcomes-based education (OBE) is also questioned (Holt, 1993(b):384,386).

This, however, does not mean that educational objectives can be abandoned. On the contrary, careful planning of resources and learning strategies is essential. It does mean, however, that schools can move away from *instruction* and rather toward education (Holt, 1993(a):20-21).

2.7.12 Remove barriers to pride of workmanship

The fundamental belief of Deming is that people really want to do a good job and take pride in it (Deming, 1986:77; Daresh & Playko, 1995:23). The "joy of labour" is central to Deming's philosophy and is based on the conviction that people's desire to do good work and improve is largely intrinsic. Poor performance is not a result of laziness or irresponsibility but rather of management's inadequacy at dispelling fear and at finding ways to ensure that employees are allowed to and equipped to do their best work (Schmoker & Wilson, 1993(a):16).

Deming recognises the danger of over-emphasising intrinsic motivation of people. He accepts that everyone is not to be treated identically because people are different from one another. Managers must be aware of these differences and use them for optimisation of individual performance. This implies that managers shall know how to treat people, how to recognise their qualities and place them in the organisation in order to give them the greatest satisfaction in their work.

Deming suggests that managers make physical arrangements for informal dialogue between people in the various components of the company. This provides an invaluable way for school principals to get involved in discussions and avoid excessive formality (Holt, 1993(a):21).

Organisations should, therefore, emphasise intrinsic motivation rather than extrinsic rewards. In education, the merit award system for educators might be regarded as an example of a barrier to intrinsic motivation of educators. Merit systems could be regarded as statistically random and are held in suspicion by educators, tend to divide rather than unite and are often no more deserved by one educator than by another (Rankin, 1992:71).

2.7.13 Institute a vigorous programme of education and self-improvement

Deming (1986:54) points out that there is an important distinction between principles 6 and 13. Principle 6 refers to the foundation of training for the management and for new employees. Principle 13 refers to continual education and improvement of everyone within the organisation. With this principle, there is a strong emphasis on the value of education as good in itself, including self-improvement and in service training (Beard, 1989:9; Holt, 1993(a):21).

Furthermore, Deming (1986:86) states that an organisation not only needs good staff, but "it needs people that are improving with education". There is no shortage of people, only a shortage of knowledge and skills. Staff should, therefore, continually acquire new skills and knowledge. The better educated the staff is, the better they will be able to undertake quality improvements. (Steyn, 1996:127).

Study should not be directed toward immediate needs only and therefore life-long learning by employees is important (Deming, 1986:86). Ongoing training, including

re-training, is also important for professional growth and personal fulfilment (Rankin, 1992:71-72).

The educational system should view the continuing education of its staff members as a good investment. This requires of school managers to develop programmes which enable staff to continuously upgrade their knowledge, skills and performance (Steyn, 1996:127). Educators who are well trained are more vital, interesting, inquiring and up-to-date in their field. They will transfer such qualities to the work environment, are more likely to find quality solutions to instructional problems and will make learning a more interesting experience for the learners. The training of staff should also be regarded as an investment in education quality for the learners (Rankin, 1992:71-72).

2.7.14 Take action to accomplish the transformation

All fourteen principles of Deming are directed toward the transformation of the organisation and, since they are inter-dependent, all of them have to be implemented (Rankin, 1992:72). Deming (1986:87-89) explains that every action is part of a process, which comprises several stages. He suggests the Shewhart cycle (also known as the PDSA cycle; see Fig. 2.4), comprising particular action steps as a procedure that would be helpful to realise effective action towards quality (this cycle will be thoroughly investigated in Par. 2.8.2).

Deming realised that effective action is the responsibility of every participant in the organisation (Schmoker & Wilson, 1993(a):16). The empowerment of people is crucial for quality since customers fulfil a primary role in the functioning and survival of an organisation (Weaver, 1992:2). Participation in the management of an organisation (school) is therefore paramount for achieving quality (Jablonski, 1992:21). This means that each department, each activity and each person on every level will be utilised and involved within the organisation as a whole (Oakland, 2000:14; Ho, 1995:4). The system focus is on teamwork, which does not provide for winners and losers while the organisation (i.c. school) as a whole benefits (Rankin, 1992:72; Irwin, 1993:11).

According to Deming (1986:86-87), a critical mass of people in the organisation must have a good understanding of the quality principles and of the fact that the

change will involve everybody. This requires a top down understanding and commitment of senior managers and all other staff members. All key parties in a school district must also have a substantial understanding of the system. Therefore, it may become necessary to provide people with training and other resources needed for implementation (Rankin, 1992:72). The mobilisation of the school's people and other resources requires that attitudes are to change in all those who are key to the education environment (Bayless *et al.*, 1992:197) .

The principle of cooperation and teamwork is key to the accomplishment of change in schools. Teams are critical in a service environment because the work is highly inter-functional. Therefore, cross-functional groups need strong involvement in the entire change process (Hardes, 1992:46). All groups must be involved in quality improvement in such a way that they will contribute to the organisational culture (Bayless *et al.*, 1992:197).

It becomes evident from the above that Deming's Fourteen Points can possibly be applied to education. In fact, some aspects are crucial for the thinking about management in education and for the management of schools. Given that the principles of TQM have emanated from an industrial environment, people should be aware of the dangers of a mechanistic application thereof in schools. Managers in education should, therefore, take a critical look at the application of the principles of TQM. It means that school managers will have to adapt these principles in order to become suitable in an education milieu where the focus is upon people and their interests.

2.8 CHARACTERISTICS OF SCHOOLS WITH TQM

2.8.1 Focus on customers and suppliers

Wong and Kanji (1998:2) perceive the environment of an organisation as crucial for the implementation of TQM. In fact, it is believed that an organisation cannot pursue TQM in the long run if its environment is not supportive of TQM practices. As no company can operate in a vacuum, they have to meet the demands coming from outside the organisation, including customers, the public and suppliers. The role of the business environment, in particular, is regarded as vitally important.

In a TQM organisation, everyone is both a customer and a supplier. Collaboration and teamwork is crucial in such organisations, therefore, it is essential to identify one's roles in the two capacities to understand the systemic nature of the work better (Bonstingl, 1992(a):6). Suppliers can be regarded as the people whose work you use and customers as the people who use your work. The organisation and its people must focus on building partnerships with all customers and suppliers inside and outside the organisation. Bonstingl (1995:5) regards communication between suppliers and customers to understand and anticipate each other's needs as essential to the quality philosophy.

The question may be raised as to what extent communication occurs between customers and suppliers within schools. Is there, for example, any communication between the respective grades and departments within the school and between primary and secondary schools? Communication indeed comprises mutual talks and visits. The customer-supplier relationship requires knowledge of the customer's needs. The identification of those needs depends on feedback from the customers, which are purposeful patterns of communicative interaction that allow people to understand what each other needs and wants. The customer-supplier focus is about optimising everybody's potential (Bonstingl, 1995:6).

Schools that regard suppliers and customers as important should be focusing on service delivery in order to satisfy the needs of their customers. Customer needs must be the driving force when establishing the aims of the school. This implies that customers should be clearly identified and defined and the system boundaries should be determined (Steyn, 1995:17). When establishing the aims of the school, it is essential to know who the customers are (Leddick, 1993:39).

The customer-supplier relationships within the school and between the school and its consumer and provider stakeholders are the basis for all activities. If these processes and chains are managed well with a constant focus on high performance and improvement, then quality achievements follow (Murgatroyd & Morgan, 1993:60). Therefore, the challenge for all schools in implementing TQM is to analyse work as a series of transactions between suppliers (providers) and customers (recipients). Each transaction produces an output designed to meet

customer needs (Steyn, 1996:128). These transactions become situational when it is realised that everyone is both a customer and a supplier.

In the school this means that the learner can be regarded as the *primary customer*. Educators and the school are suppliers of effective learning tools, environments and systems to the learner. As customers, the learners are the recipients of their educator's lessons, but the educators in turn are the recipients of the learner's homework. Scrabec Jr. (2000), however, is critical of a customer-driven model for education. Learners are not customers but recipients. A customer defines the requirements for a quality product or service. Allowing learners to set education specifications would degrade the very service being sold.

Furthermore, the school also has external or *secondary customers*, including parents and family, businesses, members of the community and other taxpayers, who have a legitimate right to expect progress in learner's competencies, characters, and capabilities for responsible citizenship. These expectations of external customers are not aimed at the direct and immediate gain of the stakeholders only, but rather for the long-term benefit of the next generation and of generations to come (Bonstingl, 1992(a):6). According to Scrabec Jr. (2000), the other "customers" such as parents, industry and society are not to be viewed as customers but as beneficiaries of education.

According to West-Burnham (1992:40-41), the measuring of customer satisfaction is at the heart of TQM. In fact, obtaining feedback and acting on it is what differentiates TQM from every other management theory. This means that there is a moral obligation on all suppliers to find out customer needs, to seek to meet them and then to find out the extent to which they have been met. The following are some of the techniques available to gather data and which are among the most appropriate for schools:

- *Suggestion cards*
  Invite all the school's customers, internal and external, to suggest improvements.

- *Shadowing*

  Suppliers place themselves in the situation of the customers. For example, an educator for a specific grade spends the whole day with that grade, or a primary school educator joins his/her former learners on their first day in secondary school. Although the shadow's presence will inevitably distort reality, the process does provide the opportunity for experiencing the direct impact of school policies.

- *Interviews*

  These can be used with almost any group as the basis for detailed and informed data collection. Talking to different groups of learners, community members, educators, etc., to determine how the school might be improved is a potentially powerful strategy to generate ideas, to indicate seriousness and demonstrate commitment.

- *Surveys*

  They are important because they are capable of quantification and will thus permit comparisons over time. Surveys can be used to collect information about customer needs, identify specific problems, assess conformity to requirements and measure satisfaction.

- *Team meetings*

  Teams can contribute to feedback by having a regular agenda item concerned with feedback to suppliers. A team may invite some of its customers to attend its meeting on a regular basis.

Scrabec Jr. (2000) has challenged the notion of customer-driven quality and customer satisfaction for schools, asserting that it compares the learner with the business customer. Instead, a total quality education (TQE) model is proposed, which refines the customer concept within education. Firstly, according to this model, learners are perceived as recipients and not customers, since the learners cannot be satisfied by allowing them to set education specifications, as is the case with business customers. Secondly, the other customers besides the learners, such as parents, industry and society are not to be regarded as customers, but as beneficiaries of education. Finally, the view that the learner as the primary

customer really drives education is downplayed as an oversimplification. A high level of learner satisfaction does not necessarily measure the quality of the education, though it may be one indicator. Learner satisfaction can even be improved at the expense of other attributes of quality education.

The model suggests that the learner should be treated as both a recipient and a beneficiary. Learners would, therefore, be satisfied by allowing them to evaluate themselves as part of the overall process. This process would include a standardised national examination as well as internal audits by education teams which look at the process and allow for early feedback for continuous improvement.

2.8.2 Continuous improvement

The Japanese concept *kaizen* best gives expression to this characteristic of TQM. Continuous improvement (*kaizen*) means that everyone in the organisation must be dedicated to continuous improvement, personally and collectively, at home, at work and in the community and not just on the job, but in every aspect of life (Bonstingl, 1995:6). It can also be regarded as a society wide covenant of mutual help in the process of improving daily (Bonstingl, 1992(a):6). It is a never-ending journey of self-improvement, the improvement of other people, and ultimately, the world (Steyn, 1995:17). The concept of *'Gemba kaizen'* builds upon this TQM endeavour (see 2.3.2.5).

The emphasis on continuous improvement is a deviation from the management by objectives (MBO) approach, with its focus on pre-set specifications and standards. MBO therefore implies that minimum standards are set and the focus is put on outcomes (Holt, 1993(b):383). Van Wyk (1995:18) considers the MBO approach as unacceptable because continuous and sustainable quality improvement must be the objective in itself.

Employees in Japanese companies meet regularly in "quality circles" to discuss ways to do their work better by modifying existing processes. Similarly, some American companies and schools are setting aside valuable time for discussions that foster the collaborative development of a true learning environment. TQM does not allow for "business as usual" and organisations that do not constantly

improve are facing the danger of falling behind (Van Wyk, 1995:18). Peter Senge (Bonstingl, 1992(a):6) contends that "learning organisations", where people, processes, and systems are dedicated to continuous learning and improvement, are most capable of surviving and prospering. In a school context, this means that the so-called stable school is not the one that maintains the *status quo*, but rather the school that is aimed at continuous innovation and change (Van Wyk, 1995:18; NIST, 2001).

Bonstingl (1992(a):6-7) suggests that schools as learning organisations can be continuously improved considering the following:

- Schools must be afforded the resources, especially time and money needed for training, quality circles, research and communication with the school's stakeholders;
- Schools must rethink practices that focus narrowly on learners' limitations rather than their range of innate strengths. He cites Howard Gardner who encouraged educators to acknowledge the existence of multiple intelligences and potentials within each learner and to help learners develop their many intelligences more fully day by day, and
- Deming suggests that grades in schools should be abolished because grading puts emphasis on the grade, not on the learning. Bonstingl, therefore, suggests that the current practices of grading and assessment, which are characterised by mediocrity, will have to be re-examined. In this view, current methods of evaluation are destructive and cause learners to end up in a competitive, win-lose environment. Subsequently, the enhancement of mediocrity via the bell-shaped curve leaves the learners with a narrow academic self-image and as often intertwined in self-fulfilling prophecies played out throughout life. It is, therefore, imperative that new assessment strategies have to be developed to become part of a total quality plan.

The focus of continuous quality improvement is on each person by creating greater competency within oneself and influencing other people to do the same. If this drive behind the change process is lacking, the organisation is probably sub-optimising human potential. The focus must be aimed at really optimising the

potential within the organisation (Bonstingl, 1995:6).

It is also important to understand the complexity of a typical school day for understanding the task of management and the process of incremental change. In each school day there are so-called 'moments of truth' or critical moments at which the culture and values of the school are expressed through the action of, for instance, An educator, the principal or secretary. A school of 1 500 learners and 69 staff members will have approximately 2,5 million moments of truth in a typical school year. The task of effective management is to manage these moments of truth by seeking constant improvement in each of them (Steyn, 1995:17-18; Van Wyk, 1995:18).

Schools using the principle of continuous improvement as their quality index would begin by establishing baseline data from which to measure their annual improvements. This baseline data must be established for all quality indicators that schools intend to use in evaluating continuous improvement. Examples are (Steyn, 1996:129):

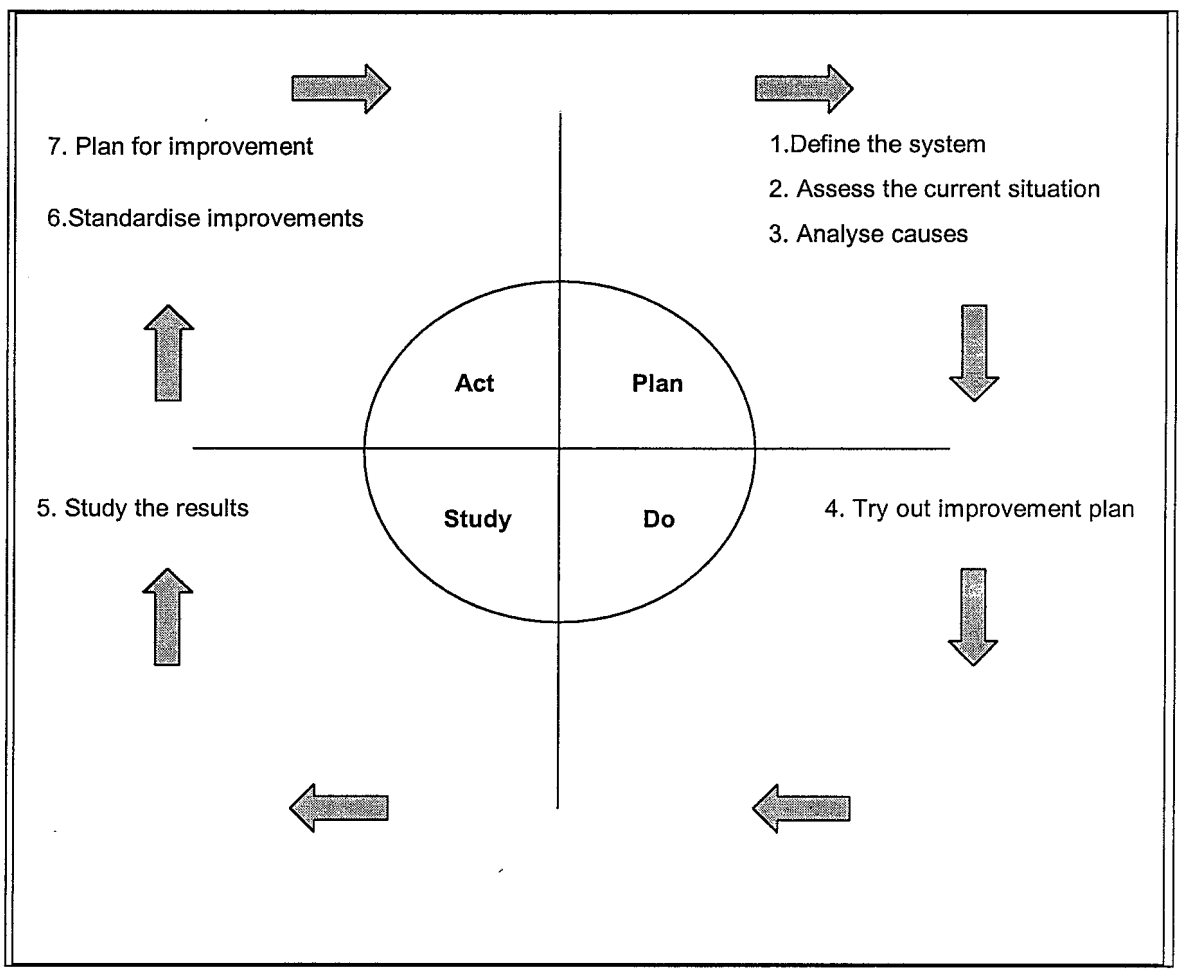
- Learners' test and examination results;
- Learners' school attendance figures;
- Staff attendance figures;
- Parental involvement;
- Follow-up information on learners, such as the success rate at university or in employment, and
- Rate of staff turnover.

It has been indicated in Paragraph 2.8.1 that various measuring tools can be employed to ascertain the causes of problems and to improve quality (Murgatroyd & Morgan, 1993:158). The mere fact that these instruments are used, however, does not ensure a high quality school. Murgatroyd (1993:275) suggests when employing quality tools schools should re-engage in their 'real' work. This means the school should rather employ tools for improving *processes* than outcomes. For example, suspending or expelling learners may address a discipline problem in a school. These, however, are 'quick fix' solutions that do not look into the overall

problem of discipline in that school. The focus of this solution to the problem is directed at the outcome (suspension and expulsion) and not at the process (questions which are concerned with the school's long-term strategic objectives and vision).

Educators must, therefore, be trained to gather data regarding programme effectiveness and learner performance and to interpret the data. Continuous improvement requires a cyclical process (see Fig. 2.4) and can be visualised by the PDSA cycle ("Plan-Do-Study-Act") (Bayless *et al.*, 1992:195). This cycle or so-called "Shewhart Cycle", which Deming attributes to Walter Shewhart, is at the heart of what schools should do in implementing quality management. The process comprises the following four steps (Schmoker & Wilson, 1993(a); Leddick, 1993:42; Steyn, 1996:129):

Figure 2.4 The PDSA Cycle (Leddick, 1993:42)



- *Step 1* - This comprises a **PLAN** or process to study and analyse (for example, the method a lesson is taught and assessed or to determine learner needs). What can be done to improve it? What data are available, what additional data will be needed to assess the improvement and how will the data be used? It is imperative to proceed with a plan and to seek the input of customers, suppliers, staff and school management team;

- *Step 2* - **DO** it. The plan should be carried out, preferably on a small scale;

- *Step 3* - **STUDY** or check the data on the effects of the improvement or innovation. Did the changes work well and what needs to be improved in order to do a better job, and

- *Step 4* – **ACT** on what the small-scale programme shows. The innovation can be either instituted on a permanent basis, discarded or be referred back to step 1 by modifying the innovation and gathering new data on its effectiveness as adjustments are made.

Examples of areas for improvement in schools may include improving learner learning through learners monitoring their work with control charts, improving educator and learner attendance, improving telephone services at the office and improving communication between home and schools, (Leddick, 1993:42; Steyn, 1996:130).

Murgatroyd (1993:274) stresses the necessity of collecting data to measure activities, processes or outcomes. Data should be designed to show how a process operates and what the outcomes of these processes are.

The idea of continuous improvement of the education system applies to all levels in the system, from the individual classroom to the department of education, from pre-school through to the university (Steyn, 1995:17).

2.8.3 Systems and processes

An organisation must be viewed as a system and the work people do within the

system must be seen as ongoing processes (Bonstingl, 1995:6; Wiklund, 2002). The managing of processes is important because processes produce outcomes. According to Murgatroyd (1993:60), too much attention has been focused upon securing outcomes, no matter what the process looks like, yet it is process quality and effectiveness that leads to sustainable quality outcomes. *Process* here refers to the way in which people work to achieve results. When systems function as a unity to meet a common purpose, they are optimising. When any part of the system, however, strays from the common purpose and promotes its own objectives or goals, the system is sub-optimised (Steyn, 1996:130).

Deming, Juran and Crosby agree on the point that 85-90% of all the things that go wrong in any organisation are far more directly attributable to the way in which people set up *systems,* than the result of individual people's malfeasance. Therefore, pointing fingers when people do things that might be considered wrong or misguided, is far less useful than lending a helping hand (Bonstingl, 1995:1,7). The same applies to individual educators and learners who are less to blame for failure than the system. System variables such as expectations, activities, perceptions, resource allocations, power structures values and the traditional school culture, which are often perceived negatively, shouldn't be attributed to individual performance (Bonstingl, 1992(a):7).

Bonstingl (1992(b):21-23) distinguishes between two opposite ways of thinking and behaving in the world. He cites the psychologist Erich Fromm, who referred to the first way of thinking as the "having mode", meaning that both object and subject are perceived as *things*. This view is in accordance with ancient Greek and Western thinkers who perceived the world in logical dichotomies: good and bad, right and wrong, male and female, winners and losers. Schools in this mode tend to control knowledge by promoting memorising and holding onto what learners had learned. This view lacks openness to new ideas and creativity.

The second way of thinking, according to Fromm, is the "being mode" of existence. In this view the world springs from the ancient Confucian tradition, graphically represented by the *yin-yang*, an ancient oriental symbol of wholeness. According to this view life consists of *dualities* and not adversarial dichotomies, but polar

opposites that add richness and meaning to one another. Schools pursuing the being mode perceive teaching and learning as a learning experience and encourage learners to respond in an active, productive way (Bonstingl, 1992(b):21-23).

Bonstingl (1992(b):24-25) regards the first way of thinking as product-orientated and the second as process-orientated. The former focuses only on the results at the end of the process and views the end product as an objective separate from the entire process. People who are process-orientated understand the importance of setting worthy goals, but also know that the process makes goals achievable. They know that the quality of their input into the process will largely determine the quality of the product or output (Steyn, 1995:18-19). The quality and effectiveness of the process result in sustainable quality outputs (Murgatroyd & Morgan, 1993:90). In a TQM organisation, therefore, the focus is shifted from product to process (Brandt, 1992:321).

Schools must, therefore, focus on improving the quality of processes that will largely determine the quality of the end product. It is, however, premature or even counterproductive to focus attention on results without a prior and overarching focus on the processes that bring forth desired results (Bonstingl, 1992(a):7). Quality should, therefore, not be regarded as an entity or end result, but rather as generating an attitude which is built into the process (Holt, 1993(b):382). In classroom practice, it means that the process of teaching should be emphasised more than the achievements in examinations (Bonstingl, 1992(a):7; Tribus, 1993:15).

Focusing on processes means, among others, the optimisation of each individual's potential. As a result of this approach, each educator and learner may experience some success, some happiness and some pride and joy in the processes and products of their work. It is therefore important to optimise the system by focusing on the people within the system. Managers must ask how can they build up people, build competency, compassion and character. This will ensure that the potential in each school can be fully optimised (Bonstingl, 1995:2).

The optimisation of the school also is supported by treating the school system as a

whole enterprise, which does not consist of separate entities such as curriculum, achievement or staff development (Manley, 1996:29).

2.8.4 Leadership

TQM efforts are doomed to fail without concerted, visible, and constant dedication to make the principles and practices part of the deep culture of the organisation. The role of leaders in creating a constancy of purpose is, therefore, crucial. In business, according to Bonstingl (1992(a):7), this means that company leaders must establish the context in which the company stays in business and provides jobs through research, innovation and the continual improvement of products and services.

This process of quality transformation is the responsibility of top management. It is in fact a slow process and can only be achieved over time (between 3 and 5 years) for substantial, consistent, positive change to emerge. Quality cannot be dictated, it must be led and managed from the top of the organisation (Bonstingl, 1995:7).

Murgatroyd and Morgan (1993:68-69) agree about the crucial role of leaders and listed the following characteristics of TQM leadership:

- It is about imagination, enabling and empowerment of the ordinary worker and not about status;
- The role of the leader is to activate, coach, guide, mentor, educate, assist and support colleagues so that they focus on a shared vision, strategy and a set of intended outcomes;
- Leaders with vision realise that it is cost-effective to empower those nearest to a process to manage that process themselves;
- They concentrate on the whole picture and keep it at the forefront of people's thinking;
- They attend to small details that can make a critical difference, and
- They believe that challenge and fun go together and that laughter is healing.

> Bonstingl (1995:8) views real leadership as healing, meaning that it helps people to understand their own feelings and optimise pleasure in their lives.

School leaders must focus on establishing the context and creating the environment in which learners can best achieve their potential (Bonstingl, 1992(a):7). Quality improvement, therefore, starts with a real commitment on the part of school leaders to the quality process. Rappaport (1993:19) cites from the literature, which confirms that leaders must embrace and espouse the quality philosophy for it to be successfully implemented. Commitment is measured in terms of tangible and visible things, not rhetoric.

The responsibility for quality processes, systems and outcomes, therefore, rests with management. Management is entrusted with the responsibility of fully adopting the quality philosophy throughout the organisation, building relationships from the top down, empowering and enabling frontline workers to improve continuously by removing the barriers to their natural joy and pride.

This means that an individual educator could apply the quality process in a classroom, but would need the support and commitment of the school system's leaders to introduce a viable quality improvement process. Unless the staff see a genuine commitment to quality in the behaviour of the top team, improvement is unlikely to be implemented from below. Managers should therefore "walk their talk". The most frequent cause of failure in quality improvement efforts is the lack of involvement or sense of indifference on the part of management. Deming is adamant that quality cannot and must not be delegated to others (Bonstingl, 1992(b):43; Steyn, 1996:131).

The establishment of quality systems and models by themselves will not be adequate to produce quality outcomes or organisational effectiveness. Leadership is also required to explain, justify and promote the utility and effectiveness of quality models and processes. The critical role of leadership is being stressed by studies in 1988 and 1990 of well-performing Canadian public sector organisations. The authors note the following key ingredients of these well-performing organisations (Middlehurst & Gordon, 1995:278-279):

- The emphasis is on people in terms of challenge, encouragement and development;
- Participative leadership: this is described as guiding by being creative, by detecting patterns, by articulating purpose and mission and by fostering commitment to the goals of the organisation;
- Innovative work styles: this style comprises people reflecting on their performance, learning from experience and being innovative, creative and flexible. Strong control systems are used, but only as tools. The organisation controls itself rather than depending on control from an outside authority, and
- Client orientation: the focus is on customer needs and preferences, where staff satisfaction is derived from serving the customer. Strong internal and external interaction exists.

The Canadian authors tried to isolate those processes by which the above-mentioned attributes were acquired. An important finding was that people need to have a certain mind-set that consists of strongly held beliefs and values and an innate need to improve the organisation in which they worked. Furthermore, the authors pointed to another important part of the mind-set of effectiveness, namely debate, reflection and self/collective scrutiny. The process of developing these attitudes could be triggered by the arrival of a new leader. Leaders can initiate change and can create the conditions of continued support of change. However, for process of continuous improvement to become embedded in the culture of the organisation, leadership has to be seen as a shared function, rather than as emanating from a single powerful person (Middlehurst & Gordon, 1995:279-280).

It is, therefore, required of educational leaders to lead the transformation effort to ensure success. There are two ways in which principals could take responsibility for quality in their schools (Steyn, 1996:131-132):

- The job description of principals should be changed. They should not be expected to be simply efficient managers of processes. Principals must see themselves as being accountable for producing learner learning. Principals can assure success if the educators are committed to quality learning. This means

that principals should manage educator commitment that comes primarily through educator involvement in the processes of problem solving and decision making, and

- The system of supervision that operates in most schools is not healthy. Schools need to change the way the profession treats staff members. Principals should establish a norm of striving for increased personal competence. This coupled with openness, cooperation, and peer coaching will result in substantial instructional improvement.

Leadership skills are, therefore, a very important aspect of TQM. Educational managers should be the driving force in employing TQM. They should communicate vision, optimism and purposiveness to their staff. They should empower staff and have a high level of tolerance for ambiguity, patience and integrity. Leaders also need to have the skill of "sightedness", which would enable staff to look beyond current circumstances to the medium and long term (Steyn, 1996:132).

2.9 A CRITICAL PERSPECTIVE ON TQM IN SCHOOLS

The application of TQM to schools appears to be a major challenge to education institutions and school managers. Although the TQM process seems compatible with the school improvement process, there is a range of issues that may form barriers to the intended change process, or may even be difficult to assimilate with schools. Carlson (1994:16) asserts that TQM as a change process is "extremely difficult both to implement and to sustain". According to some critics, the failure rate of implementing TQM in schools is as high as 70% (Carlson, 1994:16; Gilbert, 1996:20). TQM as a management philosophy within the school context, therefore, needs to be looked at from a critical perspective.

- **A generic philosophy**

TQM is a generic philosophy of quality improvement and not a specific management strategy. The TQM philosophy allows for the development of models of quality that serve the specific needs of the organisation. TQM should, therefore, not be seen as the only means through which a school can achieve improved

quality. Education reformers also suggest other instructional and organisational programmes, such as effective schools, essential schools, co-operative learning, accelerated learning, site-based management and outcome-based education (Berry, 1997:59).

Daresh and Playko (1995:25), however, are concerned about the many undefined or ill-defined concepts and practices associated with TQM. Their concerns revolve around the fact that a philosophical orientation that has power for some might become so open to interpretation by others that its individual concepts become meaningless.

- **TQM processes familiar to education**

Schools are already undertaking processes that reflect the TQM philosophy. These include, among others, the use of curriculum teams, the relatively high level of responsibility which educators have for educational decision making in their classrooms and the use of school-based strategic planning processes. Daresh and Playko (1995:24) state that the satisfaction of human needs, which is central to the TQM vision, is nothing new, but has been familiar to most educators for many years. Berry (1997:59) asserts that the emphasis of TQM on organisational culture is new to schools as organisations. This emphasis, however, cannot be attributed to TQM *per sè,* as many schools have developed their own particular organisational culture without applying TQM.

- **Focus on continuous improvement**

The TQM focus on continuous improvement of work processes may put the high regard for people and their achievements, which is associated with TQM, into perspective. According to Bonstingl (1992(a):5), people feel better about themselves as work processes are improved continuously. Relationships among people in the organisation are more open and honest and school managers often feel less isolated, misunderstood and burdened. With organisational change come opportunities for personal and professional growth, along with pride and joy in their work.

- **The practice of teaching and learning**

There is a concern that the linkage between TQM and improved learning outcomes may not be clear or even non-existent. This concern originates from the assumption that TQM may be relevant for the delivery of services, resources and programmes to schools. This support structure may not be applicable to the improvement of the school's primary work which is the theory and practice of teaching and learning (Berry, 1997:59,60).

- **Staff training**

TQM requires education and training of all personnel. Carlson (1994:19) regards the fact that everyone in the organisation is involved in "quality" education to equip him or her to apply the quality principles in their own work situations, as one of the strengths of TQM. This means that everyone learns to speak a common language of quality improvement and this makes it possible to create an organisational culture to support the process.

- **Measuring**

TQM requires rational decision making based on qualitative and quantitative data from feedback about the performance of processes and products. Self-evaluation is another key element of TQM, which requires knowledge of statistical techniques for individuals to assess themselves (Holt, 1993(b):385). This approach may be relevant to industrial or product-orientated enterprises where outcomes are directly observable and measurable. The introduction of such techniques in schools may be inappropriate or culturally removed from the accepted intuitive and professional judgement of educators (Berry, 1997:59). Murgatroyd (1993:274) suggests that statistical techniques should, in any case, be used sparingly, in a focused way with the intention that they enable understanding and facilitate the systematic examination of the consequences of change. The idea is that measurement should serve the task of improvement.

- **Customer-supplier relationship**

TQM is based largely on an internal linear customer-supplier relationship, which requires from each person within the organisation to be both a customer to other organisational members, while at the same time supplying services to other

personnel. Berry (1997:59) asserts that this relationship may not be appropriate to describe the long-term, close and emotional relationship that educators develop with learners, colleagues and parents within the context of their professional role. Even if appropriate, the customer-supplier relationship may be more complex in educational organisations where roles and responsibilities are complex and multi-functional.

According to Daresh and Playko (1995:24), it is not a simple task to specify who the customers of the school are. This uncertainty of who the customers really are makes it, therefore, difficult to develop a set of organisational activities and procedures to meet their needs.

- **Customer-defined quality**

In TQM terms, quality is defined as customer-driven in fulfilling customer needs and viewing the customer as the final judge of quality. Berry (1997:60) states that this perception of quality may be unrealistic in relation to the value-laden environment of schools. In schools, quality is regarded more as a negotiated phenomenon based on learner, parent, professional and department expectations and aspirations.

- **An error-free philosophy**

The TQM process aims at the establishment of an organisational culture where mistakes are eliminated. This could be a desired objective in industrial contexts, but its feasibility and value within an educational organisation is debatable. It seems as if the educational process is more comfortable with experimentation and the examination of alternative ideas as requirements of the learning process (Berry, 1997:60).

- **Industrial culture in education**

TQM had its origin in the manufacturing sector with its hierarchical organisational structures and where concepts such as strategies, defined duties, rigid discipline, top down decision-making and objective measurements prevail. Those organisations are caught up in a rational-mechanistic mindset that emphasises bureaucratic organisation and task orientation, while downplaying the role of the individual within the organisation. This paradigm is reflected in deterministic

systems which are merely built upon order and scientific law (Betts, 1992:41; Desjardins & Obara, 1993:68; Van Wyk, 1995:14-15). The system of management by objectives (MBO) with its emphasis on quantifiable objectives emerged from this thinking and, according to Van Wyk (1995:15), has minor value in determining quality.

The implementers of TQM in schools should therefore recognise the danger of exporting an industrial culture of the "school as factory" (Kaufman & Hirumi, 1992:28; Capper & Jamison, 1993:26; Carlson, 1994:16). Schools should rather be looked at as more flexible in their role definitions and the identification of a school's quality system may be much more difficult (Berry, 1997:60). This, for example, has major implications for the traditional role of the educator as the only authority to provide learners with knowledge. From a quality perspective, education is viewed as a shift toward a system in which there are many information sources accessible by one learner, only one of which is the educator (Betts, 1992:41).

- **Need for inspection**

Within schools, quality control measures or inspection such as assessment, appraisal and testing are recognised as legitimate and necessary processes to ascertain accountability and measure improvement. This is opposite to the concept of built-in quality, which is a TQM requirement (Berry, 1997:60). The reality in schools requires that some form of inspection has to be conducted to ensure quality improvement.

- **Change processes**

It appears as if the implementation of TQM requires a transformation process resulting in radical changes for the organisation (Gilbert, 1996:21). Organisational renewal depends on at least three possible approaches. Firstly, Holt (1993(b):384) suggests that the attitudes of managers and workers need to be changed as a prerequisite for change in the organisation. Secondly, according to Gilbert (1996:22), the most effective way to change behaviour is to put people into a new organisational context that imposes new roles, responsibilities and relationships on

them. Thirdly, it is not enough to change employee attitudes without rectifying the structure of the organisation at the same time (Beard, 1989:11).

While TQM requires a paradigm shift and subsequently a change in peoples' behaviour, it does not necessarily advocate structural change to educational organisations. Berry (1997:61) asserts that in a large enterprise like school education, structural change could be difficult to achieve and even counterproductive as a strategy for change and improvement.

- **Cost-effectiveness**

Daresh and Playko (1995:24) assert that there are many cases where TQM simply does not fit the reality of public schools and other service organisations. They refer to Deming's Point 4 ("Eliminate the practice of awarding business on price tag alone") and 11 (Eliminate numerical quotas") that are consistent with the wishes of many educators. Yet the practical reality of today is that public organisations are forced to become more cost-effective and efficient.

Schools, therefore, need to consider the philosophy of TQM carefully before importing it. Quong and Walker (1996:224) suggest that individual schools must move beyond imported solutions and select what works for them. It has in any case become apparent, according to Hough (Quong & Walker, 1996:224), that the quality movement "has grown beyond the ideas of particular theorists and a more eclectic framework of understanding both the managerial/cultural and skill/technique aspects".

2.10 CONCLUSION

It becomes evident from this chapter that the TQM paradigm represents a fundamental change in thinking about management. TQM as a management approach focuses on quality, but achieving this must not be regarded as a quick fix to management problems. TQM provides the philosophical framework for the management of organisations (i.c. schools) and requires a holistic approach for dealing with existing management practices. The application of this philosophy in practice requires a major effort and openness for innovative and fresh thinking about the current management problems in education.

The following TQM elements have been identified from the literature as those most relevant for the improvement of the effectiveness of schools and will be encapsulated in a management strategy for schools (see Chapter 7):

- Leadership;
- Top team commitment;
- Strategic planning;
- Cultural change;
- Vision statement;
- Rational-based decision making (management by fact);
- Employee empowerment (self-control);
- Customer focus, satisfaction and measurement;
- Total involvement;
- Teamwork;
- Process/systems thinking;
- Training;
- Benchmarking;
- Cycle time reduction;
- Business support, and
- Continuous improvement.

TQM may have an enormous influence on the management of schools. The demands TQM put on managers are also very high. Educational managers need to understand that the successful implementation of TQM requires a management practice where managers intend to do the right things. This intention requires of managers to ask questions that are aimed at essential changes in order to improve quality. It means that systems and processes need to be restructured continuously. The participation of role-players in the management process highlights the importance of the human factor in organisations. A key element of TQM is to be service-orientated with the focus on the customer who is considered to be the judge of quality. It is crucial for educationists to have a clear view on those elements that are relevant to the application of TQM in schools.

In the next chapter methods to implement TQM in schools will be investigated.